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Редакционный совет:

Абдувохидов Ф.М., доктор философских наук в области искусствоведения (PhD),
Абдуллаева М.А., доктор педагогических наук, доцент,
Абдуллаева Ш.Д., кандидат филологических наук, доцент,
Абдуллаев И.Н., кандидат технических наук, доцент,
Абдулхаликова Н.Р., кандидат физико-математических наук, доцент,
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Исраилова Д.К., доктор экономических наук (DSc), доцент,

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Махму́дова Д.М., доктор педагогических наук,
Мирзажа́нов М.А., кандидат технических наук, доцент,
Мирза́ев Б.К., доктор технических наук,
Мулладжа́нова К.А., доктор философии по медицинским наукам (PhD),
Муми́нов У.М., доктор философии по техническим наукам, доцент,
Муса́шайхов Х.Т., доктор медицинских наук, профессор,
Мухитди́нова К.О., доктор философских наук по медицине (PhD),
Наджмитди́нов О.Б., доктор философии по медицинским наукам(PhD),
Ному́ратова М.К., доктор философских наук, доцент,
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Отаку́лов Б.А., доктор технических наук, доцент,
Постю́шков А.В., доктор экономических наук, профессор,
Рахма́нов С.З., доктор физико-математических наук, доцент,
Рахма́нов Д.Н., доктор философии по географическим наукам, доцент,
Рахматов О., доктор технических наук, профессор,
Раши́дов Ж.Х., кандидат экономического наук, доцент,
Риза́ева Х.У., доктор педагогических наук,
Рузи́боева М.А., доктор философии по педагогическим наукам (PhD),
доцент,
Рузмето́ва Д.К., доктор философии по педагогическим наукам (PhD),
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Смирно́ва Т.В., доктор социологических наук, профессор,
Соби́рова М.Н., Доктор философии педагогических наук, доцент,
Сулайма́нов И.О., кандидат экономических наук,
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Тилла́ев Т.Н., доктор юридических наук,
Тила́кова М.А., доктор философии по педагогическим наукам (PhD),
Тилла́боев А.М., доктор педагогических наук,

Туйчиев Г.У., кандидат медицинских наук, доцент,
Тураев К.Т., доктор философии по географическим наукам,
Турсунов И.Г., доктор физико-математических наук, профессор,
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Тягунова Л.А., кандидат философских наук, доцент,
Убайдуллаев И.А., доктор философских наук,
Узбекова Н.Р., доктор медицинских наук, доцент,
Ураков Д.Ж., доктор исторических наук, доцент,
Усманова Д.Д., доктор медицинский наук, доцент,
Фазилов Ф.М., доктор философии по юридическим наукам (PhD), доцент,
Федорова Ю.В., доктор экономических наук, профессор,
Халикова Э.С., доктор философии по филологическим наукам (PhD),
Халилов Ф.Ф. доктор философии по педагогическим наукам(PhD),
Ханкелдиева Х.К., кандидат медицинских наук, доцент,
Хамдамова Х.Ш., доктор филологических наук(PhD),
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Хужамбердиев М., доктор медицинских наук, профессор,
Хушвактов С.Ю., доктор философии по химии (PhD),
Чориева Д.А., доктор философии педагогических наук, доцент,
Шарипова Ф.Д., доктор философии по филологическим наукам,
Шошин С.В., кандидат юридических наук,
Эргашев М.М., кандидат технических наук,
Эргашева З.А., кандидат медицинских наук, доцент,
Эрданов М.Н., кандидат географических наук,
Эрназаров А.Н., доктор философии по педагогическим наукам,
Эсанова Ш.М., кандидат технических наук, доцент,
Эшниёзов У.А., доктор философии по педагогическим наукам (PhD),
Эшчанова Г.Н., кандидат педагогических наук, доцент,
Юнусов Ф.М., кандидат педагогических наук, доцент,
Юсупов А.Р., кандидат технических наук,
Юсупов М.М., кандидат химических наук, доцент,
Ядгаров А.А., доктор экономических наук, доцент.

Отв. ред. А.А. Зарайский

Главный редактор:

Тягунова Людмила Анатольевна, кандидат философских наук

ОСНОВНОЙ РАЗДЕЛ

Abbasov S.B.

d.g.s., prof.

Samarkand State University

Dean of the Faculty of Geography and Ecology

Republic of Uzbekistan, Samarkand

Jumayeva M.B.

senior lecturer

Department of Geography and Basics of Economic

Knowledge Navoi State Pedagogical Institut

Republic of Uzbekistan, Navoi

PHYSICO - GEOGRAPHICAL FEATURES OF TOPONYMS IN KIZILKUM DESERT AREAS (IN THE EXAMPLE TOMDI DISTRICT OF NAVOIY REGION)

Introduction. The name of the Zarafshan oasis is derived from the name of the river of the same name that flows through the territory of Tajikistan and Uzbekistan. Zarafshan river has a great role in development and development of these areas. The "Zarafshan" river has been mentioned since the 18th century. In ancient times, this river was called "Polythemite" (honorable, great, great) by the Greeks, "Mosaf" or "Mosif" in the works of Arab historians in the Middle Ages, "Vadi us- Sug'd", "Nahr us Sug'd", "Nahr ul-Bukhara" and "Kohak". Toponym "Zarafshan" in Persian means "zar" - "gold", "afshon" - means scatterer. Tomdi district is a district in Navoi region. It was established on July 3, 1927. It borders Konimekh and Nurota districts in the south, Kyzylorda in Kazakhstan in the north, South Kazakhstan regions in the east, Jizzakh region in the southeast, and Uchkuduk district in the west. Muruntov gold mine, one of the largest gold mines in the world, is also located in Tomdi district. The territory of the district is located in the Kyzylkum desert, so the soil is red and sandy. The climate of the region is sharply continental, with hot and dry summers and cold winters. The topography of Tomdi district is represented mainly by lowlands and small rocks of medium height. Lowlands are spread over almost all regions of the district, in the western part of the region there are Muruntov and Tomditov mountains. The mountainous areas of the district are at an altitude of 200 to 900 meters above sea level. The hills are mainly composed of sandstone and sand. The average height of the region is 300 meters. The highest point of the region is the Oktov mountain of the Tomditov mountain range, with a height of 922 meters. The lowest point of the region is the Mingbulok basin, which is 12 meters below the sea level [4, 34-b]. Not a single river flows through the territory of the district, as almost the entire territory of the district consists of deserts and steppes. A number of very small streams flow from the southeastern

part of the district and flow into Aydarkol Lake. The largest lake and reservoir in the region is the large closed lake Aydarkol.

The main part. The territory of the province is divided into 3 parts according to its natural conditions: the northwestern part is occupied by the Kyzylkum desert, where there are closed bogs (Karakota, Mulali, Mingbulok), sandy plains and residual mountains (Ovminzatog, Yetimtog, Bokantov, Tomditov, etc.); the southeastern part is occupied by low and medium-height branches of the Nurota mountain range (Koratog, Oktog, etc.) and depressions between mountains (Nurota depression, etc.); In the middle of the Zarafshon river is the cotton growing zone of the region. The main water source of the region is the Zarafshan River. Konimex channel was released from Zarafshan. Kuyimozor and Todakul reservoirs are also important in providing water to the region.

Due to the large territory of Navoi region, its toponyms are also important. According to toponymologist S. Korayev, the 1:200000 scale topographic map of the region contains more than 5500 oronyms, hydronyms and oikonyms [6, p. 79]. There are about 40 villages and settlements included in the state register in Tomdi district of Navoi region. If we take a look at the etymology of the existing oikonyms, we can find oronymic and hydronymic oikonyms, place names based on the number and color of the place name, mainly according to the location and shape of the object.

In Tomdi district, there are not many names that have arisen depending on the geographical location, situation and characteristics of the place, and the following are examples of such toponyms: the name of Ortaquduq, Ayaquduq villages in Tomdi district means "the village at the foothills, the village on the lower side" or "the It is called in the sense of "the village in the middle, located in the center". The group of object names named on the basis of the size, appearance and shape of the object includes Jalpakhshi, Jeltumsuq, Uzunqum, Uzuntepa, Ushaqtepa, Dumalaqtobe - the names of the hills, - Darvoza, Tomditov - mountains, Kichioy, Uzunyalov - we enter urochishe names.

The territory of Navoi region is not rich in plant species because it is mainly a desert. Zootoponyms and phytotoponyms are rare among the toponyms of Tomdi district. For example, names such as Ajiriqti, Dala, Kokdala indicate that there is pasture for livestock. In the sandy deserts of the region, there are woodpeckers, sand mice, stilts, lizards, goat saddle, white snake, sand boll snake, wheel snake. Among the mammals, desert cat, gazelle, khangul, saiga, wolf, fox, rabbit are found. Insects include scorpions, caterpillars, grasshoppers, and grasshoppers. Animals such as wild boar, pheasant, red goose, and hornbill live in the forests on the shores of Amudarya. The Kyzylkum reserve was established on the banks of the Amudarya to protect the forest landscape and animals there.

Classification of Tomdi district oikonyms

TOPONIMIC CLASSIFICATION	TOMDI DISTRICT OIKONIM
Names of the object named after its location are	Ortaquduq, Ayaquduq
Phytooikonyms	Ajiriqti, Tatirguduq, Dala, Kokdala
Zootoponyms	Aristan, Kulonqoq
Oronymic names	Keregetov, Pershe
Hydronymic	Tomdibulaq, Ayakkuduq, Besbulaq, Jirik,
Anthroponyms	Aldabergen, Kulimbet, Nurmakhon, Yergesh, Begimbet, Utemurat, Moldaman
Etnookonyms Ogiztov	Etnookonyms Ogiztov
The names given to the place when it was built are	New Tomdi
Regarding the number of the name	Togizbay
Names related to color are	Aktov, Kyzilquduq, Aqqabaq, Aqtaqir

Zootoponyms are also found among regional land-water names: objects such as Ukulisoy, Qoplondi (well), Qoplontepa (mountain), Kulonqoq are named after ukki, kaplon or kulon. Kulonkok is a pond where kulons water. However, it is a bit difficult to explain that villages, areas, wells, mountains like Eshkili, Aristan, Aristantov, Julbars are named after these animals. Because Kazakhs had a surname called Aristan, Turkomans Arislan, Kazakhs Eshkili, Kyrgyz and Kazakhs had a clan called Julbars, and Kazakh-Korakalpaks also have the names Ariston and Julbars.

The least studied area in toponymy is color symbolism. Color names such as white, black, blue, yellow, red, gray, green are often found in toponyms; the colors white and black are repeated especially often: antipodal toponyms such as Oktov-Karatov, Aksuv-Korasuv, Aqkorgon-Karakorgon, Oktepa-Koratepa, Oqqum-Koraqum, Aqtosh-Qoratosh have a concept of color in a certain sense. In toponymy, the word red has many meanings: red color, blood, sun, east, etc. But according to H. Hasanov, Kyzylkum can be interpreted in two ways: Eastern desert or Golden desert. [8, p. 117]. Among the place names depending on the number and color of the district name, we include such names as Aktov, Kyzylquduq, Aqqabaq, Aqtaqir, Tog'izbay. Names associated with the object's color and hue are regional names such as Ko'kto'be, Akjontepa, Akshoho, Kiziloy, Karamulla, Karato'be; Kyzylkum sandbar; Oktov, Karatov, Ko'ktepa, Okjetpes, Karabulok, Kon'irtepa mountain names; Urochishe names such as Kokdala, Kizilkese, Kiziloykuduq, Karamulla, Karanayza, Kiziloy, Karamola also belong to this group.

Oronims are the names of not only mountains and hills, but also negative forms of relief, that is, ravines, valleys, valleys, low plains, gorges, dunes and other orographic objects. "Oronim" means (Greek Oros - mountain, onoma - name). Oronims are recorded differently in scientific literature. Oronim are interpreted as mountain names, and they include the names of mountains, peaks, hills, hills, passes, gorges, and ravines. Oronim is a Greek word for "oro" - mountain, anomi - a horse with a name, any high places that protrude from the surface of the earth, a mountain, a hill, a hill, a peak, a pass, etc. Oronyms, like oikonoms and hydronyms, are a set of independent separate types of Uzbek toponymy. One of the villages of Tomdi district, Oktaqir, was taken from it. Koranayza, a village located in Ayaquduq village assembly, was named Koranayza because the settled people of Tomdi district belonged to the Kazakh nationality. it was given this name because it was. Keriz - village, Nurota, Tomdi districts. Local pronunciation of the word Koriz. Coriz is a series of connected wells dug underground to bring underground water to the surface. Koriz is derived from the Persian words hok (soil) or kokh - "high" and rekhtan - "to pour, flow, pour", that is, "water network flowing from above".

There are not many names related to minerals, rocks and soil in the district. Navoi region is one of the regions of our country rich in natural mineral resources, where large industrial enterprises operate based on them. More than 200 mineral deposits have been identified in the region, of which 16 are uranium deposits, 37 are rare metal deposits, and 12 are sources of mineralized healing waters. Mineral resources are extracted from 78 mines identified in the region. Major mining enterprises of the region are located mainly in the cities of Zarafshan, Uchkuduq, and Tomdi, Nurota, and Konimekh districts. There are gold (Muruntov, Kokpatas), uranium (Uchkuduq), gas (Gazli, Koshkuduq, Khojakazgan), sulfur, mercury, graphite, phosphorus, asbestos, corundum, copper, and turquoise deposits.

Names related to water bodies (hydronyms). The main water source of the Navoi region is the Zarafshan river, from which the Konimekh canal was dug. Wells in the region are distinguished by their large number. In Tomdi district, the names of wells and springs are named after some of their features. There are wells, springs and village names such as Shorbulok, Karabulok, Saribulok, Kyzilquduq, Ortaquduq, Taldiquduq, Boymuratquduq, Bukhorboyquduq, Sapparboyquduq, Shakirbekquduq. [2, p. 220].

Conclusion. The analysis of toponyms of Tomdi district of Navoi region shows that place names related to natural geographical features occupy a significant place, and among them, oronyms and hydronyms take a special place in terms of number and content. Due to the fact that most of the inhabitants of the district belong to the Kazakh and Karakalpak ethnicities, Kazakh names prevail in both the oronim group and the oikonim group. Many place names can be found with the indicators tobe, tov, sand, well: Muruntov, Oktov, Sangruntov, Tomditov, Toxtatov, Shushaktov, Kazoqtov, Karatov, Belgetobe,

Izbosartobe, Domaloqtobe., Sugurtobe, Karatobe, Yamonqum, Qizilqum, Oqqum and others.

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*Akhmadaliev M.M.
teacher*

*Department of Methods of Primary Education
Andijan State University
Republic of Uzbekistan, Andijan*

PEDAGOGICAL CONDITIONS OF TEACHING PRIMARY CLASS STUDENTS BASED ON INTERACTIVE EDUCATIONAL METHODS

Abstract. In this article, teaching primary school students through the use of teaching methods, teaching ways of forming students' worldview, cooperation between teachers and students in the educational process, education - issues of education and the organization of educational activities in an interesting way so that today's youth can think independently were thought about.

Key words: education, interactive methods, student, teacher, cooperation, teaching, lesson, pedagogical skill.

Introduction.

In the world, it is considered an important task to offer the most optimal ways to modernize the modern primary school education. In this regard, the memorandum of the international symposium of UNESCO "Fundamental (scientific and humanistic) university education"; Conclusions of regional conferences held by UNESCO in 1996-1998; Conclusions of the first World Conference on Education in Havana, Dakar, Tokyo, Palermo, Beirut (Paris, October 1998); State educational standards of primary education, most importantly, the process of systematization of primary school students' assessment of their abilities in reading (EGRA) and mathematics (EGMA) primary education led to the actual introduction of the new structure in lim. The content of these documents defines the strategic and main goal of primary education. It is necessary to use modern and high-quality approaches to the educational process based on preserving the fundamental nature of education for students, following educational approaches and effective world experience, demonstrating their capabilities, and meeting their needs.

In our country, it is emphasized that comprehensive development of elementary school students, activation of their cognitive activity in the educational process serves as one of the main factors in the development of society. From this point of view, in the strategy of New Uzbekistan, "... increasing the prestige of education in society and encouraging young people's pursuit of perfection - this is education to achieve stable and consistent development, to turn schools into centers of true spirituality and enlightenment, culture - application of interactive methods of education" is defined as an important task. In order to fulfill this task, it is important to approach education

based on the humanitarian principle, taking into account the opportunities, interests, and abilities of primary school students. Also, it is an urgent task to expand the possibilities of forming the abilities and intellectual potential of the student within his own capacity.

Literature review (Literature review). We know that primary school is the most important part of the educational process. The main task of a modern school is to bring out the abilities of each student on the basis of high technologies, to form a conscious attitude to life and work, to educate a person worthy of society, to deliver competitive personnel to the world arena. School education should prepare every child to set serious goals for himself, to show his abilities, to independently respond skillfully to various life situations.

Analyzing the pedagogical views of Eastern and Western scholars, we see that they emphasize that the teacher plays an important role in the growth of students, the effective development of their logical and independent thinking skills. In addition, they showed that it is necessary to use pedagogical tools and present assignments taking into account the child's characteristics in the process of teaching.

A number of points are analyzed in modern studies regarding this problem. The problem of activating students' cognitive activity, using the student's opportunities for education R. Jorayev, E. Sattorov, R. Safarova, T. Gafforova, Sh. Nurullayeva, V. Karimova, E. Ghaziyev, D.D. Blagoi, P.P. Blonsky, N.M. Verzhilina, P.A. Henkel, N.K. Goncharova, A.V. Lunacharsky, M.A. Prokofiev, D.A. Einstein, N.M. Shakhmayeva, I.E. The results of scientific research of Unt and other scientists allow to determine the conceptual apparatus.

T.T. Ganiyev analyzed the ways to improve students' cognitive activity by performing various creative tasks and individual exercises offered according to the student's level of knowledge [2].

I.M. Yastrebov, first of all, emphasizes the role of education in child development, in his opinion, revealing and improving abilities is part of education [3].

In our opinion, the application of interactive methods to the modern educational process in the development of students' thinking and the activation of their level of knowledge is of particular importance in connection with the profiling of all stages of primary school.

Research methodology and analysis (Research Methodology). Even with any teaching method and effectively organized lesson, some students progress quickly and successfully, while others move forward slowly and with great difficulty. Some achieve high results and great success without spending a lot of effort and time, while others cannot rise to the same level with all their desires. All this shows the different abilities of students in relation to educational activities.

The difference between classes based on innovative pedagogical technology and traditional classes is that they create an atmosphere of freedom

for the student and give him the opportunity to freely express his opinion. How is this opportunity created? A friendly learning environment is created by asking questions without putting any pressure on the student and without affecting his personality. The most important "core" part of the educational process based on pedagogical technology - starting each lesson with the development of rules based on the purpose of the lesson helps the educational process to be productive and orderly. At this stage of the lesson, it is necessary to invite students to come up with ideas and suggestions and at the same time write down all ideas and suggestions. The rules, which are written as briefly and clearly as possible, are explained by the students (with the help of the teacher). On the board, you can write the following rules for this step:

- *DO NOT CRITICIZE OR EVALUATE* (no participant may discuss, evaluate or criticize the opinions of others);
- *NO WRONG ANSWERS* (don't be afraid to make mistakes);
- *CHANGE, IMPROVE, JUSTIFY* (make changes to the opinion of others, add. Justify your opinion);
- *KEEP CALM, PARTICIPATE AND ENJOY* (An environment of mutual support and friendly competition is created).

In the educational process, if necessary, it is necessary to remind the students about the rules and ideas, as a facilitator, to guide and encourage them.

Innovative technology is a process that develops rational ways of the educational system, in which the teacher is considered the main responsible person. Because its main task is to deliver information to students in a fast, clear and understandable way. The teacher should teach students to think independently, observe, and draw conclusions regardless of their ability to receive news and their inclinations and character. The changes and innovations taking place in the education system, in addition to providing new knowledge, skills and qualifications to students, also envisage the change of our youth towards themselves and other people, society, state, nature, and inculcate patriotic ideas in their minds and hearts. This process is carried out by instilling the rich spiritual heritage, traditions and traditions of our people into the heart of the student.

Analysis and results (Analysis and results). In order to determine the level of independent thinking, the breadth of worldviews, the speed of thinking and the talent of elementary school students based on interactive methods, we also used the following "Game-Puzzle".

For this, the teacher asks the students 3 riddles or definitions with the same answer. Students write "Question 1" on their answer sheets. On the bottom, they write "Answer 1", "Answer 2", "Answer 3" and after each riddle (definition) is read, they record the answers on the answer sheets. The first riddle (definition) is tricky, the second riddle (definition) is easier, and the third riddle (definition) is very easy. Intelligent students who can think independently will be able to find the correct answer from the first riddle, and as a result, they

will admit that all three answers are the same. This standard makes it possible to obtain more realistic results and also facilitates scoring. That is, if the correct answer is found from the first riddle (definition), 3 points, if the correct answer is found from the second riddle (definition), 2 points, and finally, if the correct answer is found only on the third attempt, 1 point is awarded. 0 points if no correct answer is found at all.

As a result of these tests, questionnaires, assignments, we tried to evaluate the students' cognitive activity at the following level (Table 1).

Table 1

Current status of students

#	Groups	Number of students	Primary stage (in numbers and percentages)		
			Level 1	Level 2	Level 3
1.	Experimental group	35	6	11	18
2	in %	100 %	17.2 %	31.4 %	51.4%
3.	Control group	40	5	16	19
4	in %	100 %	12.5 %	40 %	47.5 %

As can be seen from the table, the teaching of students with interactive educational methods is not at the required level. Therefore, in the process of teaching primary education subjects, it was found appropriate to use interactive educational methods to motivate students, independence, activity, in relation to the lesson.

Teamwork, individual, group, pair work in the teaching of elementary school students with interactive educational methods, modern pedagogical technologies in the course of the lesson: "Staircase", "Black box", "Cubic", "Colored caps", "Diamond" and game technologies: from game technologies such as "Quiet inquiry", "Educational comics", "Young pedagogue", "Teacher to myself", "Last stage" was used.

We developed a method of conducting lessons in experimental groups (35 people) and focused on compliance with the following conditions:

a) using the content possibilities of the educational material in order to develop the learning activity of students based on interactive educational methods (in order to acquire the content of this or that educational material, it is necessary to select issues that require a certain formation process of the learning activity);

b) ensuring that students' learning activities match their capabilities when completing tasks (such compatibility can be achieved if the educational process is individualized with the help of differentiated examples and problems);

d) maintaining a high level of formation of students' knowledge acquisition activities in the entire educational process (for this purpose, the type of activity of subjects in the lesson should be renewed).

Conclusion

The analysis of existing literature and our observations proved the correctness of the goal we set. That's why we had the opportunity to justify that teaching based on interactive educational methods is one of today's pedagogical problems waiting for its solution to activate the cognitive activity of elementary school students. Our research has clearly shown the need for consistent arming of elementary school students with theoretical knowledge and practical experiences that serve to activate cognitive activity. It was also found that it is important to take into account their age characteristics, mental world, emotions, and capabilities when presenting educational tasks based on interactive educational methods.

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Allambergenov A.J., Ph.D.
associate professor
Head of the Department of Scientific Research,
Innovation and Training of Scientific Pedagogical Personnel
Tashkent University of Information Technologies
named after Muhammad al-Khorazmi
Nukus Branch

PEDAGOGICAL ASPECTS OF IMPROVING INFORMATION CULTURE AND MEDIA LITERACY OF ESH

Abstract. This article explores the pedagogical strategies for enhancing the information culture and media literacy of Esh, a hypothetical community characterized by its unique sociocultural dynamics and educational challenges. The study examines the theoretical underpinnings of media literacy, the current state of information culture in Esh, and proposes an integrative educational framework to address these issues. Through a mixed-methods approach, including qualitative interviews, surveys, and case studies, this research aims to provide actionable insights and practical recommendations for educators, policymakers, and community leaders.

Keywords: Pedagogical strategies, media literacy, information culture, esh community, curriculum design, teacher training, professional development, project-based learning, digital tools, critical thinking, digital citizenship, ethical considerations.

In an era where digital technology permeates every aspect of life, the need for media literacy and a robust information culture has never been more critical. This is especially true for Esh, a community facing unique challenges in adapting to the rapid evolution of digital media. Improving the media literacy and information culture of Esh requires a multifaceted approach that integrates pedagogical strategies tailored to its specific context.

Media literacy is the ability to access, analyze, evaluate, and create media in various forms. It empowers individuals to be critical thinkers and effective communicators in a digital world. Information culture, on the other hand, refers to the attitudes, values, and practices that shape how information is managed and utilized within a community. Together, they form the foundation for informed citizenship and active participation in society.

The Current State of Esh: Esh, like many communities, grapples with low levels of media literacy and information culture. Contributing factors include socioeconomic disparities, limited access to quality education, and cultural attitudes towards media consumption. The proliferation of misinformation and digital manipulation further complicates the landscape, making it imperative to

equip the residents of Esh with the skills needed to navigate the digital world effectively.

Pedagogical Strategies for Improvement

1. Integrative Curriculum Design

- Incorporating media literacy into the core curriculum across all grade levels ensures that students develop critical thinking skills early on. Subjects such as language arts, social studies, and science can include modules on analyzing media messages, understanding digital footprints, and evaluating sources of information.

2. Teacher Training and Professional Development

- Educators play a crucial role in fostering media literacy. Providing teachers with ongoing professional development opportunities helps them stay abreast of the latest digital trends and pedagogical strategies. Workshops, seminars, and collaborative learning communities can enhance their ability to teach media literacy effectively.

3. Project-Based Learning

- Engaging students in project-based learning (PBL) allows them to apply media literacy skills in real-world contexts. Projects such as creating a documentary, developing a social media campaign, or analyzing news reports foster critical thinking, collaboration, and creativity.

4. Use of Technology and Digital Tools

- Leveraging digital tools and platforms can make learning more interactive and engaging. Educational apps, online forums, and multimedia resources can provide diverse learning experiences that cater to different learning styles.

5. Community Involvement and Lifelong Learning

- Media literacy should extend beyond the classroom. Community-based initiatives, such as workshops for parents and local media clubs, encourage lifelong learning and involve the entire community in fostering a culture of informed media consumption.

6. Critical Thinking and Ethical Considerations

- Teaching students to question the credibility of information and understand the ethical implications of media production and consumption is essential. Discussions on topics like digital citizenship, privacy, and the impact of social media help students develop a nuanced understanding of the digital landscape.

Socioeconomic Barriers

Many residents of Esh may lack access to digital devices and high-speed internet. Addressing this requires investment in infrastructure and the provision of affordable technology. Partnerships with tech companies and government programs can help bridge the digital divide.

Educational Infrastructure

Schools in Esh may face resource constraints that hinder the implementation of comprehensive media literacy programs. Securing funding through grants, public-private partnerships, and community support is vital for developing the necessary educational infrastructure.

Cultural Attitudes

Cultural resistance to new media and technology can be a significant barrier. Engaging community leaders and influencers in promoting the benefits of media literacy can help shift cultural attitudes and foster a more open, accepting environment for digital education.

Conclusion: This article aims to provide a holistic understanding of the pedagogical aspects necessary for improving the information culture and media literacy of the Esh community. Through a robust analysis of existing literature, empirical research, and practical recommendations, it seeks to pave the way for more informed, critical, and engaged citizens in the digital age. Improving the information culture and media literacy of Esh is a complex but achievable goal. By adopting a holistic pedagogical approach that integrates media literacy into the curriculum, supports teacher development, and involves the community, Esh can equip its residents with the skills needed to thrive in a digital world. As digital technology continues to evolve, fostering a culture of informed, critical, and ethical media consumption will be essential for the community's growth and success.

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*Amanov A.K.
Urganch davlat universiteti
Geografiya kafedrası o'qituvchisi
Ko'palova H.T.
Urganch davlat universiteti
Geografiya yo'nalishi 1 – bosqich talabasi*

DUNYONING HECH KIMGA TEGISHLI BO'LMAGAN HUDUDLARI

Annotatsiya. Ushbu maqolada dunyodagi hech kimga tegishli bo'lmagan hududlar haqida fikr yuritiladi. Kelajakda mazkur hududlar uchun mamlakatlar o'rtasida kurashlar kechishi mumkinligi va qaysi-ki ma'noda bu kurashning shakllanib borayotgani yuzasidan mavzu doirasida taklif va tavsiyalar berilgan.

Kalit so'zlar: Hech kimning hududi (Terra nullius), Meri Berd Land (Antarktida), Bir Tavil (Shimoliy Sudan Qirolligi), Liberlend (Tog'li Siga).

*Amanov A.K.
teacher
Department of Geography
Urganch State University
Kopalova H.T.
1 - stage student
Geography direction
Urganch State University*

AREAS IN THE WORLD THAT DO NOT BELONG TO ANYONE

Abstract. This article discusses the world's no-man's land. Suggestions and recommendations were made within the topic regarding the possibility of future struggles between countries for these areas and in what sense this struggle is taking shape.

Key words: No man's land (Terra nullius), Mary Bird Land (Antarctica), Bir Tawil (Kingdom of Northern Sudan), Liberland (Mountain Siga).

Dunyodagi **“Hech kimning hududi”** yoki **“Terra nullius”** deb yuritiladigan hech qanday davlat suvereniteti ostida bo'lmagan hududlar ham mavjud. **“Terra nullius”** - lotincha ibora bo'lib, Rim huquqidan asosiga ega hududlarga nisbatan qo'llaniladi va **“hech kimning yeri”** deb tarjima qilinadi. Ushbu atama xalqaro huquqda, agar hudud biron bir davlat suvereniteti ostida bo'lmasa yoki davlat hududga bo'lgan huquqidan voz kechgan bo'lsa, qo'llaniladi.

Hech kimning bo‘lmagan hududlar kamdan-kam uchraydi, hududning “hech kimniki maqomi” tug‘ilishi bilanoq, qo‘shni davlatlar qoida tariqasida unga o‘z da‘volarini bilan chiqadilar. Masalan yaqin yillarda Arktikada yangi quruqlik hududlari orollar paydo bo‘lishini kutish mumkinligini ham shuni ta’kidlaydi.

“Bahsli hududlar” doimiy ravishda paydo bo‘ladi, chunki dunyo manzarasi o‘zgarib bormoqda va davlat chegaralari shunga mos ravishda o‘zgarib boraveradi[1].

Iqlimning isishi va muzliklarning erishi tufayli Arktikada yangi yaratilgan orollar ustidan o‘z protektoratini o‘ratadilar. So‘nggi o‘n yilliklarda Rossiya Arktika suvlarida bir necha o‘nlab orollar paydo bo‘ldi va ulardan biri 2013-yilda kashf etilgan Yava orolidir [3].

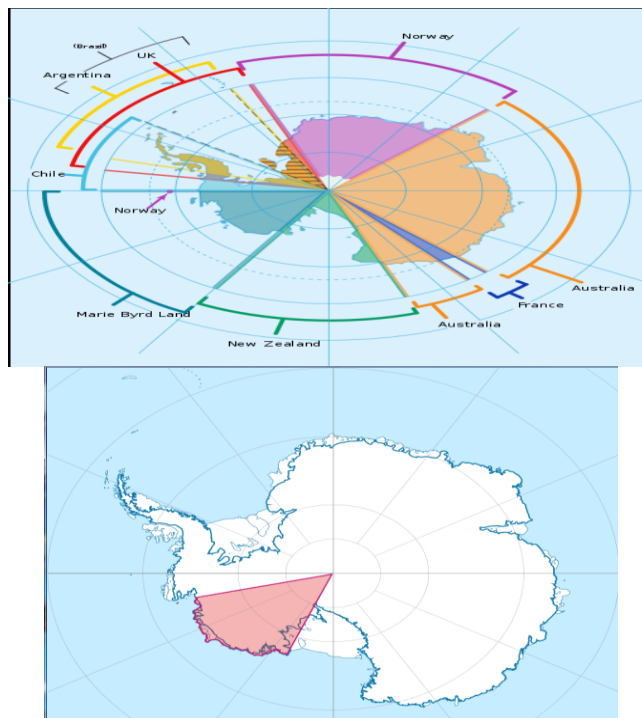
Terra nullius atamasu 18-asrdan 20-asr boshlarigacha bo‘lgan Yevropa mustamlakachiligida ahamiyatgali edi, chunki u hech qanday kuchga tegishli bo‘lmagan aholisi kam yoki aborigenlar yashaydigan yer deb e‘lon qilingan edi. 1788 yilda Britaniyaning Avstraliyaga bosqini natijasida, Yangi Janubiy Uels mustamlakasi tashkil etilganda boshlangan sud jarayonining eng mashhur holati Britaniyaning Avstraliya qit‘asiga nisbatan da‘volarining haqiqiyliigi to‘g‘risidagi petitsiyasidir. Shu bilan birga, barcha avstraliyalik aborigenlar Britaniyaning subyektlari deb e‘lon qilindi va ular Britaniya qonunlariga bo‘ysundirildi, hamda mahalliy qonunlar va urf-odatlar haqiqiy emas deb topildi. Bu kontsepsiya Avstraliya qonunchiligida 1992 yilgacha, Avstraliya Oliy sudi “*Terra nullius*” tushunchasini bekor qilgunga qadar saqlanib qoldi. Aborigenlar o‘z qonunlari va urf-odatlari bo‘yicha yashash huquqini oldilar va Avstraliyada hozirda ikkita huquqiy tizim an‘anaviy (aborigenlar) va Angliya-Avstraliya mavjud.



1-rasm. Avstraliya “Terra nullius” aborigenlar hududi.

Hozirgi vaqtda ushbu kontseptsiyaga faqat to'rtta yer kiradi:

1. *Mari Berd Land* G'arbiy Antarktidaning bir qismi bo'lib, Janubiy Muz okeanning Tinch okeani sektori sohilida sharqda Ross muzlik to'sig'i va g'arbda Ellsvort Lend (taxminan 103 va 158 daraja g'arbiy uzunlik) oralig'ida joylashgan[3]. Bu yerni nomi 1929 yilda Richard Berdning rafiqasi sharafiga nomlangan va sohillari Shores deb ataladi (*Saunders qirg'og'i*, *Ruppert qirg'og'i*, *Xobs qirg'og'i*, *Bakutis qirg'og'i*, *Valgren qirg'og'i*). Ushbu hududida Rossiyaning Russkaya va Amerikaning Berd nomidagi eng mashhur tadqiqot stantsiyalari bor.



2-rasm. Antarktidaning hududiy davolar va Mari Berd Land hududi.

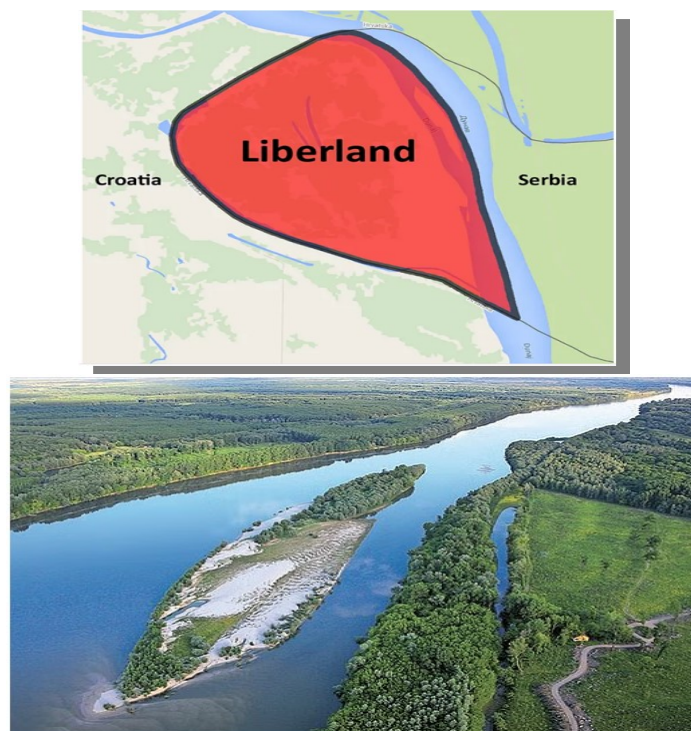
2. *Bir Tavit (Birland)* - Misr va Sudan o'rtasida 2060 km² maydonga ega dengizga chiqish imkoni yo'q hudud. Bir Tavit hududi 1899 va 1902 yillarda chizilgan chegaralar o'rtasidagi nomuvofiqlik tufayli yuzaga kelgan[4].



3-rasm. Bir Tawil (Birland) hududi Misr va Sudan chegarasi.

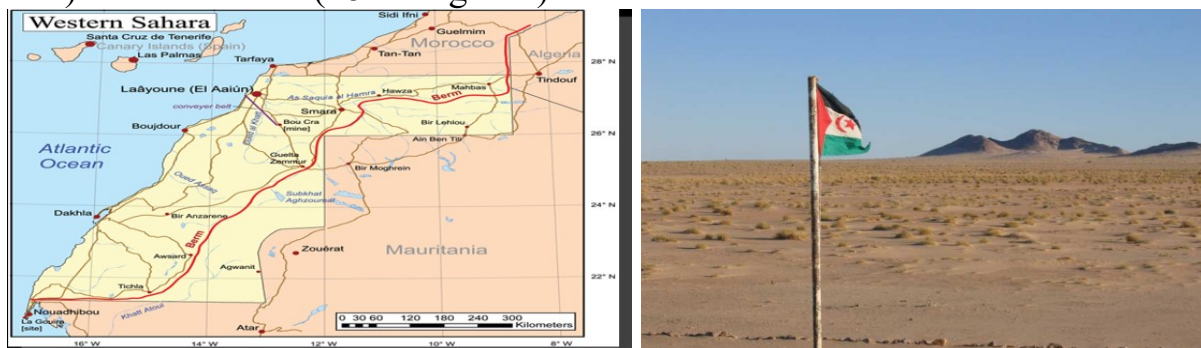
Bu kelishuv ko‘ra, Bir Tawilni Sudan nazorati ostiga, Halayb uchburchagini esa Misr nazorati ostiga bergan; boshqa chegara kelishuvi esa buni teskarisini qildi. Har bir mamlakat Qizil dengizga tutashgan sharqqa, kattaroq Halayb uchburchagini beradigan chegarani tasdiqlaydi, buning natijasida Bir Tawil har ikki davlat tomonidan talab qilinmaydigan (har biri boshqasiga egalik qiladi) hududga aylandi. Bir Tavilda o‘troq aholi yo‘q, lekin yerdan hududni kezib yurgan badaviylar foydalanadi.

3. Tog‘li Siga (Liberland) - bu Serbiya va Xorvatiya o'rtasidagi etti kvadrat metrlik odam yashamaydigan hudud (ikkala davlat ham unga da'vo qilishdan voz kechadi)[4].



4-rasm. Tog'li Siga(Liberland) hududi Xorvatiya va Serbiya chegarasi.

4. G'arbiy Sahroi Kabir - Afrikaning shimoli-g'arbiy qismidagi hudud. Maydoni 266 ming km². Hudud ikki qismdan iborat: Sagiyyet al-Hamra (82 ming km²) va Rio-de-Oro (184 ming km²) dan iborat.



5-rasm. G'arbiy Sahroi Kabir. Marokash va G'arbiy Sahroi Kabir chegarasi.

Qadimda bu yerda barbar qabilalari yashagan va 7-asrda hududni arablar egallagan. 9-11-asrlarda Gana imperiyasi, 11-12-asrlarda Al-Moraviylar davlati tarkibida bo'lgan. Yevropaliklar 15-asr oxirlarida kelib o'rnasha boshlaganlar, 1887-yilda Ispaniya Rio de-Oroni va 1904 va 1912-yillarda Sagiyyet al-Hamrani ham o'z mulkiga qo'shib oldi. 1959-yilda esa Ispaniyaning "dengiz orti provinsiyasi" deb, 1976-yil o'z mustamlakasini Marokash va Mavritaniya ixtiyoriga o'tkazishini e'lon qildi, hamda qo'shinlari olib chiqib ketdi.

1976-yil 27-fevralda POLISARIO fronti Sahroi Kabir Arab Demokratik Respublikasi tuzilganligini e'lon qildi va konstitutsiyasi qabul qilindi. 1979-

yilda Mavritaniya hududiy da'vosidan voz kechdi, Marokash esa Mavritaniya nazorati ostidagi hududni ham egallab oldi.

1991-yilda BMTning Xavfsizlik kengashi G'arbiy Sahroi Kabir referendum o'tkazish bo'yicha BMT Missiyasi tuzish to'g'risida qaror qabul qildi, ammo tomonlarning kelishmovchiligi tufayli referendum o'tkazish ortga surildi. 1996-yilda Marokash bilan POLISARIO o'rtasida o'zaro aloqalarning yangilanishi munosabati bilan BMT Missiya mandatini cho'zishga qaror qildi [2].

XULOSA. Hech kimga tegishli bo'lmagan yer uchun qachonlardir kurashlar shakllanadi, balki bahsli hududlar aylanib qolar.

Eng tinch bahs Antarktida hududlari bo'lib, ung Avstraliya, Fransiya, Norvegiya, Yangi Zelandiya, Argentina, Chili va Buyuk Britaniya, so'nggi uch davlat esa har biridan muzlik qit'asining bir qator hududlari bo'yicha bahslashmoqda. Yillar o'tib bu kurashda AQSH va Rossiya Federatsiyasini, keyinchalik Xitoy, Yaponiya, Hindiston, JAR, Braziliya, Janubiy Koreya kabi davlatlariningdavolari ortadi.

Shu sababdan Terra nullius hududlari quyidagilarni amalga oshirishi lozim:

- G'arbiy Sahroi Kabir mustaqilligini jahon hamjamiyati ta'minlab berish;
- Bir Tabil ustidan nazoratni Sudan olishiga erishish;
- Liberlandni Xorvatiya va Serbiyaga teng taqsimlash.

Foydalanilgan adabiyotlar.

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*Amonova Sh.N.
Sharof Rashidov nomidagi Samarqand davlat universiteti
Urgut Filiali "Biznesni boshqarish va aniq fanlar kafedrası"
O'qituvchi-stajyori*

HAQIQIY O'ZGARUVCHINING MITTAG-LEFFLER FUNKSIYASI

Annotatsiya. $E_1(z)$ bilan belgilangan Mittag-Leffler funksiyasi matematika, fizika va muhandislik sohalarida katta e'tibor qozongan maxsus funksiyadir. Ushbu ilmiy ishda biz haqiqiy o'zgaruvchining Mittag-Leffler funksiyasining xossalari va qo'llanilishini o'rganamiz. Biz uning analitik xususiyatlarini, kasr hisobiga aloqasini va anomal diffuziya jarayonlari kabi murakkab hodisalarni tavsiflashdagi rolini o'rganamiz. Nazariy tahlil va raqamli simulyatsiyalar orqali biz turli ilmiy fanlarda Mittag-Leffler funksiyasining ko'p qirraliligi va ahamiyatini ko'rsatamiz.

Kalit so'zlar: Mittag-Leffler funksiyasi, ehtimollar nazariyasi, differensial tenglamalar, matematik tahlil, eksponensial funksiya.

*Amonova Sh.N.
teacher of mathematics
department of business management and exact sciences
Sharof Rashidov Samarkand state University
Urgut branch teacher-inter*

MITTAG-LOEFFLER FUNCTION OF A REAL VARIABLE

Annotation. The Mittag-Leffler function, denoted $E_1(z)$, is a special function that has attracted much attention in the fields of mathematics, physics, and engineering. In this thesis we will study the properties and applications of the Mittag-Leffler function of a real variable. We explore its analytical properties, its relationship with fractional calculus, and its role in describing complex phenomena such as anomalous diffusion processes. Through theoretical analysis and numerical simulations, we demonstrate the versatility and importance of the Mittag-Leffler function across various scientific disciplines.

Key words: Mittag-Leffler function, probability theory, differential equations, mathematical analysis, exponential function.

Mittag-Leffler funksiyasi eksponensial funksiya va gipergeometrik funksiyani umumlashtirish bo'lib, kasr hisobi, ehtimollar nazariyasi va matematik fizikada qo'llaniladi. U gamma funksiyani o'z ichiga olgan qator sifatida aniqlanadi va kasrli differentsial tenglamalarni echishda hal qiluvchi rol o'ynaydi. Ushbu tadqiqotda biz Mittag-Leffler funksiyasining xususiyatlari va

qo'llanilishini chuqurroq o'rganishni, uning ilmiy tadqiqotlardagi ahamiyatini yoritishni maqsad qilganmiz. Haqiqiy o'zgaruvchilar uchun Mittag-Leffler funksiyasining analitikligini tekshirishdan boshlaymiz. Biz uning konvergenstsiya xususiyatlarini, ta'rif sohasini va "a" va "b" parametrlarining turli qiymatlari uchun xatti-harakatlarini o'rganamiz. Matematik tahlil orqali biz Mittag-Leffler funksiyasining o'ziga xosligi va mavjudligini aniqlaymiz va uning boshqa maxsus funksiyalar bilan aloqasini o'rganamiz. Mittag-Leffler funksiyasining asosiy qo'llanilishidan biri kasr hisobidir. Biz uning kasrli differensial tenglamalar va kasr tartibi tizimlarini tavsiflashdagi rolini o'rganamiz. Mittag-Leffler funksiyasi ishtirokidagi kasrli differensial tenglamalar yechimlarini tahlil qilib, uning xotira effektlari bilan murakkab dinamik tizimlarni modellashtirishdagi ahamiyatini ta'kidlaymiz. Mittag-Leffler funksiyasi anomal diffuziya jarayonlarini o'rganishda va tasodifiy yurishlar nazariyasida paydo bo'ladi. Biz uning Gauss bo'lmagan ehtimollik taqsimotlarini tavsiflashda ishlatilishini va uning stokastik jarayonlarga ta'sirini o'rganamiz. Ehtimoliy tahlil orqali biz Mittag-Leffler funksiyasi murakkab tasodifiy hodisalarni tushunish uchun qanday kuchli vosita ekanligini ko'rsatamiz. Nazariy tahlilimizni to'ldirish uchun biz turli stsenariylarda Mittag-Leffler funksiyasining harakatini tasvirlash uchun raqamli simulyatsiyalar o'tkazamiz. Biz uning asimptotik xatti-harakatlarini, integral ko'rinishlarini va uning xususiyatlarini to'liq tushunish uchun maxsus holatlarni o'rganamiz. Hisoblash tadqiqotlari orqali biz nazariy xulosalarimizni tasdiqlaymiz va ilmiy tadqiqotlarda Mittag-Leffler funksiyasining amaliy foydasini ko'rsatamiz. Mittag-Leffler funksiyasining analitik xossalarini o'rganib chiqdik, uning yaqinlashuv harakati va real o'zgaruvchilarni aniqlash sohasini o'rgandik. Funksiyaning yaqinlashuv xossalarini tushunish uni differentsial tenglamalarni yechishda va murakkab tizimlarni modellashtirishda qo'llashda hal qiluvchi ahamiyatga ega. Tadqiqotning muhim qismi Mittag-Leffler funksiyasining kasr hisobidagi o'rni va uning kasr differensial tenglamalarini yechishdagi qo'llanilishiga bag'ishlandi. Funksiya xotira effektlari va kasr tartib dinamikasiga ega tizimlarni qanday tasvirlashini o'rganib chiqdik, bu uning real hodisalarni modellashtirishdagi ahamiyatini ko'rsatdi. Yana bir asosiy e'tibor Mittag-Leffler funksiyasini ehtimollar nazariyasida qo'llash, xususan, anomal diffuziya jarayonlari va Gauss bo'lmagan ehtimollik taqsimotlarini tavsiflashda edi. Uning stokastik jarayonlarda va tasodifiy yurishlarda qo'llanilishini o'rganib, biz uning murakkab ehtimollik hodisalarini tushunishdagi ahamiyatini ta'kidladik. Nazariy xulosalarimizni tasdiqlash va amaliy nuqtai nazarni ta'minlash uchun biz turli stsenariylarda Mittag-Leffler funksiyasining harakatini tasvirlash uchun raqamli simulyatsiyalar o'tkazdik. Uning asimptotik xatti-harakatini, integral ko'rinishlarini va maxsus holatlarini o'rganish orqali biz hisoblash tadqiqotlarida funksiyaning ko'p qirrali va foydaliligini ko'rsatdik. Tadqiqot davomida biz Mittag-Leffler funksiyasining fanlararo xususiyatini ta'kidlab, uning matematika, fizika, muhandislik va boshqa ilmiy fanlar uchun

dolzarbligini ko'rsatdik. Uning turli xil ilovalarini o'rganish orqali biz funksiyaning turli sohalardagi murakkab muammolarni hal qilish qobiliyatini ta'kidladik. Mittag-Leffler funksiyasining ushbu maxsus xususiyatlari va jihatlariga e'tibor qaratish orqali bizning tadqiqotimiz funksiyaning xossalari va qo'llanilishi haqida keng qamrovli tushuncha berish, uning ilmiy tadqiqotlar va amaliy muammolarni hal qilishdagi ahamiyatini ta'kidlashni maqsad qilgan.[5]

Mittag-Leffler funksiyasi ko'p qirrali matematik vosita bo'lib, xotira effektlari va kasr tartibli xatti-harakatlari bilan murakkab dinamikani modellashtirish uchun turli xil real hodisalarda ilovalarni topadi. Fizika va kimyoda anomal diffuziya jarayonlari zarrachalar Gauss bo'lmagan xatti-harakatlarni namoyon qiladigan va klassik diffuziya qonunlariga rioya qilmaydigan tizimlarda sodir bo'ladi. Mittag-Leffler funksiyasi diffuziya jarayoni fraksiyonel hosilalar va uzoq masofali korrelyatsiyalar bilan tavsiflangan bunday tizimlarda zarrachalarning vaqt evolyutsiyasini tavsiflash uchun ishlatiladi. Viskoelastik materiallar ham yopishqoq, ham elastik xususiyatlarni namoyon qiladi, stress yoki deformatsiya ostida vaqtga bog'liq xatti-harakatlarni namoyon qiladi.[1]

Mittag-Leffler funksiyasi viskoelastik materiallarning gevşeme va o'rmlanish reaksiyalarini modellashtirishda, bu materiallarda mavjud bo'lgan fraksiyonel tartib dinamikasini va xotira effektlarini olishda qo'llaniladi. Boshqaruv nazariyasida kasr tartibini boshqarish tizimlari mustahkamlik va ishlash nuqtai nazaridan klassik butun tartibli tizimlarga nisbatan afzalliklarni taklif qiladi. Mittag-Leffler funksiyasi kasr tartibli kontrollerlarning uzatish funksiyalari va javoblarini ifodalash uchun ishlatiladi, bu esa barqarorlik va javob xususiyatlari yaxshilangan murakkab boshqaruv tizimlarini loyihalash va tahlil qilish imkonini beradi. Biologik tizimlar ko'pincha xotira effektlari va Markoviy bo'lmagan xatti-harakatlar bilan murakkab dinamikani namoyish etadi. Mittag-Leffler funksiyasi populyatsiya dinamikasini, genlar ekspressiyasi kinetikasini va neyronlarning otishma naqshlarini modellashtirishda qo'llaniladi, bu biologik tizimlarga xos bo'lgan fraksiyonel tartib dinamikasi va xotira jarayonlarini tavsiflash uchun matematik asos yaratadi. [2]

Moliya va iqtisodda Mittag-Leffler funksiyasi moliyaviy vaqt seriyalari ma'lumotlarida uzoq muddatli bog'liqlik va xotira effektlarini modellashtirish uchun qo'llaniladi. Kasrli hisob tushunchalarini o'z ichiga olgan holda, funksiya aktivlar narxini, o'zgaruvchanlik modellarini va moliyaviy bozorlarda risklarni boshqarish strategiyalarini tahlil qilish va prognoz qilishda yordam beradi. Ushbu misollar Mittag-Leffler funksiyasining turli sohalardagi murakkab dinamika va hodisalarni modellashtirishda keng ko'lamli qo'llanilishini ko'rsatadi, uning real dunyo tizimlarida kasr tartiblari, xotira effektlari va Markovian bo'lmagan jarayonlarni suratga olishda foydaliligini ta'kidlaydi. Mittag-Leffler funksiyasi ko'p qirrali matematik vosita bo'lib, undan kasr tartib dinamikasi, xotira effektlari va anomal diffuziyaga ega bo'lgan keng doiradagi murakkab tizimlarni modellashtirish uchun foydalanish mumkin. Mittag-Leffler

funksiyasidan foydalangan holda samarali modellashtirilishi mumkin bo'lgan tizimlarning ba'zi aniq misollari: Fraksiyonel differensial tenglamalar butun son bo'lmagan tartibli hosilalarni o'z ichiga oladi va odatda xotira effektlari va uzoq masofali o'zaro ta'sirga ega tizimlarni tavsiflash uchun ishlatiladi. Mittag-Leffler funksiyasi kasrli differentsial tenglamalarni echish va tahlil qilish uchun ishlatilishi mumkin, bu esa kasr tartibi dinamikasiga ega tizimlarning xatti-harakatlari haqida tushuncha beradi. Fraksiyonel tartib hosilalari bilan diffuziya jarayonlari anomal diffuziya harakati namoyon bo'ladi, bu erda zarralar vaqt o'tishi bilan Gauss bo'lmagan tarzda tarqaladi. Mittag-Leffler funksiyasi turli fizik va biologik tizimlarda anomal diffuziyaga uchragan zarrachalarning murakkab dinamikasini tasvirlash, vaqt-kasr diffuziya jarayonlarini modellashtirishda muhim ahamiyatga ega.[3]

Yopishqoq elastik materiallar, fraksiyonel viskoelastik modellar va Markovian bo'lmagan jarayonlar kabi xotira effektlari bo'lgan tizimlarni Mittag-Leffler funksiyasi yordamida samarali modellashtirish mumkin. Mittag-Leffler funksiyasining kasr tartibi xususiyatlarini o'z ichiga olgan holda, tadqiqotchilar yaxshilangan aniqlik va bashorat qilish qobiliyatlari bilan xotiraga bog'liq tizimlarning xatti-harakatlarini simulyatsiya qilishlari va tahlil qilishlari mumkin. Fraksiyonel tartibni boshqarish tizimlari murakkab tizimlar dinamikasini tartibga solish uchun kontrollerlarni loyihalash uchun kasr hisobi va Mittag-Leffler funksiyasidan foydalanadi. Ushbu tizimlar turli muhandislik dasturlarida, jumladan robototexnika, aerokosmik va mexatronika sohasida qo'llaniladi, bu erda butun son bo'lmagan tartib dinamikasini aniq nazorat qilish kerakli ishlash va barqarorlikka erishish uchun zarurdir. Kasrli Broun harakati va fraksiyonel Gauss shovqini kabi uzoq masofali korrelyatsiyani ko'rsatadigan stokastik jarayonlarni Mittag-Leffler funksiyasi yordamida modellashtirish mumkin. Funksiyaning kasr tartibi xususiyatlarini o'z ichiga olgan holda, tadqiqotchilar uzoq xotira va doimiy korrelyatsiya bilan stokastik jarayonlarning statistik xususiyatlarini va masshtablash xatti-harakatlarini tahlil qilishlari mumkin. Umuman olganda, Mittag-Leffler funksiyasi fraksiyonel tartib dinamikasi, xotira effektlari va murakkab xatti-harakatlarga ega tizimlarni modellashtirish uchun qimmatli vosita bo'lib xizmat qiladi. Uning kasr hisobi, stokastik jarayonlar, boshqaruv nazariyasi va raqamli simulyatsiyalarda qo'llanilishi uni fizik, biologik va muhandislik tizimlarining keng doirasini o'rganish uchun ko'p qirrali va ajralmas vositaga aylantiradi.[4]

$E_{\{a, b\}}(z)$ bilan belgilangan Mittag-Leffler funksiyasi eksponensial funktsiyani umumlashtiruvchi maxsus funktsiyadir. U z va ikkita a va b parametrlarining murakkab qiymatlari uchun aniqlanadi. Mittag-Leffler funktsiyasi matematikaning turli sohalarida, jumladan kasr hisobi, ehtimollar nazariyasi va fizikada qo'llaniladi.

Haqiqiy o'zgaruvchining Mittag-Leffler funktsiyasini quyidagicha ifodalash mumkin:

$$E(a, b(t) = \sum_{k=0}^{\infty} (t^k) / (D(a k + b)) \}$$

Bu yerda t haqiqiy o'zgaruvchi, a va b parametrlar, $\Gamma(\cdot)$ gamma funksiyani bildiradi.

$a = 1$ va $b = 1$ bo'lgan real o'zgaruvchining Mittag-Leffler funksiyasiga misol keltiramiz. Bunday holda, Mittag-Leffler funksiyasini soddalashtiradi:

$$E(1, 1(t) = \sum_{k=0}^{\infty} \frac{(t^k)}{\Gamma(k+1)}\}$$

$$E(1, 1(t) = \sum_{k=0}^{\infty} \frac{(t^k)}{k!}\}$$

Bu qator t ning barcha haqiqiy qiymatlari uchun birlashadi. Ushbu parametrlarga ega Mittag-Leffler funktsiyasi kasr hisobini o'rganishda keng qo'llaniladi va xotira effektlari bilan murakkab tizimlarni modelashtirishda ilovalarga ega.

Agar siz t ning turli real qiymatlari uchun Mittag-Leffler funksiyasining o'ziga xos qiymatlarini o'rganmoqchi bo'lsangiz, keyingi hisob-kitoblar va tahlillar uchun t qiymatini taqdim eting.

Xulosa:

Xulosa qilib aytadigan bo'lsak, haqiqiy o'zgaruvchining Mittag-Leffler funktsiyasi har xil ilmiy fanlarda turli xil qo'llanilishiga ega ko'p qirrali va kuchli matematik vositadir. Uning xossalari va qo'llanilishini o'rganib, biz Mittag-Leffler funktsiyasining kasr hisobi, ehtimollar nazariyasi va matematik fizikadagi ahamiyatini ta'kidladik. Bizning tadqiqotimiz maxsus funksiyalar va ularning fan va muhandislikdagi murakkab muammolarni hal qilishdagi roli bo'yicha o'sib borayotgan tadqiqotlarga hissa qo'shadi.

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UNVEILING THE PROMINENT VALUES OF FASHION: A COMPARATIVE ANALYSIS OF AMERICAN AND BRITISH FASHION BLOGS

Abstract. This study identifies the main promoted values of fashion in England and the UK, highlighting the importance of beauty, youth, and femininity in fashion discourse. The analysis of English-language fashion blogs reveals the use of high metaphorical language, anthropocentricity, and appeal to the characteristics of the advertised product, as well as the promotion of patriotism through fashion.

Keywords. Fashion, England, British, America, style, beauty, youth, femininity, patriotism, luxury, attention to detail, authenticity, mythologization, British fashion brand, rational side of fashion, American mentality, individualism, comfort, simplicity, bright colors.

A study conducted by A.G. Khunagova, made it possible to identify the main promoted values of fashion in England. Communication in fashion blogs is characterized by high metaphoricality, which highlights such components as beauty and youth, which has a high persuasive potential due to the combination of anthropocentricity and appeal to the characteristics of the advertised fashion product [Khunagova, 2013, p. 117]. Fashionable new items in England are presented as something perfect, ideal and unique. In addition, English-speaking fashion bloggers from the UK are trying to reflect patriotism in fashion, as the following examples indicate to us: *"define the essence of true British style"; "fabulously British", "British style that offers luxury, attention to detail and authenticity"* [Khunagova, 2013, p.115]. In England, the key characteristics of the discourse regarding fashion values are: the mythologization of fashion (its ability to impart beauty and femininity), fashionable patriotism (belonging to a British fashion brand), femininity. The British see an exclusively rational side to fashion, understanding it as a means to an end. The idea of the inseparability of time and fashion can be traced in English linguistic culture. The transience of time, the observation of its movement at incredible speed, had a significant impact on the tradition of fashion houses working several seasons ahead of time.

For historical reasons, Americans are adherents of British traditions in fashion. However, adjusted for the American mentality, the characteristic features of which are individualism, the achievement of the "American Dream", equality, freedom of self-expression, actions in order to achieve internal comfort and harmony. Therefore, in the minds of Americans, fashion is, first of all, associated with comfort. In America, simple T-shirts, shirts and jeans have not

gone out of fashion for many years. The characteristic features of American clothing are versatility and simplicity of cut. At the same time, Americans love to diversify their appearance with bright colors. Comfort replaces any vulgarity, so sweaters or dresses with open shoulders, back and belly are not typical American fashion. The love of American women for solid soles, sneakers and sneakers is also justified. They use heels only on special occasions.

Analysis of English-language fashion blogs at the graphical level. The most vivid demonstration of the polycode, multimodal nature of the text is manifested at the graphic level, so the analysis of fashion blogs must begin with graphics. As discussed in Chapter 1, color plays a fundamental role in the perception of information. Thus, it is necessary to pay attention to the fact that the same color can convey different information depending on the country, the mentality of its inhabitants and the historical period. For example, the color black in America and Great Britain is an indicator of power, prestige, and seriousness, which is why in many universities the graduation gown is black. However, the association of black with unhappiness and troubles was also reflected and consolidated in language with negative connotations: "*black mark*", "*blacklist*", "*black humour*", "*black mood*" [Voevoda, 2012, p. 117]. In English-speaking countries, the color white is a symbol of purity and honesty, as evidenced by the expressions "*whiter than white*", speaking of a very honest person; "*white lie*", that is, a lie for salvation. The Queen traditionally wears white when she opens Parliament. Red is the color of strength and passion. English kings were crowned in red velvet. Queen Elizabeth II not only wears deep red velvet to the annual State Opening of Parliament, but also wears shades of red in her everyday life. Since the time of Geoffrey Chaucer, that is, since the Middle Ages, in English culture the color blue has been a symbol of fidelity, perhaps because of the simple rhyme - "*true blue*". This fact can be confirmed by the Anglo-American wedding tradition, according to which the bride must wear "*something old, something new, something borrowed, something blue.*" In turn, in America, the color blue is treated exclusively practically; for example, farmers often paint barn doors blue because it repels flies [Voevoda, 2012, p. 115]. The color green has metaphorical meanings in English-speaking culture: it denotes youth and sometimes inexperience, for example, "*green horn*" / "*green hand*" ("newbie, inexperienced person"); "*as green as grass*" (a completely inexperienced person). In ancient times and in modern Irish fashion, green combined with red in checkered or striped patterns reflects the individuality of the people of the Republic, otherwise known as the Emerald Island. Ireland received this name because of its lush vegetation and green landscapes [Ireland, Electronic resource]. Fashion blogger Rebecca in her blog (see Figure 1) A clothes Horse very clearly expresses the identity of Ireland, photographing its castles, nature and green national costumes.



Figure 1 – Blog A clothes Horse

The above review of the use of the color component in phraseological units of various types allows us to conclude that American and British blogs are characterized by both bright colors and pastel ones. As our research has shown, the color design of a blog depends not only on the culture of its owner, but also on what brand it promotes, what age and social stratum of society it targets. For example, midfielder of the English club “Chelsea Ruben” Loftus-Cheek, during his rehabilitation after an injury, became an ambassador of the “Burberry” brand (Figure 2). At this time, his blog was rebranded, and it acquired a bed color scheme, filled with photographs of a football player wearing clothes with a popular checkered pattern of four colors: black, white, sand and red; which is a print of the British brand.



Figure 2 – Ruben Loftus-Cheek's blog

Graphic features of English-language fashion blogs often include highlighting text in different colors, changing the font, text direction, underlining, and italics, which is only possible on personal sites. Authors often use these techniques to attract readers' attention to keywords and expressions: "Matching my outfit with this lush location in an **emerald dress** and **blue accents**" [Wendy's lookbook, Electronic resource], "Shop my current favorites from my wardrobe, all in one place! " [Ciara O'Doherty, Electronic resource], "The **green Vivaia flats** here are a nice pop of color against the dark blue of the jeans and the white of the blouse" [A clothes horse, Electronic resource] (Figure 3–4).

This summer is all about easy-breezy sets and white-hot accessories — which is why I'm so excited to team up with my friends at **CHARLES & KEITH**! They've got some of the chicest shoes, bags, sunglasses, and jewelry on the net... and the best part? They won't break the bank.

Figure 3 – The Chriselle Factor Blog



Figure 4 – Blog A clothes horse

On the Instagram platform, unlike personal sites, it is technically impossible to write in italics or change the color and direction of the text. That is why emoticons are often used in posts, the pragmatic purpose of which is to more accurately convey the author's mood, as well as his desire to inspire readers, establish closer contact with them, simulating the situation of natural interpersonal communication, which is also found among most bloggers. If we consider blogs that are maintained on the Instagram platform, then emoticons are used more often than on the personal sites of bloggers: *"In between meetings before the weekend starts. Wearing my favorite pieces from the #purelei signature collection to celebrate their 5th anniversary ♥"* [Negin Mersalehi, Electronic resource] (Figure 5).

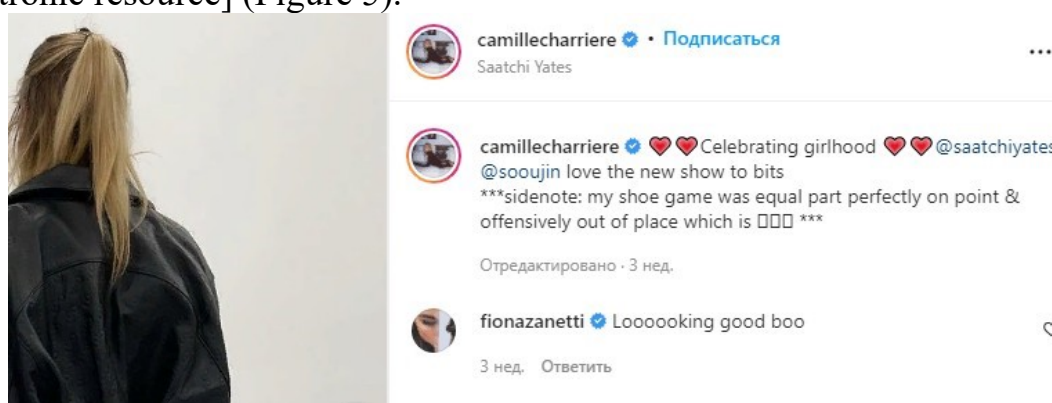


Figure 5 – Camille Charriere's blog

In conclusion, the analysis of English-language fashion blogs has revealed the main promoted values in England, such as beauty, youth, patriotism, and femininity. The use of color in fashion blogs is a crucial aspect, with colors having different meanings in American and British cultures. The analysis also highlights the polycode and multimodal nature of fashion blogs, which involve not only written text but also visual elements such as images, graphics, and emoticons. The study demonstrates that English-language fashion bloggers from the UK strive to reflect patriotism in their fashion choices, while American bloggers prioritize comfort and individuality.

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Barnoyeva Z.O.
assistant
Jizzax politexnika institute

ENERGO TEJAMKOR O'RTA QAVATLI TURAR JOY UYLARNI LOYXALASH VA QURILISHI TAJRIBALARINI O'RGANISH

Annotatsiya. Arzon uy-joylar barpo etish bo'yicha matssadli dasturlarni amalga oshirish, axolining uayot sharoitlari yaxshilanishini ta'minlovchi yo'l-transport, muuandislik-kommunikatsiya va ijtimoiy infratuzilmani rivojlantirish uamda modyernizatsiyassilish ko'rib chiqilgan.

Ka'lit so'zlari: Uy-joylar, kommunikatsiya, modernizatsiyalash, xalq uylari.

Barnoeva Z.O.
assistant
Jizzakh Polytechnic Institute

STUDYING THE EXPERIENCES OF DESIGNING AND CONSTRUCTING ENERGY-EFFICIENT MIDDLE-STORY RESIDENTIAL HOUSES

Annotation. Modernization of road transport, engineering-communication and social infrastructure, which ensures the improvement of the living conditions of the population, is considered in the context of the implementation of large-scale programs for the construction of affordable housing.

Key words: Housing, communication, modernization, public houses.

O'zbekiston an'anaviy Xalq uylarining rejalashtirishdagi ko'lami, tizimini xajmiy-fazoviy tuzilishini tekshirish va o'rganish maqsadida Xorazm, Buxoro va Jizzax viloyatlari qishloq va shaxaralari tanladi, chunki aynan shu qishloq va shaxarlarda an'anaviy Xalq uylarning o'ziga xos turlari Xalq tomonidan yaratilgan. Muallif maxalliy tabiiy - iqlim sharoitlarini xisobga olgan xolda kuriladigan qishloq uylari xovlili turar joylarni loyixalash bo'yicha Xalq an'anaviy uylarini o'rganish bo'yicha uslubiyatini ishlab chiqildi. An'anaviy uylarda me'moriy qurilish an'alarini, ma'ishiy va badiiy vositalarini, xayot kechirish tarzini, avlodlar boy tajribalarini uzida mujassam etgan. Ikkinchidan Respublikamiz tabiiy - iqlimiy sharoitida qishloq Turar joy uylarini loyixalash va qurilishini kompleks taxlil qilindi [1].

O'zbekiston Respublikasi Prezidentining 2017 yil 7 fevraldagi PF-4947-sonli Farmoniga ko'ra 2017 — 2021 yillarda O'zbekiston Respublikasini rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Xarakatlar strategiyasining, IV Ijtimoiy soxani rivojlantirishning ustuvor yo'nalishlaridan biri:

Arzon uy-joylar barpo etish bo'yicha matssadli dasturlarni amalga oshirish, axolining uayot sharoitlari yaxshilanishini ta'minlovchi yo'l-transport, muuandislik-kommunikatsiya va ijtimoiy infratuzilmani rivojlantirish uamda modyernizatsiyassilish:

- axoli, eng avvalo, yosh oilalar, eskirgan uylarda yashab kelayotgan fuqarolar va uy-joy sharoitini yaxshilashga muxtoj boshqa fuqarolarning yashash sharoitini imtiyozli shartlarda ipoteka kreditlari ajratish xamda shaxar va qishloq joylarda arzon uylar ko'rish orqali yanada yaxshilash;

- axolining kommunal-maishiy xizmatlar bilan ta'minlanish darajasini oshirish, eng avvalo, yangi ichimlik suvi tarmoklarini ko'rish, tejamkor va samarali zamonaviy texnologiyalarni boskichma-boskich joriy etish orqali qishloq joylarda axolining toza ichimlik suvi bilan ta'minlashni tubdan yaxshilash;

- odamlarning ekologik xavfsiz muxitda yashashini ta'minlash, maishiy chiqindilarni kayta ishlash komplekslarini ko'rish va modyernizatsiya qilish, ularning moddiy-texnika bazasini mustaxkamlash, axolini chiqindini yuk qilish bo'yicha zamonaviy ob'ektlar bilan ta'minlash;

- axoliga transport xizmati ko'rsatishni tubdan yaxshilash, yo'lovchi tashish xavfsizligini oshirish va atrof muxitga zararli moddalar chiqishini kamaytirish, xar tomonlama qulay yangi avtobuslarni sotib olish, avtovokzal va avtostansiyalarni ko'rish xamda rekonstruksiya qilish;

- yo'l infratuzilmasi qurilishi va rekonstruksiya kilinishini davom ettirish, eng avvalo, mintaqaviy avtomobil yo'llarini rivojlantirish, xo'jaliklararo qishloq avtomobil yo'llarini, axoli punkti ko'chalarini kapital va joriy ta'mirlash;

- yangi elektr enyergiya ishlab chiqarish kuvvatlarini ko'rish va mavjudlarini modyernizatsiya qilish, past kuchlanishli elektr tarmoklari va transformator punktlarini yangilash asosida axolini elektr enyergiyasi xamda boshqa yokilgi-enyergiya resurslari bilan ta'minlashni yaxshilash, shuningdek, kayta tiklanadigan enyergiya manbalaridan foydalanishni kengaytirish bo'yicha chora-tadbirlarni amalga oshirish;

- teatr va tomosha maskanlarini, madaniy-ma'rifiy tashqilotlar va muzeylar faoliyatini rivojlantirish xamda takomillashtirish, ularning moddiy-texnika bazasini mustaxkamlash [2].

An'anaviy Xalq uylarining xajmiy - rejaviy tuzilishi ularning tizimida xo'jalik tadbirkorlik va ishlab chiqish.

O'zbekistonning Xalq me'morchiligi uzining tabiiy-iqlimiy sharoitlaridan, madaniyatidan, milliy mayishiy an'alardan va qurilish moddiy texnikaviy bazasidan kelib chiqqan xolda rivojlanib keldi. Ilgari O'zbek oilalarining ijtimoiy sharoitlari uylarda ichkari va tashqari xovlilar bo'lishini taqozo etgan.

Tashqari xovlida barcha xizmatga doir ishlar, uchrashuvlar, xo'jalik ishlab chiqarish va tadbirkorlik ishlari amalga oshirilsa, ichkari xovlida esa oilaviy xayot turmush tarzi kechirilgan. Baxor va kuz faslining yoqimli, yozning

jazirama issiq kunlari ochiq xavoda vaqtning ko'prok qismi utqazishiga qulay imkon buladi. An'anaviy Xalq uylarining o'ziga xosligi shundaki, birinchi galda Yuqori radiatsiyali quyosh nurlaridan ximoya kilinsa, ikkinchidan issiq garmisel shamollaridan ximoya qiladi[3].

Xalq me'morlari, binokorlari tmonidan keng kulamli strukturalar va ularning elementlari, yashash xonadonlarining xajmiy keng maydonli bo'lishi, iqlimiy talablari tufayli ishlab chiqilgan. Ochiq keng xovli bo'ylab xonalarning joylashtirish tartibi xam iqlimiy sharoit va turmush tarzi talablardan kelib chikadi. Tasodifiy o'zgarishlar, uchastkalarining shakliga, qurilishiga uncha ta'sir ko'rsatmagan. Bunga uxshash kichik chekinishlar asosiy loyixalashtirish tamoillardan chetga chiqishga yo'l kuya olmaydi. Bu prinsip shundan iboratki, keng kulamli turar joy kompozitsiyalarining asosini tashqi va ichki xovlilar tashqil etadi. O'zbekistonning issiq va kuruk iqlimida Xalq uylarining keng kulamli strukturalarida tashqil etilishiini taxlil qilish shuni kursadaki, Xalq imorotlarining funktsiyaonal va texnologik bog'likligini asoslarini yaxlit sistema tashqil etgan:

Xona+ daxliz+ ayvon + xovli + ishlab chiqarish+darvoza xona+uy

SHunday uslublardan biri - Xorazm uylarining oldida ullu ayvonlar qurilishi, maxsus darvozaxonalarning «Dalon» kulamli keng qismli bo'lishidir; ikki taraflama yorug tushadigan yozgi xonalar, baland ayvonlar galyereyasi (6.m), darvozaxonalar va tagxonalar Buxoracha qurilish uslubidir; Fargonada an'anaviy uylarning markaziy «kashkarcha» yozgi xonalari; Toshkentda soyabon, Jizzaxda mexmonxonaning yonidan aloxida qurilgan xashamatli ochiq ayvon mexmonxona oldida ayvonlar galyereyasi 90⁰ burchak ostida va darvozaxonalar o'ziga xos uslubilarga misol bula oladi[3].

Asosiy xajmiy-rejalashtirish usullar respublika rayonlarida turar-joy va imorat ko'rish muammolarining xal etilishiga ijobiy ta'sir ko'rsatadi va xar bir voxa uchun o'ziga xos va mos uylar turlari yaratilgan. Xorazm va Quyi Zarafshon mintaqalarining kuruk issiq iqlimi sharoitida bunyod etilgan turarjoy binolari xar xil shakldagi, balandlikdagi, ichki kenglik kompozitsiyalaridagi Xalq uylarining turlari uchraydi.

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Barnoyeva Z.O.
assistant
Jizzax politexnika institute

ENERGOTEJAMKOR O'RTA QAVATLI TURAR JOY UYLARNI SHAKLLANTIRISH VA RIVOJLANTIRISH XAJMIY- REJAVIYTAMOYILLARI

Annotatsiya. Maqolada ishlab chiqarishni maxalliyashtirishni rag'batlantirish siyosatini davom ettirish xamda, eng avvalo, iste'mol tovarlar va butlovchi buyumlar importining o'rnini bosish, tarmoqlararo sanoat kopyeratsiyasini kengaytirish bayon qilingan.

Kalit so'zlar: turar-joy binolari, blok kvartira, metodik klassifikatsiya.

Barnoyeva Z.O.
assistant
Jizzakh Polytechnic Institute

ENERGY-EFFICIENT MEDIUM-STORY RESIDENTIAL HOUSES FORMATION AND DEVELOPMENT PRINCIPLES OF SQUARE- PLANNING

Abstract. The article describes the continuation of the policy of promoting the localization of production, and, first of all, the substitution of imports of consumer goods and components, and the expansion of cross-sectoral industrial cooperation.

Key words: residential buildings, apartment block, methodical classification.

O'zbekiston Respublikasi bozor iqtisodiyotiga o'tish jarayonini va bu jarayon qishloq axolisini turmush darajasiga xam katta ta'sir ko'rsatmokda. Qishloqlarda katta va kichik Fermer xo'jaliklari, kichik biznes, xususiylar tadbirkorlik ishlab chiqarish korxonalari va xokazolar paydo bulmoqda. Bular o'z navbatida qishloq axolisining turmushi yaxshilanishiga olib keladi va o'z navbatida turar joy binolarini strukturasini birmuncha o'zgarishiga olib keladi. Masalan: katta fermer xo'jaliklarida esa molxona, tovukxona va samonxonalar turar joy binolarini birga ishlanib uning katta qismini tashqil qilmoqda. Fermer xo'jaligini boshqarib unda ishlaydigan oila a'zolari xar kuni ishga borib kelish uchun ma'lum vaqt sarflaydilar. Ishning yaxshi borishi uchun ularning yashash joylari fermaga yaqin joyda bo'lishi ma'qul bo'lib qoladi. Shunday qilib ferma xo'jaligi atrofida turar joy binolarini ko'riladi. Vaqt o'tishi bilan ferma xo'jaligi kattalashib ishchilar soni ko'payadi, natijada turar joy binolari va agrosanoat majmualari paydo bo'ladi[1].

Sobiq Sovet ittifoq davrida, shaxar turar joy tizimi tarkibidagi, xo‘jalik, tadbirkorlik va boshqa turdagi ishlarni jamoat, davlat korxona va tashqilotlariga berilgan edi. Shu sababli oila turar - joyida, oilaning biologik ijtimoiy rivojlanishi, uy-ruzg‘or ishlari, dam olish, mexmonlarni kutib olish, marosimlarni o‘tqazish kabilar qoldirildi. Bu borada sotsiologik-demografik ilmiy- tadqiqotlar o‘tqazilib, turar joy uylar va ularning kvartiralarini qanday rivojlantirish va narmativlarni aniqlash borasida ishlar olib borilib, turar joylarni loyixalash va ko‘rish bo‘yicha KMK lar yaratildi. Shu KMK lar bo‘yicha kvartira va turar - joylar loyixalandi va qurilishlar amalga oshirild [2,3].

Davlatimiz mustaqillikka erishilgandan keyin, bosh qomusimizda, xamma mulklarga ruxsat berildi. Qishloq va shaxarlarda kvartiralar, uylar privitizatsiya qilinib, xususiylashtirildi. Natijada, Respublikamizning qishloq, tuman markazlari va shaxarlari axolilari xususiy xo‘jalik tadbirkorlik va ishlab chiqarish bilan shug‘ullana boshladilar va turar - joylarini shu yo‘nalishga moslashtira boshladilar.

Natijada, qishloq va tuman markazlari bu jarayonga to‘liq tayyor emasligi ma‘lum buldi. Bu jarayonni boshqarish uchun tuligicha me‘yoriy xujatlar Respublika arxitektura va qurilish kumitasi, shaxar va tuman xoqimiyatlari tomonidan ishlab chiqilmagan. Rasmlarda keltirilgan faktlardek respublika qishloq va tuman markazlari stixiyali turar joy qurilishini olib bormokdalar.

Shu boisdan ishga an‘anaviy xalq uylarida bu masala qanday yechilgani va turar - joy tizimida qanday joylashtirilgan? Bu masalani O‘zbekiston tarixiy shaxarlarining an‘anaviy xalq uylari tizimi o‘rganildi, loyixalash va qurilish tajribalari taxlil va xulosalar qilindi.

Ikkinchi bosqichda, xozirgi kunda axolining mexnat faoliyatini turar joylarda olib borishi bo‘yicha ilmiy kuzatishlar o‘tqazildi. Natijada mexnat faoliyati turlari bo‘yicha qishloq, tuman markazlari uchun kam qavatli turar joy uylarning turlari aniqlandi:

Xo‘jalik, xo‘jalik-tadbirkorlik, xo‘jalik-ishlab chiqarish, ishlab chiqarish-tadbirkorlik.

Shu yuqorida keltirilgan turar joy uylarning xo‘jalik tiplari zonalari sxemasi (modeli) va o‘rta qavatli uylarning namunaviy tiplarining zonalari sxemasi (modeli) aniqlandi.

Tadqiqot natijalari ko‘rsatadigan maxalliy sharoit (ijtimoiy - demografik, tabiiy - iqlim, moddiy va industrial bazasi va boshqalar,) lar xususiyatidan kelib chiqib Navoiy viloyatida qishloq turar joylarning me‘morchilik yechimiga, ya‘ni uning xajmiy - rejaviy va xajmiy-fazoviy tashqil etilishi, konstruktiv yechimlarga va butun turar - joy imorat qurilishi muxitini shakllantirishiga o‘z ta‘sirini ko‘rsatdi.

Tadqiqotlar ko‘rsatadiki, qurilish uslublarini qo‘llash xamda zamonaviy ko‘rish material va konstruksiyalar birgalikda talablar shartlari turar - joy guruxini tashqil etadi. Bu shart va talablar qishloq turar - joylar me‘morchiligini aniqlaydi, uning shaxarsozlik xarakatini ta‘minlash, qavatlarlari reja va

konfiguratsiyasi, kompozitsiyasi (masshtab, proporsiya, ritm) orentatsiya, insolyasiya kabi masalalarni belgilaydi.

Turar joylarni xajmiy - rejaviy shakllantirish va xajmiy fazoviy tashqillashtirishda tadqiqotlar shuni ko'rsatadiki asosiy faktor - bu tabiiy - iqlim sharoitlaridir. Ushbu konuniyatning kullanishi, sotsial- demografik, tabiiy-iqlimiy faktorlari turar joy arxitekturada, turar -joy shaxar qurilishida va ularning taraqqiyoti asosida turar- joylarni loyixalash, turar-joylarning rivojlanish istiqboli va yangi avlodlarni ishlab chiqishda mana shu qonuniyatlar yotadi [4].

Shaxar turar - joylarning rejaviy tuzilishi va xajmiy - fazoviy kompozitsiyasini kompleks va sistemali tadqiqot qilish natijasida, ishda, quyidagi tamoillaridan iborat shaxar xovli turar-joylarning arxitekturaviy-rejaviy tuzilishi va xajmiy - fazoviy tashqillashtirish va shakllantirishning asosiy tamoyillari va usullari aniqlandi.

Respublikamizda va chet el xorij mamlakatlari loyixa va tajribalari bo'yicha, o'rta qavatli turar-joy uylarning «blok+kvartira+xovli xo'jalik+tadbirkorlik+ blok-uy» bo'yicha progressiv turlari aniqlandi.

1. Blok kvartira va sotsial-fazoviy turlari bo'yicha blok-uy va blok kvartira xamda blok+kvartiralar xo'jalik bloklarini diffyrensiallash va nomenklaturaga kvartiralarni guruxlab birlashtirib va tashqillashtirish.

2. O'rta qavatli xovlili turar - joy uylar tadqiq kilinishi natijasida uzimizning va xorij mamlakatlari turar-joyning uylari progressiv blok+kvartira+uylaridan istikbolda turar-joy uylari omenklaturasini tuzish.

3. Ishlab chiqilgan model asosida o'rta qavatli xovlili turar-joy uylarini shakllantirish, tashqillashtirish va rivojlantirish talablari aniqlandi.

O'zbekistonning mintaqaviy maxalliy xududlarining tabiiy-iqlim sharoitlari bo'yicha turar joylarni loyixalash me'moriy - qurilish ishlarini amalga oshirishda ma'lum bir o'zlarining maxsus talablariga ega. Ya'ni respublika sharoitida doimiy omillardan - tabiiy-iqlim sharoitlaridan quyosh radiatsiyasining yuqori darajasi, tez o'zgaruvchanligi va quruqligi, ammo shu bilan birga regional farqlanishga ega. Bu asosiy faktor respublikaning barcha xududlarida, yozgi davrda xavo xaroratining yuqoriligi, termik muddatning davomiyligi (2-3 oy davom etadi) diskomfortlik sharoitlar xukumronligi xisoblanadi. Shuning uchun bu faktor juda muxim bulib, yoz davrida turar-joylarning kvartira xonalarini va turar - joy imorat qurilishi xududlarini bosh faktorlardan ximoyalash va ularda yangi turi - «o'suvchi uy»ni yaratish imkonini beradi [5].

Taklif kilinayotgan «o'suvchi-uy» - «blok-kvartira+xovli+uy» bir vaqtning uzida 1 -2-qavatli bulib keyingi oilaning sifat o'zgarishi bo'lganda 3-qavatli xattoki 4-qavatli uylarga aylanishi mumkin. Bundan tashqari, «Blok-kvartira+xovli+uy» birlashtirilayotganda, gorizonta va vertika kommunikasiya - galareya-koridorlar ko'cha tizimiga kiritiladi. Bu tizim uylarni

guruxlashtirishning turar- joy majmualari ya'ni maxallani tashkillashtirishda asosiy kompozitsiyaviy usul bo'lib xizmat qiladi.

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Barnoyeva Z.O.
assistant
Jizzax politexnika institute

O‘ZBEKISTON SHAXARLARIDA O‘RTA QAVATLI TURAR JOY UYLARNING RIVOJLANISH TARIXI

Annotatsiya. Ushbu maqolada O‘zbekiston shaxarlarida o‘rta qavatli turar joy uylarning rivojlanish tarixi va arzon uy-joylar barpo etish bo‘yicha matssadli dasturlarni amalga oshirish, axolining uayot sharoitlari yaxshilanishini ta‘minlovchi yo‘l-transport, muuandislik-kommunikatsiya va ijtimoiy infratuzilmani rivojlantirish uamda modyernizatsiyassilish ko‘rib chiqilgan.

Ka‘lit so‘zlari: modernizatsiyalash, uy-joylar, kommunikatsiya, xalq uylari.

Barnoeva Z.O.
assistant
Jizzakh Polytechnic Institute

HISTORY OF THE DEVELOPMENT OF MEDIUM-STORY RESIDENTIAL HOUSES IN THE CITIES OF UZBEKISTAN

Annotation. Modernization of road transport, engineering-communication and social infrastructure, which ensures the improvement of the living conditions of the population, is considered in the context of the implementation of large-scale programs for the construction of affordable housing.

Key words: Housing, communication, modernization, public houses.

O‘zbekistonning Xalq me‘morchiligi uzining tabiiy-iqlimiy sharoitlaridan, madaniyatidan, milliy mayishiy an‘alardan va qurilish moddiy texnikaviy bazasidan kelib chiqqan xolda rivojlanib keldi. Ilgari O‘zbek oilalarining ijtimoiy sharoitlari uylarda ichkari va tashqari xovlilar bo‘lishini taqozo etgan.

Tashqari xovlida barcha xizmatga doir ishlar, uchrashuvlar, xo‘jalik ishlab chiqarish va tadbirkorlik ishlari amalga oshirilsa, ichkari xovlida esa oilaviy xayot turmush tarzi kechirilgan. Baxor va kuz faslining yoqimli, yozning jazirama issiq kunlari ochiq xavoda vaqtning ko‘prok qismi utqazishiga qulay imkon buladi. An‘anaviy Xalq uylarining o‘ziga xosligi shundaki, birinchi galda Yuqori radiotsiyali quyosh nurlaridan ximoya kilinsa, ikkinchidan issiq garmisel shamollaridan ximoya qiladi[1].

Xalq me‘morlari, binokorlari tmonidan keng kulamli strukturalar va ularning elementlari, yashash xonadonlarining xajmiy keng maydonli bo‘lishi, iqlimiy talablari tufayli ishlab chiqilgan. Ochiq keng xovli bo‘ylab xonalarning

joylashtirish tartibi xam iqlimiy sharoit va turmush tarzi talablardan kelib chikadi. Tasodifiy o'zgarishlar, uchastkalarining shakliga, qurilishiga uncha ta'sir ko'rsatmagan. Bunga uxshash kichik chekinishlar asosiy loyixalashtirish tamoillardan chetga chiqishga yo'l kuya olmaydi. Bu prinsip shundan iboratki, keng kulamli turar joy kompozitsiyalarining asosini tashqi va ichki xovlilar tashqil etadi. O'zbekistonning issiq va kuruk iqlimida Xalq uylarining keng kulamli strukturalarida tashqil etilishiini taxlil qilish shuni kursadaki, Xalq imorotlarining funktsiyaonal va texnologik bog'likligini asoslarini yaxlit sistema tashqil etgan:

Xona+ daxliz+ ayvon + xovli + ishlab chiqarish+darvoza xona+uy

SHunday uslublardan biri - Xorazm uylarining oldida ullu ayvonlar qurilishi, maxsus darvozaxonalarning «Dalon» kulamli keng qismli bo'lishidir; ikki taraflama yorug tushadigan yozgi xonalar, baland ayvonlar galyereyasi (6.m), darvozaxonalar va tagxonalar Buxoracha qurilish uslubidir; Fargonada an'anaviy uylarning markaziy «kashkarcha» yozgi xonalari; Toshkentda soyabon, Jizzaxda mexmonxonaning yonidan aloxida qurilgan xashamatli ochiq ayvon mexmonxona oldida ayvonlar galyereyasi 90⁰ burchak ostida va darvozaxonalar o'ziga xos uslubilarga misol bula oladi[2].

Asosiy xajmiy-rejalashtirish usullar respublika rayonlarida turar-joy va imorat ko'rish muammolarining xal etilishiga ijobiy ta'sir ko'rsatadi va xar bir voxa uchun o'ziga xos va mos uylar turlari yaratilgan. Xorazm va Quyi Zarafshon mintaqalarining kuruk issiq iqlimi sharoitida bunyod etilgan turarjoy binolari xar xil shakldagi, balandlikdagi, ichki kenglik kompozitsiyalaridagi Xalq uylarining turlari uchraydi. Bu binolar loyixasi imkoni boricha quyosh nurlarining radiatsiyasidan, kuchli garemsellardan, chang tuzonli va kum - tuzonli shamollardan ximoya qilishga. qaratilgan [3-4].

Buxoro va Xorazm qishloq va shaxarlarida xovli - saxni an'anaviy uylarning qulayligi bilan qo'shib yaxlitlikni tashqil etishni ta'minlagan. Buxoro an'anaviy Xalq uylarning xovlilari ko'pchilik xollarda sugorilmaydi, lekin xovli, ko'kalamzorlashtiriladi, xamda kichik gulzor maydonchalar tashqil etiladi. Bu Xorazm uylari xovlilarida bir tup daraxt bilan kichik gulzorlardan iborat. SHaxarlarda uy qurilishlari ko'lamining loyixalashtirilishi juda sodda va oddiy bulib, shu xududning tabiiy iqlimiy sharoitlariga mos keladi. I va II rayonlarada turt tomondan imorotlar bilan yopiq xoldagi xovlilar kompozitsiyasi asosiy tizilma bulib xisoblanadi. II rayonda shuningdek turar joy ancha keng, yerkin kompozitsiyalari - ikki taraflama binoli xovlilar uning asosi xisoblanadi. Xalq me'morlarining, ustalarining turar-joy qurilish uslublari issiq kunlarda soya-salkin, syershamol bo'lishini, chang tuzonlardan ximoya qilib turishini, muximi shinam, qulay mikroiklim yaratilishiga asoslanadi.

I. tip. Xorazm an'anaviy Xalq uylarning xajmiy-rejaviy elementlari quyidagi bloklar gurux va elementlaridan iborat: 1 -bosh mexmonxona «saroy» oldida ullu ayvon va qarama-karshisida tyers-ayvon, bu imorotlarning asosiy uki shimol tomonga aniq yunaltirilgan. Ullu- ayvonning balandligi 6 m buladi,

kolgan barcha xonalar va tyers ayvonlar- bir qavatli. Ko'pincha binolarning ustida galyeriyalar va «Kazana» omborxonasi qurilgan. Xorazmcha xamma uylarning qurilishida shu tamoyil asosida qurilgan. Mexmonxona «Saroy» va Ullu-ayvon balandligi bilan boshqa xonalardan ajralib turadi va u eng asosiy element xisoblanadi.

P.tip. Buxoro an'anaviy uylar tuzilishi quyidagi elementlardan iborat: 6 metr balandlikdagi 4 ustumli ayvon va bosh yozgi mexmonxona «tabiston» ikki tomonida daxliz va yotoqxona, 2-yashash xona «zimiston»,

SS55-Lyonida daxliz va madan 3-ta yashash xonalari va o'rtada daxliz joylashgan. Buxoro an'anaviy Xalq uylarining xajmiy-keng kulamli uy- joy qurilishining o'ziga xosligi shundaki: Xovlining shimoliy-janubiy ukida bir-biriga qarama-karshi tomonida joylashgan yozgi va kishki xonalar guruxi, xovlining shark va garb tomonida kishki yashash xonalari joylashtirilgan. Buxoro an'anaviy uy ko'rish rejasi - ichki xovlilar bo'ylab imorat solish, Xorazm an'anaviy uy-joy ko'rish tizimiga uxshaydi. Lekin farqi shundaki, Buxoraa qurilish tuzilishi keskin farq bulib, yozgi va kishgi xonalar ajralib turadi. SHuning bilan birga yozgi xonalar shimol tomonga aniq yunaltirilgan. Kishgi xonalar janub tomonga aniq yunaltirilgan buladi. Kishgi xonalar tez isitilishi uchun ko'pincha past qilib kurilib, bu xonalar balandligi 2,75 m dan 3 metrgacha buladi. Buxoro an'anaviy uy-joy ko'rishning xarakterli tomoni shundaki, qisman yoki butun binolar bo'ylab tagxonalar - yer tulaning qurilishidir. Tagxona bosh mexmon xonanining ostida kurilib, oldida maydon tashqil etilib, tarnovlar xam shu tomonga qaratilgan. YOzgi oshxona xam shu supachada joylashtirilgan, xavo oqimi tagxona orqali utib, xovliga salkinlik baxshida etish uchun qulay bo'lgan. Bundan tashqari tagxonalar poydevor vositasidan tashqari binolar devorlarining namlanish va shurlanishidan asragan. Fargona, CHirchiq- Angren, O'rta Zarafshon vxalarida uy-joy binolari ikki xovlili xovli bulib 2 - 3 - tomonlama kurilib, ko'kalamzorlashtirilgan va suv oqimi kirishi uchun qulay sharoit yaratilgan [5].

SH.tip. Jizzax an'anaviy uy-joy ko'rish tizimining elementlari quyidagicha: yashash xonalari yoki qator xonalar va daxlizi bilan; bu xonalarni birlashtirib turuvchi 90° ostida qurilgan ayvon. 1U-qator xonalar va oldida uzunasiga 3-6 ustumli ayvon joylashtirilgan; Jizzax an'anaviy uy-joy qurilishi tizimining tipik belgilari xovlilar bo'ylab 2 yoki 3 tomonida yashash xonalarining joylaytirilishidir. O'rta Zarafshon xududlari uy-joy qurilishiga keskin talablar quyiladi. Eng yaxshi orientatsiya janubiy va janubi- sharkey yo'nalishi xisoblanadi (rasm 19,20).

IV- tip. Fargona an'anaviy uy-joy ko'rish tizimining xajmiy- rejaviy elementlari quyidagilardan iborat:

1 - markaziy yozgi xona - «kashkarcha», yonidan xonalar; II - markaziy xonaning tashqi tomonida ikki tabakali ochiladigan devor «tabodon» va oldida supa, yonida xonalar qurilgan.

Fargona an'anaviy qurilishning o'ziga xos xarakterli tomonlaridan biri

«Kashkarcha» yozgi xonaning old tomonidagi ochilib yopiladigan «tobodon» devoridir. (pyeregorodka). Toshkent, Fargona, O'rta Zarafshon va CHirchiq mintaqalarida an'anaviy uylarda xovlilarni uchun kukamalamzorlashtirish muxim rol o'ynaydi. Ayniqsa, uzining chiroyli barglari bilan, chirmashuvchanligi bilan tut daraxti xisoblanadi. Xar bir ayvon oldiga tok eqilib, ishqomlar tabiiy ayvon vazifasini xam utaydi. Ichki va tashqi kenglik bir tekis va tartib bilan amalga oshiriladi. Xalq uylarida mikroiklim tabiiy xolda ko'kalamzor va suv chiqarish yo'li bilan tartibga solib turiladi. Xalq tajribasi birqator sistemani yaratadiki, bu xovlilar o'rtasida «xovuz» va xovuz bo'ylab gullar, kukat eqilishi, mevali daraxtlar va uzumning eqilishi shaxar turar - joy imorat qurilishida kullanilmokda. YAxshi soya-salkin qilingan xovlilar temperaturasi 4°-5° daraja pasayib, xavo namligi 1728% gacha kutariladi. Bunday ko'kalamzorlashtirilgan, daraxtlar eqilgan xovlilar tuni bilan salkinlashib, kunduzi esa atrofdagilarni issiq quyosh taftidan asrab turadi.

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Barnoyeva Z.O.
assistant
Jizzax politexnika institute

ENERGO TEJAMKOR O'RTA QAVATLI TURAR JOY UYLARNI SHAKLLANTIRISH VA RIVOJLANTIRISH ISHLARINI TAHLIL QILISH

Annotatsiya. Ushbu maqolada energo tejamkor o'rta qavatli turar joy uylarni shakllantirish, iqtisodiyotda enyergiya va resurslar sarfini kamaytirish, ishlab chiqarishga enyergiya tejaydigan texnologiyalarni keng joriy etish, qayta tiklanadigan enyergiya manbalaridan foydalanishni kengaytirish, iqtisodiyot tarmoklarida mexnat unumdorligini oshirish va rivojlantirish xajmiy-rejaviy tamoyillari tahlil qilingan.

Kalit so'zlar: energo tejamkor, butlovchi buyumlar, xizmat ko'rsatish.

Barnoyeva Z.O.
assistant
Jizzakh Polytechnic Institute

ANALYSIS OF FORMATION AND DEVELOPMENT OF ENERGY- EFFICIENT MIDDLE-STORY RESIDENTIAL HOUSES

Abstract. This article analyzes the quantitative and planning principles of creating energy-efficient medium-rise residential houses, reducing the consumption of energy and resources in the economy, widely introducing energy-saving technologies in production, expanding the use of renewable energy sources, increasing productivity and development of production in economic networks.

Key words: energy efficient, components, service.

Qishloqlarda katta va kichik Fermer xo'jaliklari, kichik biznes, xususiy tadbirkorlik ishlab chiqarish korxonalari va xokazolar paydo bulmokda. Bular uz navbatida qishloq axolisining turmush axolisining yaxshilanishiga olib keladi va uz navbatida turar joy binolarini strukturasini birmuncha o'zgarishiga olib keladi. Masalan: katta fermer xo'jaliklarida esa molxona, tovuqxona va samonxonalar turar joy binolarini birga ishlanib uning katta qismini tashkil qilmokda[1].

Ishlab chiqarishni maxalliylashtirishni rag'batlantirish siyosatini davom ettirish xamda, eng avvalo, iste'mol tovarlar va butlovchi buyumlar importining urnini bosish, tarmoklararo sanoat koopyeratsiyasini kengaytirish;

iqtisodiyotda enyergiya va resurslar sarfini kamaytirish, ishlab chiqarishga enyergiya tejaydigan texnologiyalarni keng joriy etish, qayta tiklanadigan

enyergiya manbalaridan foydalanishni kengaytirish, iqtisodiyot tarmoklarida mexnat unumdorligini oshirish;

faoliyat ko'rsatayotgan yerkin iqtisodiy zonalar, texnoparklar va kichik sanoat zonolari samaradorligini oshirish, yangilarini tashqil etish;

xizmat ko'rsatish soxasini jadal rivojlantirish, yalpi ichki maxsulotni shakllantirishda xizmatlarning urni va ulushini oshirish, ko'rsatilayotgan xizmatlar tarkibini, eng avvalo, ularning zamonaviy yuqori texnologik turlari xisobiga tubdan o'zgartirish;

Yakka tartibdagi xo'jaliklarda esa uz turar joylarida kichik korxonalar tashqil qilish bilan birga turar joy xonadonlarini strukturasini kengaytirmokdalar.

Misol qilib: tashqi xovlida kichik tegirmonlar, ustaxonalar, tikish

- bichishsexlar va boshqalarni tashqillashtirmokda[2].

Yaqin kelajakda qishloq turmush tarzi tubdan o'zgarib yangicha tus olishi mumkin. Fermer xo'jaliklarining turlariga va ularning kanday ish bilan shugullanishlariga qarab u berda yashaydigan axolining ijtimoiy yashash jarayoni xam o'zgarib boradi. Misol uchun: Qoramol yoki kuy bokish bilan shugullanadigan Fermer xujaligi axolii yashaydigan qishloqdan ma'lum masofada joylashgan buladi.

Fermer xujaligini boshqarib unda ishlaydigan oila a'zolari xar kuni ishga borib kelish uchun ma'lum vaqt sarflaydilar. Ishning yaxshi borishi uchun ularning yashash joylari fyermaga yaqin joyda bo'lishi ma'kul bulib koladi. SHunday qilib ferma xujaligi atrofida turar joy binolarini kuriladi. Vaqt o'tishi bilan ferma xujaligi kattalashib ishchilar soni ko'payadi, natijada turar joy binolari va agrosanoat majmualari paydo buladi. Sobik Sovet ittifok davrida, shaxar turar joy tizimi tarkibidagi, xo'jalik, tadbirkorlik va boshqa turdagi ishlarni jamoat, davlat korxona va tashqilotlariga berilgan edi. SHu sababli oila turar - joyida, oilaning biologik ijtimoiy rivojlanishi, uy-ruzugor ishlari, dam olish, mexmonlarni kutib olish, marosimlarni utqazish kabilar koldirildi. Bu borada sotsiologik-demografik ilmiy- tadqiqotlar utqazilib, turar joy uylar va ularning kvartiralarini kanday rivojlantirish va narmativlarni aniqlash borasida ishlar olib borilib, turar joylarni loyixalash va ko'rish bo'yicha KMK lar yaratildi. SHu KMK lar bo'yicha kvartira va turar - joylar loyixalandi va qurilishlar amalga oshirild [3].

Davlatimiz mustaqillikka erishilgandan keyin, Bosh qomusimizda, xamma mulklarga ruxsat berildi. Qishloq va shaxarlarda kvartiralar, uylar privitizatsiya qilinib, xususiylashtirildi. Natijada, Respublikamizning qishloq, tuman markazlari va shaxarlari axolilari xususiyl xo'jalik tadbirkorlik va ishlab chiqarish bilan shugullana boshladilar va turar - joylarini shu yo'nalishga moslashtira boshladilar.

Natijada, qishloq va tuman markazlari bu jarayonga to'liq tayyor emasligi ma'lum buldi. Bu jarayonni boshqarish uchun tuligicha me'yoriyl xujatlar Respublika arxitektura va qurilish kumitasi, shaxar va tuman xoqimiyatlari

tomonidan ishlab chiqilmagan. Rasmlarda keltirilgan faktlardek respublika qishloq va tuman markazlari stixiyali turar joy qurilishini olib bormokdalar.

SHu boisdan ishga an'anaviy Xalq uylarida bu masala kanday echilgani va turar - joy tizimida kanday joylashtirilgan? Bu masalani O'zbekiston tarixiy shaxarlarining an'anaviy Xalq uylari tizimi o'rganildi, loyixalash va qurilish tajribalari taxlil va xulosalar kilindi[4].

Ikkinchi boskichda, xozirgi kunda axolining mexnat faoliyatini turar joylarda olib borishi bo'yicha ilmiy kuzatishlar utqazildi. Natijada mexnat faoliyati turlari bo'yicha qishloq, tuman markazlari uchun kam qavatli turar joy uylarning turlari aniqlandi: Xo'jalik, xo'jalik-tadbirkorlik, xo'jalik-ishlab chiqarish, ishlab chiqarish-tadbirkorlik. SHu yuqorida keltirilgan turar joy uylarning xo'jalik tiplari zonalari sxemasi (modeli) va o'rta qavatli uylarning namunaviy tiplarining zonalari sxemasi (modeli) aniqlandi.

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*Azizjon B.K.
Qo‘qon davlat pedagogika instituti talabasi*

MURAKKAB ARGUMENTLI TRIGONOMETRIK TENGLAMALARNI YECHISH

Annotation. There are multiple standard and non-standard methods for solving trigonometric equations, and these methods can vary significantly. Solving trigonometric equations with complex arguments often presents a greater challenge for students. Even when they manage to solve the equation, they may struggle to identify the key elements of the solution. Addressing these challenges by incorporating the study of solving such equations and inequalities into both mathematics circles and faculty training is crucial.

Keywords: trigonometric equations, complex arguments, lowering the degree.

*Azizjon B.K.
student
Kokand State Pedagogical Institute*

SOLVING TRIGONOMETRIC EQUATIONS WITH COMPLEX ARGUMENTS

Annotation. There are multiple standard and non-standard methods for solving trigonometric equations, and these methods can vary significantly. Solving trigonometric equations with complex arguments often presents a greater challenge for students. Even when they manage to solve the equation, they may struggle to identify the key elements of the solution. Addressing these challenges by incorporating the study of solving such equations and inequalities into both mathematics circles and faculty training is crucial.

Keywords: trigonometric equations, complex arguments, lowering the degree.

1-misol. Ushbu

$$\sin(\sin(\cos x - \sin x)) = 0$$

tenglamani yeching. [1]

Yechish: $\sin(\cos x - \sin x) = \pi n, n \in \mathbb{Z}$. $-1 \leq \sin t \leq 1$ bo‘lgani uchun $-1 \leq \pi n \leq 1$ bo‘lishi kerak. Bundan $n = 0$. Endi $\sin(\cos x - \sin x) = 0$ tenglamani yechamiz. Bu $\cos x - \sin x = \pi k, k \in \mathbb{Z}$ tenglamaga teng kuchli.

$\sin(x - \frac{\pi}{4}) = \frac{\sqrt{2}\pi k}{2}$. k ning qiymati $-1 \leq \frac{\pi k}{\sqrt{2}} \leq 1$ tengsizlikni qanoatlantirishi kerak, bundan $k = 0$. Demak, $\sin(x - \frac{\pi}{4}) = 0$ tenglamani yechamiz. $x = \frac{\pi}{4} + \pi m, m \in Z$

$$\text{Javob: } \frac{\pi}{4} + \pi m, m \in Z.$$

2-misol. Ushbu

$$\cos(\pi\sqrt{1 - \sin x}) = 1$$

tenglamani yeching. [1]

Yechish: $\sqrt{1 - \sin x} = 2k, k \in N_0$ bo'lishi kerak. U holda $\sin x = 1 - 4k^2$, $-1 \leq \sin x \leq 1$ bo'lgani uchun $-1 \leq 1 - 4k^2 \leq 1$, $-2 \leq -4k^2 \leq 0$; $0 \leq k^2 \leq \frac{1}{2}$.

Demak, $k = 0$ va $\sin x = 1$.

$$\text{Javob: } \frac{\pi}{2} + \pi n, n \in Z.$$

3-misol. Ushbu

$$\sin^2(1 - \cos x) = \cos^2(1 + \cos x)$$

tenglamani yeching. [2]

Yechish. Darajani pasaytirish formulasini qo'llab

$$\cos(2 + 2\cos x) + \cos(2 - 2\cos x) = 0$$

tenglamani hosil qilamiz. Kosinuslar yig'indisini ko'paytmaga o'tkazib $\cos(2\cos x) = 0$; $\cos x = \frac{\pi}{4} + \frac{\pi n}{2}, n \in Z$ ni hosil qilamiz. n ning qabul qilishi mumkin bo'lgan qiymatlarini topish uchun $-1 \leq \frac{\pi}{4} + \frac{\pi n}{2} \leq 1$ tengsizlikni yechamiz. Bundan $n = 0$ yoki $n = -1$. Demak, $|\cos x| = \frac{\pi}{4}$

$$\text{Javob: } \pm \arccos \frac{\pi}{4} + \pi k, k \in Z.$$

4-misol. Ushbu

$$\cos x + \cos \sqrt{x} = 2$$

tenglamani yeching. [1]

Yechish: $|\cos x| \leq 1$ va $|\cos \sqrt{x}| \leq 1$ bo'lgani uchun berilgan tenglama quyidagi sistemaga teng kuchli

$$\begin{cases} \cos x = 1 \\ \cos \sqrt{x} = 1 \end{cases} \begin{cases} x = 2\pi k, k \in \mathbb{Z} \\ x = 4\pi^2 m^2, m \in \mathbb{Z} \end{cases}$$

Bundan $2\pi k = 4\pi^2 m^2; k = 2\pi m^2$, k va m lar butun son bo'lganligi uchun oxirgi tenglik $k = m = 0$ da o'rinli.

Javob:0

5-misol. Ushbu

$$\cos \sqrt{x} = \cos \sqrt{x+1}$$

tenglamani yeching. [2]

Yechish: Berilgan tenglama quyidagi tenglamaga teng kuchli.

$$-2\sin \frac{\sqrt{x} - \sqrt{x+1}}{2} \sin \frac{\sqrt{x} + \sqrt{x+1}}{2} = 0$$

Bundan $\sin \frac{\sqrt{x+1} - \sqrt{x}}{2} = 0$; $\sin \frac{\sqrt{x} + \sqrt{x+1}}{2} = 0$. x ni topish uchun quyidagi 2 ta tenglamani yechamiz. $\sqrt{x+1} - \sqrt{x} = 2\pi k, k \in \mathbb{N}$; $\sqrt{x} + \sqrt{x+1} = 2\pi n, n \in \mathbb{N}$;

$x > 0$ da $\sqrt{x+1} - \sqrt{x} > 0$ bo'lganligi uchun $k \in \mathbb{N}$

$x > 0$ da $\sqrt{x} + \sqrt{x+1} > 0$ bo'lganligi uchun $n \in \mathbb{N}$.

Birinchi tenglamani yechamiz. $x+1 = x + 4\pi k \sqrt{x} + 4\pi^2 k^2$; $4\pi k \sqrt{x} = 1 - 4\pi^2 k^2$

Bu tenglama $k \in \mathbb{N}$ da yechimga ega emas. Ikkinchi tenglamani yechamiz. $\sqrt{x} = 2\pi n - \sqrt{x+1}$. Bu tenglama quyidagi sistemaga teng kuchli.

$$\begin{cases} x = 4\pi^2 n^2 - 4\pi n \sqrt{x+1} + x + 1; \\ 2\pi n \geq \sqrt{x+1} \end{cases}$$

Sistemaning birinchi tenglamasidan $\sqrt{x+1} = \frac{4\pi^2 n^2 + 1}{4\pi n}$

$\sqrt{x+1} < 2\pi n, (n \in \mathbb{N})$ ekanligini ko'rsatamiz. Haqiqatan ham,

$$\frac{4\pi^2 n^2 + 1}{4\pi n} < 2\pi n; \quad \frac{-4\pi^2 n^2 + 1}{4\pi n} < 0$$

Oxirgi tengsizlik $n \in \mathbb{N}$ da o'rinli.

Demak, $x = \left(\frac{4\pi^2 n^2 + 1}{4\pi n}\right)^2 - 1 = \left(\frac{4\pi^2 n^2 - 1}{4\pi n}\right)^2, n \in \mathbb{N}$

$$\text{Javob: } \left(\frac{4\pi^2 n^2 - 1}{4\pi n}\right)^2, n \in \mathbb{N}$$

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Djumayev N.M.
Kafedra dotsenti
Favqulodda vaziyatlar vazirligi Fuqaro muhofazasi instituti

ISHLAB CHIQRISH KORXONALARIDA MEHNAT XAVFSIZLIGINING INNOVATSION YO‘LLARI

Annotatsiya. Ushbu maqola ishlab chiqarish korxonalarida mehnat xavfsizligini oshirishga innovatsion yondashuvlarni o‘rganadi. Sanoat 4.0 ning paydo bo‘lishi va ilg‘or texnologiyalarning integratsiyasi bilan ish joyidagi xavfsizlik manzarasi tez rivojlanmoqda. Tadqiqot zamonaviy adabiyotlarni tahlil qiladi, samarali metodologiyalarni belgilaydi va so‘nggi amaliy tadqiqotlar natijalarini muhokama qiladi. Topilmalar ishlab chiqarish muhitida ishchilarning farovonligini ta‘minlash uchun zamonaviy texnologiyalarni birlashtirish va xavfsizlik madaniyatini yaratish muhimligini ta’kidlaydi.

Kalit so‘zlar. Mehnat xavfsizligi, ishlab chiqarish korxonalari, sanoat 4.0, ish joyi xavfsizligi, mehnat salomatligi, xavfsizlik madaniyati, innovatsion texnologiyalar, xatarlarni boshqarish.

Djumayev N.M.
associate professor
Institute of Civil Protection of the Ministry of Emergency Situations

INNOVATIVE WAYS TO ENSURE OCCUPATIONAL SAFETY AT MANUFACTURING PLANTS

Annotation. This article explores innovative approaches to increasing labor security in manufacturing enterprises. With the advent of Industry 4.0 and the integration of advanced technologies, the workplace safety landscape is developing rapidly. The study analyzes modern literature, defines effective methodologies and discusses the results of recent case studies. The findings highlight the importance of integrating modern technologies and creating a culture of security to ensure the well-being of workers in the manufacturing environment.

Keywords. Occupational Safety, manufacturing enterprises, Industry 4.0, workplace safety, occupational health, safety culture, innovative technologies, risk management.

Ishlab chiqarish korxonalarida mehnat xavfsizligi juda muhim muammo hisoblanadi, chunki bu muhit ko‘pincha yuqori xavfli faoliyatni o‘z ichiga oladi. An'anaviy xavfsizlik choralari samarali bo‘lsa-da, texnologiyaning rivojlanishidan foydalanadigan innovatsion echimlar bilan tobora ko‘proq to‘ldirilmoqda. Sanoat 4.0 ning o‘sishi bilan raqamli transformatsiya xavfsizlik

protokollarini qayta shakllantirmoqda, xavfni kamaytirish uchun yangi vositalar va usullarni joriy qilmoqda. Ushbu maqola ushbu innovatsion yondashuvlarni o'rganish va ularning ishlab chiqarish sohasidagi mehnat xavfsizligiga ta'sirini baholashga qaratilgan.

Tadqiqot miqdoriy ma'lumotlarni tahlil qilishni sifatli amaliy tadqiqotlar bilan birlashtirgan aralash usulli yondashuvni qo'llaydi. Miqdoriy ma'lumotlar turli xil ishlab chiqarish korxonalarida xavfsizlik hodisalari to'g'risidagi hisobotlar, mahsuldorlik ko'rsatkichlari va xodimlarning so'rovlaridan to'plangan. Sifat jihatidan ushbu korxonalarda xavfsizlik menejerlari va ishchilari bilan chuqur suhbatlar o'tkazildi. Bundan tashqari, kontekstli fonni ta'minlash uchun ikkilamchi ma'lumotlarni, shu jumladan akademik jurnallar va sanoat hisobotlarini har tomonlama ko'rib chiqish o'tkazildi.

Ishlab chiqarish korxonalarida mehnat xavfsizligini oshirish ishchilar xavfsizligini ta'minlash, samaradorlikni oshirish va qoidalarga rioya qilish uchun juda muhimdir. Mana ba'zi innovatsion yondashuvlar:

Aqlli shaxsiy himoya vositalari zamonaviy texnologiyalar bilan takomillashtirilgan an'anaviy himoya vositalarini anglatadi, ayniqsa IoT (Internet of Things) sensorlari va kengaytirilgan haqiqat (AR) integratsiyasi orqali. Ushbu takomillashtirish Real vaqtda ma'lumotlar va yordam berish orqali ishchilar xavfsizligi va samaradorligini oshirishga qaratilgan. Siz aytib o'tgan ikkita asosiy jihatni batafsil ko'rib chiqing:

Ulangan Taqiladigan Kiyimlar

- Aqlli shaxsiy himoya vositalaridagi IOT sensorlari: sensorlarni dubulg'a, qo'lqop va yelek kabi Aqlli shaxsiy himoya vositalari buyumlariga joylashtirish orqali ushbu aqlli qurilmalar hayotiy belgilar (yurak urishi, tana harorati), atrof-muhit sharoitlari (havo sifati, mavjudligi) kabi turli parametrlarni kuzatishi mumkin. zaharli gazlar) va hatto jismoniy zo'riqish darajasi (charchoqni baholash uchun). To'plangan ma'lumotlar Real vaqt rejimida Markaziy tizimga uzatilishi mumkin, bu erda nazoratchilar shartlarni kuzatishi va kerak bo'lganda aralashishi mumkin. Masalan, agar ishchining yurak urishi tezlashsa yoki zararli gazlar aniqlansa, tegishli choralarni ko'rish uchun ishchiga ham, ularning rahbariga ham ogohlantirish yuborilishi mumkin.

Umuman olganda, aqlli Aqlli shaxsiy himoya vositalari Real vaqtda ma'lumotlarni taqdim etish, vaziyatdan xabardorlikni oshirish va favqulodda vaziyatlar yoki xavfli sharoitlarga tezroq javob berish orqali ish joyidagi xavfsizlik va samaradorlikni sezilarli darajada oshirishi mumkin.

Ilg'or robototexnika va avtomatlashtirish tez rivojlanayotgan soha bo'lib, u ko'pincha samaradorlik, xavfsizlik va samaradorlikni oshirish maqsadida turli vazifalarni bajarish uchun robot tizimlarini ishlab chiqish va joriy etishga qaratilgan. Bu erda ba'zi asosiy tushunchalar:

Hamkorlikdagi Robotlar (Kobotlar).

Kobotlar umumiy ish joyida odamlar bilan birga xavfsiz ishlash uchun mo'ljallangan. Odamlarni robotning ish joyidan uzoqlashtirish uchun ko'pincha

xavfsizlik qafaslarini talab qiladigan an'anaviy sanoat robotlaridan farqli o'laroq, kobotlar odamlarning mavjudligini aniqlash va to'qnashuvlarning oldini olish uchun ilg'or sensorlar va dasturiy ta'minot bilan jihozlangan. Bu ularni yig'ish, tekshirish va qadoqlash kabi inson va robotning o'zaro ta'sirini talab qiladigan vazifalarga moslashtiradi. Kobotlar takrorlanadigan, zerikarli yoki xavfli vazifalarni o'z zimmasiga olishi mumkin, shu bilan shikastlanish xavfini kamaytiradi va inson ishchilariga ko'proq murakkab yoki ijodiy faoliyatga e'tibor berishga imkon beradi.

Avtomatlashtirilgan Boshqariladigan Transport Vositalari (AGV)

Agvlar-bu ob'ekt ichida materiallar va mahsulotlarni tashish uchun ishlatiladigan mobil robotlar. Ular oldindan belgilangan yo'llarga ergashadilar yoki harakatlanish uchun lazer qo'llanmasi yoki ko'rish tizimlari kabi ilg'or navigatsiya texnologiyalaridan foydalanadilar. Avtomatlashtirilgan Boshqariladigan Transport Vositalarilar odatda ishlatiladi ishlab chiqarish, omborxona va tarqatish transportni avtomatlashtirish uchun muhit tovarlar, bu inson ishchilariga potentsial xavfli qo'lda ishlash vazifalarini bajarishga bo'lgan ehtiyojni kamaytiradi. Ushbu jarayonlarni avtomatlashtirish orqali Avtomatlashtirilgan Boshqariladigan Transport Vositalari samaradorlikni oshirishi, mehnat xarajatlarini kamaytirishi va xavfsizlikni yaxshilashi mumkin.

Ilg'or robototexnika va avtomatlashtirishning afzalliklari:

1. Samaradorlikni oshirish: avtomatlashtirish ishlab chiqarish jarayonlarini sezilarli darajada tezlashtirishi va ishlamay qolishini kamaytirishi mumkin.

2. Yaxshilangan xavfsizlik: robotlar xavfli vazifalarni o'z zimmasiga olishi mumkin, bu esa inson ishchilariga shikast etkazish xavfini kamaytiradi.

3. Mustahkamlik va sifat: robotlar vazifalarni yuqori aniqlik va izchillik bilan bajarishi mumkin, bu esa mahsulot sifatini yaxshilashga olib keladi.

4. Xarajatlarni tejash: dastlabki investitsiyalar yuqori bo'lishi mumkin bo'lsa-da, avtomatlashtirish ko'pincha samaradorlikni oshirish va mehnat xarajatlarini kamaytirish orqali uzoq muddatli xarajatlarni tejashga olib keladi.

Ilovalar:

- Ishlab chiqarish: yig'ish liniyalari, payvandlash, bo'yash va sifatni tekshirish.

- Logistika va omborxona: saralash, yig'ish, qadoqlash va tashish.

- Sog'liqni saqlash: jarrohlik yordami, dori-darmonlarni tarqatish va bemorni davolash.

- Qishloq xo'jaligi: ekinlarni ekish, yig'ish va kuzatish.

Ilg'or robototexnika va avtomatlashtirish texnologiyalarining integratsiyasi turli sohalarni o'zgartiradi, jarayonlarni yanada samarali, xavfsizroq va tejamkor qiladi.

Bashoratli tahlil va sun'iy intellekt kelajakdagi voqealar yoki xatti-harakatlar haqida bashorat qilish uchun ma'lumotlarni tahlil qilish, mashinani o'rganish va sun'iy intellektdan foydalanishni o'z ichiga oladi. Bu erda ikkita

asosiy dastur haqida qisqacha ma'lumot: bashoratli texnik xizmat ko'rsatish va xavflarni baholash modellari.

Bashoratli Parvarishlash.

Ta'rif: bashoratli texnik xizmat A. I. va mashinani o'rganish usullaridan foydalanib, uskunalarning ishdan chiqishini ular sodir bo'lishidan oldin bashorat qilishni anglatadi. Sensorlar va boshqa monitoring tizimlarining ma'lumotlarini tahlil qilib, ushbu texnologiyalar mumkin bo'lgan muammolarni ko'rsatadigan naqsh va signallarni aniqlay oladi.

Foyda:

- Ishlamay qolish vaqtining qisqarishi: uskunalarning ishdan chiqishi ehtimolini taxmin qilish orqali texnik xizmat ko'rsatish rejadan tashqari uzilishlarning oldini olib, proaktiv tarzda rejalashtirilishi mumkin.

- Xarajatlarni tejash: kutilmagan buzilishlarning oldini olish favqulodda ta'mirlash va ishlab chiqarishni to'xtatish bilan bog'liq katta xarajatlarni tejashga yordam beradi.

- Yaxshilangan xavfsizlik: mumkin bo'lgan nosozliklarni erta aniqlash baxtsiz hodisalarning oldini oladi va shu bilan xavfsiz ish muhitini ta'minlaydi.

U qanday ishlaydi: sensorlar harorat, tebranish va shovqin darajasi kabi mashinalardan Real vaqtda ma'lumotlarni to'playdi. Keyin bu ma'lumotlar yaqinlashib kelayotgan muvaffaqiyatsizlik belgilarini aniqlash uchun tarixiy ma'lumotlarga o'rgatilgan mashinani o'rganish algoritmlari yordamida tahlil qilinadi.

Xatarlarni Baholash Modellari

Ta'rif: xavflarni baholash modellari o'tgan hodisalar ma'lumotlarini tahlil qilish va kelajakdagi xavflarni ko'rsatadigan qonuniyatlar yoki tendentsiyalarni aniqlash orqali potentsial xavflarni baholash uchun sun'iy intellektdan foydalanadi.

Ilovalar:

- Xavfsizlikni boshqarish: potentsial xavflarni bashorat qilish orqali kompaniyalar xavfsizlikni oshirish uchun profilaktika choralarini qo'llashlari mumkin.

- Sug'urta va moliyaviy xizmatlar: AI modellari tegishli ma'lumotlarni tahlil qilish orqali aktivni sug'urtalash yoki kreditni tasdiqlash bilan bog'liq xavfni baholashi mumkin.

Foyda:

- Yuqori aniqlik: AI modellari katta hajmdagi ma'lumotlarni inson tahlilchilariga qaraganda tezroq va aniqroq tahlil qila oladi va bu xavfni aniqroq bashorat qilishga olib keladi.

- Iqtisodiy samaradorlik: xavflarni erta aniqlash va kamaytirish orqali kompaniyalar qimmatbaho hodisalardan qochishlari va sug'urta mukofotlarini kamaytirishlari mumkin.

U qanday ishlaydi: ushbu modellar odatda turli manbalardan, masalan, tarixiy hodisalar to'g'risidagi hisobotlar, atrof-muhit ma'lumotlari va operatsion

jurnallardan ma'lumotlarni yig'ishni o'z ichiga oladi. Mashinani o'rganish algoritmlari xavf omillarini aniqlash va kelajakdagi hodisalar ehtimolini taxmin qilish uchun ushbu ma'lumotlarni tahlil qiladi.

Bashoratli texnik xizmat ko'rsatish va xavflarni baholash modellari turli sohalarda kuchli vositalar bo'lib, tashkilotlarga o'z faoliyatini optimallashtirish, xarajatlarni kamaytirish va xavfsizlikni oshirishga yordam beradi.

Raqamli Egizaklar

- Ish muhitini simulyatsiya qilish: raqamli egizaklar ishlab chiqarish maydonchasining virtual nusxasini yaratishi mumkin, bu esa xavflarni aniqlash va kamaytirish uchun turli xil stsenariylarni xavfsiz simulyatsiya qilish va sinovdan o'tkazishga imkon beradi.

Ish joyidagi Ergonomika va ekzoskeletlar

- Ergonomik baholash: ishchilarning harakatlarini tahlil qilish va kuchlanish va jarohatlarni kamaytirish uchun ergonomik yaxshilanishlarni taklif qilish uchun sensorlar va sun'iy intellektdan foydalanish.

- Ekzoskeletlar: taqiladigan ekzoskeletlar ishchilarga og'ir narsalarni ko'tarishda yordam beradi va mushak-skelet tizimining shikastlanish xavfini kamaytiradi.

Masofaviy Monitoring va Telepresensiya

- Dronlar va masofaviy kameralar: erishish qiyin bo'lgan yoki xavfli hududlarni tekshirish uchun dronlar va masofaviy kameralardan foydalanish mumkin, bu esa ishchilarning xavfli zonalarga kirishiga bo'lgan ehtiyojni kamaytiradi.

- Telepresensiya robotlari: ushbu robotlar masofaviy mutaxassislarga ishchilarga Real vaqt rejimida rahbarlik qilish va yordam berishga imkon beradi, bu esa tegishli protseduralarga rioya qilinishini ta'minlaydi.

Gamifikatsiya va Virtual haqiqat (VR) treningi

- VR xavfsizligi bo'yicha trening: Immersive VR muhitlari xavfli vaziyatlarni taqlid qilishi mumkin, bu esa ishchilarga Real xavf-xatarsiz javoblarni amalda qo'llash imkonini beradi.

- Gamified xavfsizlik dasturlari: xavfsizlik protokollariga rioya qilish uchun mukofot ballari kabi xavfsiz xatti-harakatlarni rag'batlantirish uchun o'yin mexanikasidan foydalanish.

Keng qamrovli ma'lumotlar integratsiyasi va boshqaruv tizimlari

- Yagona xavfsizlik platformalari: ish joyidagi xavfsizlikning yaxlit ko'rinishini ta'minlash uchun turli manbalardan (PPE, sensorlar, kameralar) ma'lumotlarni birlashtiradigan markazlashtirilgan platformalar.

Kengaytirilgan Aloqa Vositalari

- Tezkor xabar almashish va ogohlantirishlar: xavf yoki hodisalarni barcha tegishli xodimlarga tezkor etkazish imkonini beruvchi tizimlar.

- Favqulodda vaziyatlarga javob berish ilovalari: ishchilarga favqulodda protokollar va kontaktlarga zudlik bilan kirishni ta'minlaydigan mobil ilovalar.

Barqaror Amaliyotlar

- Yashil ishlab chiqarish: xavfsiz muhit yaratish uchun ishlab chiqarish jarayonida zararli kimyoviy moddalar va materiallardan foydalanishni kamaytirish.

Ushbu innovatsion echimlarni amalga oshirish investitsiyalarni va xavfsizlikni birinchi o'ringa qo'yish va yangi texnologiyalardan foydalanishga madaniy o'zgarishni talab qiladi. Biroq, baxtsiz hodisalarni kamaytirish, ishchilarning farovonligini yaxshilash va operatsion samaradorlikni oshirish nuqtai nazaridan foyda katta.

Ilg'or texnologiyalarni ishlab chiqarish korxonalariga integratsiyalashuvi ham imkoniyatlar, ham qiyinchiliklarni keltirib chiqarmoqda. Ushbu texnologiyalar xavfsizlikni sezilarli darajada oshirishi mumkin bo'lsa-da, ularni amalga oshirish katta sarmoyalarni va tashkiliy madaniyatni o'zgartirishni talab qiladi. Tadqiqot texnologik yutuqlarni kuchli xavfsizlik madaniyati bilan birlashtirgan yaxlit yondashuv zarurligini ta'kidlaydi. Ushbu yangiliklarni samarali qabul qilishni ta'minlashda xodimlarni jalb qilish va uzluksiz ta'lim muhim ahamiyatga ega.

Xulosa va takliflar

Xulosa qilib aytganda, innovatsion texnologiyalarni qo'llash ishlab chiqarish korxonalarida mehnat xavfsizligini yaxshilash uchun juda muhimdir. Biroq, ushbu texnologiyalarni muvaffaqiyatli amalga oshirish uchun infratuzilmaga sarmoya kiritish, o'qitish va xavfsizlik madaniyatini rivojlantirishga qat'iy sodiqlikni o'z ichiga olgan keng qamrovli strategiya talab etiladi. Kelajakdagi tadqiqotlar ushbu texnologiyalarning ish joyidagi xavfsizlikka uzoq muddatli ta'siriga qaratilishi va rivojlanayotgan texnologiyalarni integratsiyalashning yangi yo'llarini o'rganishi kerak.

Texnologiyaga sarmoya kiriting: ishlab chiqarish korxonalari Real vaqtda monitoring va bashoratli tahlil imkoniyatlarini oshirish uchun IoT, AI va taqiladigan texnologiyalarga sarmoya kiritishlari kerak.

Xavfsizlik madaniyatini kuchaytirish: kompaniyalar xodimlarni xavfsizlikni rejalashtirishga jalb qilish, uzluksiz o'qitish va xavfsizlik masalalari bo'yicha ochiq muloqotni rag'batlantirish orqali xavfsizlik madaniyatini rivojlantirishlari kerak.

Leverage VR/Ar trening uchun: bilimlarni saqlash va vaziyatni anglashni yaxshilaydigan immersiv xavfsizlik bo'yicha tajriba uchun VR va AR texnologiyalaridan foydalaning.

Doimiy baholash va takomillashtirish: amalga oshirilgan xavfsizlik choralari va texnologiyalarining samaradorligini muntazam ravishda baholang va ma'lumotlarga asoslangan tushunchalar asosida strategiyalarni sozlang.

Manfaatdor tomonlar bilan hamkorlik qilish: eng yaxshi amaliyot va muvofiqlik talablari to'g'risida xabardor bo'lish uchun soha mutaxassislari, texnologiya provayderlari va nazorat qiluvchi organlar bilan bog'laning.

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Djumayev N.M.
Kafedra dotsenti
Favqulodda vaziyatlar vazirligi Fuqaro muhofazasi instituti

MARKAZIY OSIYODA ICHIMLIK SUVINING TANQISLIGI BILAN BOG‘LIQ MUAMMONING YECHISH YO‘LLARI

Annotatsiya. Iqlim o‘zgarishi, aholi sonining ko‘payishi va suvni boshqarish amaliyotining samarasizligi tufayli Markaziy Osiyoda ichimlik suvi tanqisligi masalasi tobora dolzarb bo‘lib bormoqda. Ushbu maqola muvaffaqiyatli global misollar va mintaqaviy xususiyatlarga asoslanib, ushbu muhim muammoni hal qilishning turli strategiyalarini o‘rganadi. U keng qamrovli adabiyotlarni ko‘rib chiqadi, taklif qilingan usullarni o‘rganadi va potentsial natijalar va ta’sirlarni muhokama qiladi. Maqola mintaqadagi suv inqirozini engillashtirishi mumkin bo‘lgan suvni barqaror boshqarish siyosati va amaliyoti bo‘yicha tavsiyalar bilan yakunlanadi.

Kalit so‘zlar: ichimlik suvi tanqisligi, Markaziy Osiyo, suv xo‘jaligi, iqlim o‘zgarishi, barqaror rivojlanish, tuzsizlantirish, suvni tejash, sug‘orish samaradorligi.

Djumayev N.M.
associate professor
Institute of Civil Protection of the Ministry of Emergency Situations

WAYS TO SOLVE THE PROBLEM OF DRINKING WATER SHORTAGE IN CENTRAL ASIA

Annotation. Due to climate change, increasing population and inefficient water management practices, the issue of drinking water shortages in Central Asia is becoming increasingly relevant. This article explores various strategies for solving this important problem based on successful global examples and regional characteristics. It reviews a wide range of literature, explores proposed methods, and discusses potential outcomes and implications. The article concludes with recommendations on sustainable water management policies and practices that can alleviate the water crisis in the region.

Keywords: drinking water shortage, Central Asia, Water Management, Climate Change, Sustainable Development, desalination, water saving, irrigation efficiency.

Markaziy Osiyo iqlim o‘zgarishi, aholi sonining ko‘payishi va eskirgan infratuzilma tufayli kuchaygan suv tanqisligi muammosiga duch kelmoqda. Mintaqaning qurg‘oqchil va yarim quruq iqlimi, suv resurslarini haddan tashqari

qazib olish bilan birgalikda, mavjud chuchuk suv ta'minotida sezilarli stressni keltirib chiqardi. Markaziy Osiyodagi asosiy suv manbalari-Amudaryo va Sirdaryo daryolari qishloq xo'jaligi uchun juda ko'p ishlatilib, maishiy va sanoat maqsadlarida foydalanish uchun cheklangan resurslar qolmoqda. Ushbu maqola Markaziy Osiyoda suv tanqisligining asosiy sabablarini o'rganadi va muammoni yumshatishga yordam beradigan, kelajak avlodlarni ichimlik suvi bilan barqaror ta'minlashni ta'minlaydigan potentsial echimlarni ko'rib chiqadi.

Markaziy Osiyoda suv tanqisligi bo'yicha olib borilgan tadqiqotlar muammoni keltirib chiqaradigan bir qancha muhim omillarni ta'kidlaydi. Iqlim modellari mintaqa daryolari uchun asosiy manbalar bo'lgan qor qoplami va muzlik eritmasining kamayishi tufayli suv ta'minotining pasayishini taxmin qilmoqda. Bundan tashqari, samarasiz qishloq xo'jaligi amaliyoti, ayniqsa sug'orishda, juda ko'p miqdorda suv iste'mol qiladi. Tuzsizlantirish va suvni qayta ishlash kabi global echimlarni ko'rib chiqish mintaqa uchun qo'llaniladigan potentsial strategiyalar haqida tushuncha beradi. Tadqiqotlar, shuningdek, umumiy suv resurslarini samarali boshqarish uchun Markaziy Osiyo mamlakatlari o'rtasida mintaqaviy hamkorlik zarurligini ta'kidlaydi.

Markaziy Osiyoda ichimlik suvi tanqisligini bartaraf etish uchun quyidagi usullar taklif etiladi:

Tuzsizlantirish: dengiz suvini ichimlik suviga aylantirish uchun Kaspiy dengizi bo'ylab tuzsizlantirish zavodlarini joriy etish.

Suvni tejash: qishloq xo'jaligi va maishiy foydalanishda suvni tejaydigan texnologiyalar va amaliyotlarni ilgari surish.

Sug'orish tizimlarini takomillashtirish: suv yo'qotilishini kamaytirish va samaradorlikni oshirish uchun mavjud sug'orish infratuzilmasini yangilash.

Yomg'ir suvini yig'ish: suv ta'minotini to'ldirish uchun yomg'ir suvlarini yig'ish tizimlarini ishlab chiqish.

Oqava suvlarni tozalash va qayta ishlatish: ichimlik suvi uchun suvni qayta ishlash uchun oqava suvlarni tozalash inshootlariga sarmoya kiritish.

Suvning qiymati dunyo globallashuvi jarayonida yanada yaqqol namoyon bo'lmoqda. Zero, suvsiz hayot yo'q. Suv tiriklik evolyusiyasiga ham, atrof-muhit, iqlim o'zgarishlariga ham million yillardan buyon beqiyos ta'sir ko'rsatib kelayotgan obi hayotdir. Shunday ekan, insoniyat uni ko'z qorachig'idek asrashi shart.

Qayd etish joiz, hozirgi paytda suvga bo'lgan talab va ehtiyoj har qachongidan tobora ortib bormoqda. Natijada butun dunyoda suv tanqisligi kuzatilyapti. Ushbu dolzarb masala Markaziy Osiyo mintaqasini ham chetlab o'tgani yo'q. Mutaxassislarning hisob-kitoblariga ko'ra, 2050 yilgacha suv resurslari Sirdaryo havzasida 5 foizgacha, Amudaryo havzasida 15 foizgacha kamayishi kutilmoqda. Boshqa tomondan esa, aholining o'sishi hisobiga, O'zbekistonda 2030 yilga borib, suvga bo'lgan talab 7 mlrd. kub metrغا yetishi, 2050 yilga borib esa, bu ko'rsatkich ikki barobarga ortishi mumkin.

Shularni inobatga olib, so'nggi yillarda mamlakatimizda suv resurslaridan foydalanish tubdan isloh qilinmoqda. Asosiy masala — suvdan oqilona va samarali foydalanish, sug'oriladigan yerlarning meliorativ holatini yaxshilashga qaratilgan. Binobarin, Prezidentimizning saylovoldi dasturida ham suv resurslarini tejashga alohida e'tibor berilib, 2030 yilga qadar respublikamizdagi sug'orma dehqonchilik qilinadigan barcha ekin maydonlarini to'liq suv tejaydigan texnologiyalarga o'tkazish, sohaga bozor mexanizmlarini keng tatbiq etish, suv tejaydigan texnologiyalarni joriy etgan fermer va dehqonlar uchun rag'batlantirish mexanizmlarini yanada ko'paytirish choralari ko'rilishi belgilandi.

Markaziy Osiyoda ichimlik suvi tanqisligini bartaraf etish texnologik, ekologik, ijtimoiy va siyosatga asoslangan echimlarni o'z ichiga olgan ko'p qirrali yondashuvni o'z ichiga oladi. Bu muammoni yumshatishga yordam beradigan bir nechta strategiyalar:

Suvni tejash va boshqarish

- Sug'orishning samarali usullari: qishloq xo'jaligida tomchilatib sug'orish, sug'orish tizimlari va boshqa suvni tejaydigan texnologiyalarni joriy etish suv sarfini sezilarli darajada kamaytirishi mumkin, chunki qishloq xo'jaligi mintaqada suvdan asosiy foydalanuvchi hisoblanadi.

- Oqishni kamaytirish: shahar va qishloq suv ta'minoti tizimlarida oqishning oldini olish uchun suv infratuzilmasini yangilash va saqlash suvni tejashga yordam beradi.

Suvni tozalash va tuzsizlantirish

- Suv tozalash inshootlari: suv tozalash inshootlarini ishlab chiqish va takomillashtirish mavjud suv sifatini oshirib, uni ichishga yaroqli qiladi.

- Tuzsizlantirish: dengizga yaqin hududlar uchun tuzsizlantirish zavodlari muqobil ichimlik suvi manbai bo'lishi mumkin. Biroq, bu yechim qimmat va energiya talab qilishi mumkin.

Yomg'ir suvini yig'ish va saqlash

- Yomg'ir suvini yig'ish: yomg'ir suvini olish va saqlash tizimlarini o'rnatish, ayniqsa mavsumiy yog'ingarchilik bo'lgan joylarda qo'shimcha suv manbai bo'lishi mumkin.

- Suv omborlari va to'g'onlar: yangi suv omborlarini qurish va mavjudlarini saqlash quruq davrda foydalanish uchun suvni saqlashga yordam beradi.

Transchegaraviy Suv Hamkorligi

- Mintaqaviy kelishuvlar: daryolar va suv qatlamlari kabi suv resurslarini taqsimlovchi mamlakatlar o'rtasidagi hamkorlikni rivojlantirish suvni teng boshqarish va taqsimlashga yordam beradi. Buning uchun samarali diplomatiya va suv almashish bo'yicha kelishuvlar talab etiladi.

Jamoatchilikni xabardor qilish va ta'lim

- Suvni tejash kompaniyalari: aholini suvni tejashning ahamiyati va suvdan foydalanishni kamaytirish yo'llari haqida o'rgatish suv iste'molining barqaror amaliyotiga olib kelishi mumkin.

Texnologiya va innovatsiyalardan foydalanish

- Aqlli suv tizimlari: aqlli hisoblagichlar va monitoring tizimlarini joriy etish suvdan foydalanishni yanada samarali boshqarish va oqishlarni aniqlashga yordam beradi.

- Suvni qayta ishlash va qayta ishlatish: oqava suvlarni ichimlik iste'mol qilmaslik uchun qayta ishlash texnologiyalarini ishlab chiqish chuchuk suvga bo'lgan talabni kamaytirishi mumkin.

Siyosat va tartibga solish

- Normativ asoslar: hukumatlar suv resurslarini boshqarish bo'yicha siyosat va qoidalarni, shu jumladan suvdan foydalanish chegaralarini belgilash, suvdan samarali foydalanishni rag'batlantirish va suv sifatini himoya qilishni amalga oshirishi mumkin.

- Iqtisodiy rag'batlantirish: suvni tejaydigan texnologiyalar va amaliyotlar uchun subsidiyalar berish va suvdan foydalanganlik uchun haq to'lash tabiatni muhofaza qilishni rag'batlantirishi mumkin.

Atrof-Muhitni Muhofaza Qilish

- Botqoqli erlarni tiklash: botqoqli erlarni himoya qilish va tiklash suv sifatini yaxshilashi va tabiiy suv omborini ta'minlashi mumkin.

- O'rmonzorlashtirish va o'rmonlarni tiklash: daraxt ekish tuproqning suvni ushlab turish qobiliyatini oshiradi va er osti suvlarini to'ldirishga yordam beradi.

Ushbu strategiyalarning kombinatsiyasini amalga oshirish Markaziy Osiyoda suv tanqisligi muammosini hal qilishga yordam beradi. Bu hukumatlar, mahalliy jamoalar, xalqaro tashkilotlar va boshqa manfaatdor tomonlarning kelishilgan harakatlarini talab qiladi.

2040-yilga borib O'zbekiston aholisi suv tanqisligiga duchor bo'lishi haqidagi xabarlar prognoz qilinmoqda. 2025-yilga kelib dunyo aholisining yarmidan suv kam bo'lgan hududlarda yashashi kutilmoqda. Ushbu ma'lumotlarning barchasini Dunyo tadqiqotlar instituti ma'lum qildi.

Eng og'iri shundaki, 2030-yilga borib 700 millionga yaqin odam iqlim muhojiriga aylanadi. Bu holat butun insoniyat uchun o'ta achinarli va og'ir ko'rsatkichdir.

2040-yilga borib, O'rta Osiyo jumladan, O'zbekistonda 80 % dan ortiq aholi suv tanqisligidan to'g'ridan – to'g'ri aziyat cheka boshlaydi. Bu butun dunyo bo'yicha eng xafvli hudud demakdir.

O'zbekiston Respublikasi Prezidentining 2023-yil 11-sentyabrdagi "O'zbekiston – 2030" strategiyasi to'g'risidagi farmoni bilan qabul qilingan Strategiya 2030ning alohida, uchinchi yo'nalishi – Suv resurslarini tejash va atrof – muhitni muhofaza qilish bilan bog'liq ekanligi ham bejiz emas.

Ayrim tadqiqotchilarning fikricha, global iqlim o'zgarishi natijasida so'nggi 50 – 60 yil davomida Markaziy Osiyoda muzliklar maydoni taxminan 30 foizga qisqargan va 2050-yilga borib Markaziy Osiyo davlatlarida chuchuk suv tanqisligi mintaqada yalpi ichki mahsulotning 11 foizga pasayishiga olib kelishi bashorat qilingan.

Afsuski, global iqlim o'zgarishi, O'zbekistonda aholi sonining o'sishi, milliy iqtisodiyot turli tarmoqlarining jadal rivojlanishi va ularning suvga bo'lgan talabinining o'sishi tufayli respublikada suv resurslarining taqchilligi yildan – yilga ortiq bormoqda. Hozirgi vaqtda sug'orish va ekologik maqsadlar uchun suvga ehtiyoj to'liq qondirilayapti, deb aytolmaymiz.

Suv iste'molining ko'payishi va manbalarining ifloslanishi chuchuk suv zaxiralarining kamayishiga olib keladi. O'zbekistonda mavjud chuchuk suv hajmining qisqarishi tufayli suv tanqisligi va qurg'oqchilik xavfi sezilarli darajada ortmoqda deya axborot berdi – O'zsuvta'minot.

Kelajakda, xatto, yetarli suv resurslariga ega mamlakatlarda ham suv tanqisligi sezila boshlaydi. Bu bir qator omillar – infratuzilma va suv taqsimlashdagi xatoliklar, ifloslanish, mojarolar yoki suv resurslarini noto'g'ri boshqarish bilan bog'liq. Iqlim o'zgarishi esa tanqisligi muammosini tezlashtirib yubordi.

Taklif etilayotgan usullar Markaziy Osiyoda suv tanqisligini kamaytirishga kompleks yondashuvni taklif etadi. Tuzsizlantirish, energiya talab qiladigan bo'lsa-da, ayniqsa qirg'oqbo'yi hududlarida ishonchli suv manbasini ta'minlaydi. Suvni tejash va takomillashtirilgan sug'orish tizimlari iqtisodiy jihatdan samarali va nisbatan tez amalga oshirilishi mumkin. Yomg'ir suvini yig'ish va oqava suvlarni qayta ishlatish an'anaviy chuchuk suv ta'minotiga bog'liqlikni kamaytirishga yordam beradigan qo'shimcha suv manbalarini taklif qiladi.

Biroq, ushbu echimlar katta sarmoyalarni, texnologik tajribani va mintaqaviy hamkorlikni talab qiladi. Markaziy Osiyo mamlakatlari o'rtasidagi siyosiy ziddiyatlar va iqtisodiy tafovutlar suv resurslarini boshqarishning umumiy strategiyasini amalga oshirishda qiyinchiliklar tug'dirishi mumkin. Shu sababli, xalqaro tashkilotlar tomonidan qo'llab-quvvatlanadigan muvofiqlashtirilgan mintaqaviy yondashuv ushbu tashabbuslarning muvaffaqiyati uchun juda muhimdir.

Xulosalar

Markaziy Osiyoda suv tanqisligi inqirozini bartaraf etish texnologik innovatsiyalar, suv resurslarini boshqarish amaliyotini takomillashtirish va mintaqaviy hamkorlikni o'z ichiga olgan ko'p qirrali yondashuvni talab qiladi. Tuzsizlantirish, suvni tejash, sug'orishni yaxshilash, yomg'ir suvini yig'ish va chiqindi suvlarni qayta ishlatish hayotiy echimlar bo'lib, ular samarali amalga oshirilsa, mintaqadagi suv muammolarini sezilarli darajada engillashtiradi. Siyosatchilar ushbu tashabbuslarga ustuvor ahamiyat berishlari va Markaziy

Osiyo uchun barqaror suv kelajagini ta'minlash uchun birgalikda ishlashlari kerak.

Mintaqaviy hamkorlik: Markaziy Osiyo mamlakatlari bo'ylab suv resurslarini rejalashtirish va boshqarishni muvofiqlashtirish uchun mintaqaviy suv xo'jaligi organini tashkil etish.

Texnologiyaga investitsiyalar: aqlli sug'orish tizimlari va samarali tuzsizlantirish zavodlari kabi suvni tejaydigan texnologiyalar va infratuzilmaga investitsiyalarni ko'paytirish.

Jamoatchilikni xabardor qilish: fuqarolarni suvni tejash va suvdan samarali foydalanish muhimligi to'g'risida xabardor qilish uchun jamoatchilikni xabardor qilish kampaniyalarini boshlang.

Tadqiqot va ishlanmalar: suvni boshqarishning innovatsion echimlari, shu jumladan tejamkor tuzsizlantirish usullari va oqava suvlarni tozalashning ilg'or texnologiyalarini ishlab chiqish bo'yicha tadqiqotlarni qo'llab-quvvatlash.

Xalqaro hamkorlik: mintaqada suv xo'jaligi loyihalarini moliyalashtirish va amalga oshirishga ko'maklashish uchun xalqaro tashkilotlar va donor mamlakatlardan yordam so'rang.

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*Djurayeva Z.X., magistri
Ergashov Sh.I., magistri
Maratov X.O', magistri
Nematov J.J., magistri*
“TIQXMMI” MTU Buxoro tabiiy resurslarni boshqarish instituti
Ilmiy rahbar: Hamroyev G'.F.
Laboratoriya mudiri
ISMITI BMM

MUVAQQAT ARIQ QAZISH MASHINALARINING AHAMIYATI VA ULARNING TURLARI

Annotatsiya. Maqolada vaqtinchalik ariq qazuvchi qurilmani takomillashtirish bo'yicha tadqiqotlar tasvirlangan. Kanalning tortish qarshiligini pasaytirish va kanal sifatini yaxshilash uchun kanal oldiga ikkita tekis disk o'rnatilgan, davrida diskning aylanish harakati natijasida tuproq qatlamining qisman yemirilishi hisobiga vaqtinchalik ariqning qiyaligi talab darajasida ushlab turilib, vaqtinchalik ariq - yon devorining bir xilligini saqlash masalasi muhokama qilindi.

Kalit so'zlar: Muvaqqat, ariq, mashina, kanal, qazgich, drenaj, yer, meliorativ, unumdorlik, qishloq xo'jalik, mahsulot, zamonaviy, texnika, texnologiya, sug'orish.

*Djurayeva Z.Kh., master
Ergashov Sh.I., master
Maratov Kh.U., master
Nematov J.J., master*
Bukhara Institute of Natural Resources Management
MTU "TIQXMMI"
Scientific leader: Khamroyev G.F.
Head of the Laboratory
ISMITI BMM

IMPORTANCE OF TEMPORARY DIGGING MACHINES AND THEIR TYPES

Abstract. The article describes research on the improvement of a temporary ditch digging device. In order to reduce the drag resistance of the channel and improve the quality of the channel, two flat disks were installed in front of the channel, during which the slope of the temporary ditch was kept at the required level due to the partial erosion of the soil layer due to the rotation

of the disk, and the issue of maintaining the uniformity of the side wall of the temporary ditch was discussed.

Key words: Temporary, ditch, machine, channel, digger, drainage, land, reclamation, fertility, agriculture, product, modern, technique, technology, irrigation.

O'zbekiston Respublikasi Prezidentining 2020-yil 29-dekabrdagi Oliy Majlisga Murojaatnomasida barcha tarmoqlar qatori qishloq va suv xo'jaligini yanada rivojlantirishga alohida e'tibor qaratilgan. Qishloq xo'jaligini modernizatsiya qilish, raqamlashtirish, yer unumdorligini oshirish, zamonaviy agrotexnologiyalarni joriy etish, suvni tejovchi texnologiyalarni joriy etgan holda yer maydonini besh barobarga oshirish kabi bir qator muhim vazifalar belgilandi[1].

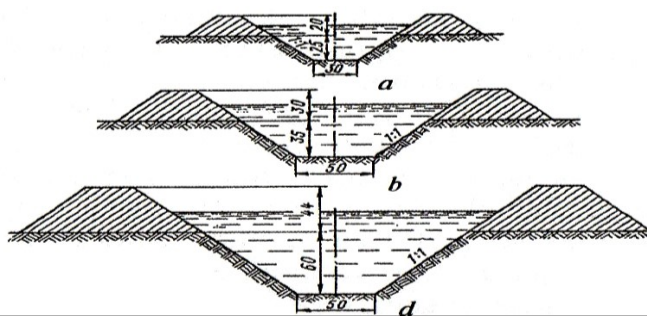
Bugungi kunda sug'oriladigan yerlarning meliorativ holatini yanada yaxshilash, sug'orish tarmoqlarini rivojlantirish, qishloq xo'jaligi ishlab chiqarishi sohasiga intensiv usullar, birinchi navbatda, suv va resurslarni tejaydigan zamonaviy texnika va texnologiyalarni keng joriy etishga alohida e'tibor qaratilmoqda. Bu borada zamonaviy suv tejovchi texnologiyalarni qo'llash, sug'orish tarmoqlarini doimiy texnik uzilishlar holatida saqlash, energiya tejovchi texnika va texnologiyalarni yaratish va ishlab chiqarish katta ahamiyatga ega.

Ma'lumki, yerlarning meliorativ holatini yaxshilash, hosildorlikni oshirish o'z-o'zini sug'orishga bog'liq. Sug'orish tarmoqlari qishloq xo'jaligi ekinlarini sug'orish uchun ishlatiladi. Foydalanish muddatiga ko'ra sug'orish tarmoqlari doimiy va vaqtinchalik tarmoqlarga bo'linadi. Vaqtinchalik sug'orish tarmoqlari sug'orish mavsumi boshida olib tashlanadi va sug'orish mavsumi oxirida tekislanadi. Vaqtinchalik tarmoqlar qazish uchun tekislagichlardan foydalaniladi. Ular kanalni 20-40 l/ sek qiladi va 100-200 l/sek, suv o'tkazuvchanligini hisobga olgan holda tanlanadi [2,3].

O'rta Osiyoning sug'oriladigan yerlarida qishloq xo'jaligi ekinlarini tuproq sathidan yuqori sug'orish usuli (yo'lak va yo'lak bostirib kirish) keng qo'llaniladi va oraliq sug'orish tarmoqlari sug'orish maydonchasining holatiga qarab ko'ndalang va bo'ylama sxemalarda joylashtiriladi.

Muvaqqat ariqlar KOP-500A, KZU-0,5, KPU-2000A, KIIH va boshqa ariqqazgich-tekislagichlar yordamida olinsa, o'qariqlar K5H-0,35, KZU-0,3, KZU-0,5, MK-12 kabi qurollar yordamida olinadi (1-rasm).

K3Y-0,3 ariq qazgich-tekislagich yordamida olingan ariqning chuqurligi 25 sm, tubining eni 30 sm, tepa qismining kengligi 120-130 sm va tuproq uyumining balandligi 20-25 sm ni va ariqning suv o'tkazish qobiliyati 40-60 l/sek. ni tashkil etadi. Ish unumdorligi soatiga 0,8-1,0 km[4].



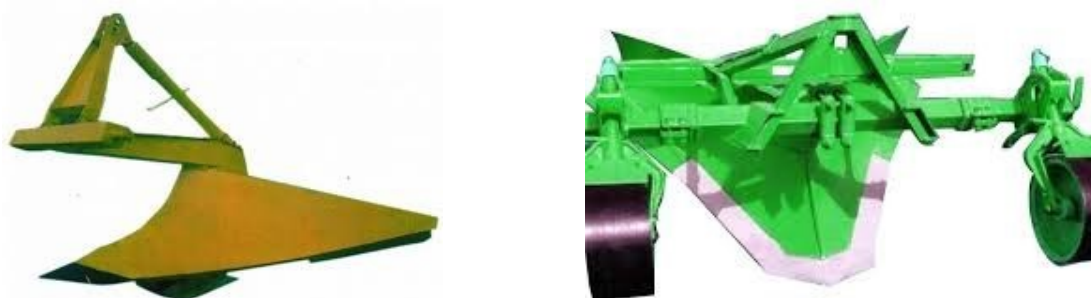
1-rasm. Turli xil ariqqazgich – tekislagichlar bilan muvaqqat tarmoqlar olinganda ariqning ko'ndalang kesimi o'lchamlari (sm hisobida):

a – KZU-03; b - KZU-05; d – KOR – 500A

Muvaqqat ariqlar orqali 100-200 l/sek. miqdorida suv o'tkazish talab etilayotgan bo'lsa, u vaqtda KZU-0,5, KPA-2000A yoki KOP-500A ariqqazgich tekislagichlardan foydalaniladi.

Muvaqqat tarmoqlarni tekislashda KZU-0,5, KZU-0,3, KBH-0,35 ariqqazgich-tekislagichlar qo'llaniladi. Muvaqqat tarmoqlarning gidravlik hisobi uning suv bilan to'lish chuqurligi, suvning o'rtacha oqish tezligi va tarmoqning yuvilib ketmasligini aniqlashdan iboratdir.

Bu turdagi kanal qazish mashinalari (2-rasm) yumshoq tuproqlarda chuqur-ligi 0,4...0,8 m va tubining eni 0,3...0,6 m bo'lgan kanallarni qazishga mo'ljallan-gan bo'lib, asosan muvaqqat kanallarni qazishda ishlatiladi[5].



2-rasm. Osmo plugli kanal qazish mashinasi.

Nishobligi katta (20,008) yerlarda sug'orish suvlari ta'sirida tuproqning yuvilishini oldini olish maqsadida muvaqqat sug'orish tarmoqlari ko'ndalang sxemada joylashtiriladi. Bunday yerlarda uchastka taqsimlagichi balandlik gorizontallariga nisbatan perpendikulyar yoki qiyaroq olinadi. O'qariqlar gorizontallarga kichik burchak ostidagi yo'nalishda, sug'orish egatlari esa unga perpendikulyar holda olinadi. Bunda suv sug'orish egatlariga bevosita o'qariqlardan taqsimlanadi. Nishobligi o'rtacha (0,002–0,008) bo'lgan yerlarda u yoki bu sxemadan foydalaniladi. Muvaqqat ariq uzunligi sug'orish kartasining bir tomoni (eni yoki bo'yi)ni uzunligiga teng qilib olinadi: muvaqqat sug'orish tarmoqlari bo'ylama sxemada joylashtirilganda 1200 m gacha, ko'ndalang sxemada esa 800 m gacha bo'ladi.

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*Dusaliev M.
teacher
"History" department
Shahrisabz State Pedagogical Institute*

FOREIGN TRADE - COMMERCE OF THE KOKAN KHANATE: THE ROLE OF THE BUKHARA KHANATE IN THE EFFECT OF IMPORT AND EXPORT GOODS ON THE DEVELOPMENT OF THE STATE ECONOMY

Abstract. Relations between the khanates in Central Asia in the economic sphere are among the current topics that have gained significant importance in the field of history. In this regard, this article analyzed the economic relations between the Khanate of Kokand and the Khanate of Bukhara. Also, the impact of trade relations between the two countries on the development of the economy of the countries was also studied.

Keywords: Kokan, Bukhara, foreign trade, market, H. Bobobekov, caravanserai, artisans.

Introduction. The Khanate of Bukhara was of special importance in the development of foreign trade relations of the Kokan Khanate. The Uzbek khanates border each other, and the language, culture, religion, and history of the people living in the country are extremely similar, and this process was an important factor in mutual relations. The Khanate of Bukhara played an especially important role in the foreign trade of the Kokand Khanate. The merchants of the Khanate were engaged in trade in the markets of Bukhara and had the opportunity to conduct trade with Iran, Arab countries and Turkey in the east, Afghanistan, India and other countries in the south through the caravan routes that passed through its territory. Bukhara (sharif), one of the prestigious cities of the ancient East, was one of the major trade centers of Central Asia in the 18th and 19th centuries. In particular, during this period, the largest market in Central Asia was located in Bukhara, where merchants from Iran, Afghanistan, India, Kashkar, Russia, China, Turkey, Kokand and Khiva khanates had intensive trade relations.. According to historical sources (beginning of the 19th century), there is a wholesale (wholesale) market of trade products on Mondays, Tuesdays and Saturdays in the city of Bukhara, and also outside the city (near the mausoleum of Khoja Bahovuddin Naqshband) on Wednesdays. market operated [1:48]. It is also known that in the 60s of the 20th century, there were more than 50 caravanserais, about 30 small markets, as well as 5 large markets built of baked bricks in the city of Bukhara[2:70]. The bazaar located in the square near the registon of the city is considered to be the largest of the bazaars, and the remarkable thing is that the bazaar consisted of small

stalls named after the products sold here. In the 70s of the 19th century, the annual turnover of trade in the markets of Bukhara was 40 million. It is noted in the sources that it is equal to rubles. In the researches of Kokanologist H. Bobobekov, while emphasizing the importance of trade relations in Kokan-Bukhara relations, he provides information based on the travelogues of Russian researchers that the Kokan khanate of Bukhara merchants is the main intermediary in foreign trade relations. In particular, the Kokan merchants had the opportunity to communicate with the cities of North India through Bukhara and Samarkand, and later through the Indian colonies spread throughout Central Asia. Goods brought from India, Tibet, Kashgar, Bukhara, Afghanistan and Russia were exchanged in Khanate caravansary [3:118].

Literature analysis. The markets of the Bukhara Khanate are supplied with products made by artisans from the Kokan Khanate or from ready-made products - raw silk, silk gauze and semi-silk fabrics, kalava threads, wet and dry fruits from horticulture, iron and cast iron and steel weapons brought from Russia. given. Silk and silk fabrics were imported from Kashgar, tea, porcelain, attar goods and silk fabrics from China. In the diary of F. Nazarov, a tourist who visited the Kokan Khanate from Russia at the beginning of the 19th century, it is recorded that "... in the Kokan Khanate, artisans make various gauzes from silk and cotton and exchange them for Russian goods brought by merchants from Bukhara." The city of Margilan is the center of silk production of the khanate, where there are various handicraft factories. From the products made in them, there was a high demand for Persian pieces, velvet and various gauzes in the markets of Bukhara and Kashgar. In addition to the markets of the Begasam Khanate, the silk fabrics made by the artisans of Margilan, the silk fabrics in Namangan were delivered to Samarkand and Bukhara [4:49].

H. Bobobekov, a Kokan scholar, reveals the possibilities of the khanate in internal trade based on the analysis of the manuscript entitled "Trade Importance of the Kokan Khanate for Russians" written in 1854 by the Russian orientalist V. V. Velyaminov-Zernov. In particular, "Kokan is a completely unindustrialized country, the peoples around it are developed at the same or lower level than it. Among its neighbors, there is not a single developed country except Russia. This situation is very convenient for us. Obviously, Kokan cannot meet its basic needs with local resources. If he wants to buy goods from somewhere, he can only buy them from Russia [3:122].

Discussion. In the 60s of the 19th century, on the initiative of the merchants of Kokand Khanate, about 12,000 pounds of silk fabrics and products were sent to Bukhara Emirate on average, on 1,000 camels. "Chilla" is considered the best type of silk. One pound of it is priced at 52 gold in the markets of Kokan, and 1110 coins in the markets of Bukhara [5:31]. Researcher O. Sukhareva analyzes the fact that silk fabrics developed by Kokan artisans are popular in Central Asia. In particular, in one of the stalls in Bukhara markets, it was called "Akhsi silk Guzari" after the name of Akhsi silk brought from

Kokand Khanate [6:112]. Or, it is noted in the sources that there is a great demand for Kokan khanate kalavas in the markets of Bukhara, and the 1st grade Namangan kalava was valued at 32 gold. In Bukhara itself, this kalava was sold for 30 Bukhara gold. Information about this is mentioned in the newspaper "Turkestanskiye vedomosti" [5:31]. Also, kalavas made by Kokan craftsmen were in great demand in Bukhara markets. This can be seen from the prices assessed in the markets in the central cities. In particular, the 1st grade kalava ball is valued at 27 gold, and in the markets of Bukhara itself it is valued at 25 Bukhara gold. Among the craftsmen, the profession of dyeing fabrics in different colors is sufficiently developed, especially in Bukhara. Many fabrics were brought here from neighboring khanates for dyeing throughout the year. In his memoirs, the Russian researcher YE.K. Meiyendorf records the information that "... traders from Kogan brought white cloth to be dyed in Bykhop [7:130]".

Also, rice from agricultural products was brought to Bukhara Khanate from Koko. The price of rice in the market (one bushel) was 42-44 coins. Another valuable product is Kokan paper, whose "appetizer" type is appreciated not only in Kokan, but also in Bukhara. Another type of paper is "abreshim", which was imported in large quantities from China through Kokan. Research scientist L. Rempel mentions this in his works [8:250]. But due to the high demand for high-quality "ishtarkhani" type in Bukhara, Bukhara "pen people" mainly used this type of paper. Even the rulers mostly wrote their letters on the paper of Kokand "Ishtarkhani". In particular, the fact that 139 pages of 279 letters of Amir Haydar's library treasure were written on "ishtarkhani" paper on the basis of a letter of reference was analyzed in the works of research scientist Sh. Tilavov[9:12]. Also, the letter sent by Amir Muzaffar to the Turkish Sultan Abdulaziz (on February 7, 1868) was written by the calligrapher Mulla Wahid based on a nastaliq letter on "ishtarkhani" paper.

Above, it was mentioned about the activity of horse market from cattle on Wednesday of the week near the tomb of Khoja Bahavuddin Naqshband in Kokhan Khanate. From the same and similar livestock markets, cargo-carrying and thoroughbred horses were delivered to the markets of the Bukhara Khanate. Kokan horses are valued from 5 gold to 15 gold in Bukhara markets. Also, in the city of Gijduvan, near Bukhara, there is the largest livestock market in Central Asia, and the world-famous Turkmen horses were also brought to this market, and many of these horses were bought by Kokan merchants. There is a famous Barra caravanserai in Bukhara, where merchants from Kokan usually stopped and had the opportunity to trade there. The city of Samarkand played an important role in the development of trade relations between Bukhara and Kokand. Trade caravans from Turkey, India, Iran, Afghanistan and other regions visited the cities of the Kokand Khanate through the cities of Karshi and Samarkand. Or, trade caravans going from Kokand and Tashkent to Bukhara must have stopped in Samarkand. Usually, cocoons, raw silk, silk fabric, dried fruits and other items were brought to Samarkand from the Kokand Khanate. In

the middle of the 19th century, there was a separate cocoon market in Samarkand, and the cocoon market operated twice a week - on Wednesdays and Sundays. The cocoons brought from Kokan were in great demand among Khanate craftsmen. The trade of the cocoon was fast, 700 gold per day, and 5000 gold per month were purchased [10:33].

These trade goods were valued at 120 rubles on average, and their total value was estimated at 750,000 rubles. In addition, 100,000 sheep were driven from the Tashkent region to the Bukhara khanate for sale by livestock traders. In addition, a large amount of livestock was brought to the markets of the central cities of the Bukhara Khanate from the cities of Turkestan and Avliyoota, which belonged to the Kokan Khanate. Bukhara merchants themselves took 50-100,000 rubles of livestock from Turkestan every year, and in 1862 alone, 240,000 rubles worth of livestock. According to some reports, more than 150,000 sheep were driven to the Khanate of Bukhara and Kokan through the territory of Avliyota until the 1960s [2:70]. Thus, by the beginning of the 19th century, central regions such as the capital Kokan and Tashkent became one of the important transit cities. As a result, merchants from Kokan started to take a leading position in the trade relations of the countries on the western and eastern borders, which are conducted through the territory of the Kokan Khanate. As Chinese historians have stated, "... the Kokan people were very capable of trade."

According to the information of the researcher tourist G. Spassky, raw silk and silk fabrics, Chinese porcelain, tea, silk fabrics, and silver goods were brought from Kashkar to the markets of the Bukhara Khanate. During his stay in Bukhara in 1825, he remembers in his diary that blackbuck skin was taken from Bukhara through Kokan to Kashkar, and from there raw silk, silk fabrics, yarns, Chinese porcelain, tea, rovoch, etc. were brought to the khanate.

It can also be said that the Kokand Khanate played an important role in the implementation of trade between Central Asian countries and China. If the political aspect of the process is analyzed based on the information of the work "History of Turkestan", in the 20s of the XIX century, due to the actions of the owners of the Kokand state, he wanted to lead the uprising of the people of East Turkestan against the Chinese government. This policy is led by Haqquli mingbashi ibn Irsqulibek, who wants to restore the government of Akhojas in Eastern Turkestan, that is, the government of Jahangirhoja Mahdumi Azam. Jahangirkhoja was a descendant of Mohammad Amin, the eldest son of Mahdumi Azam, and according to the treaty signed with the Chinese state of Kokand, they were obliged to keep them in the Kokand state. The Karakhojas, namely Offaqkhoja Mahdumi Azam, recognized the Chinese government and maintained their government in Eastern Turkestan [11:9].

In turn, they brought "tuktachoy" (brick tea) and "white tail" (blue tea) teas from China to the markets of Bukhara in bags made of horse skin through Yorkent and Kokan, and sold them at the price of 200,000 pounds. The reason

for such a high price is that the original taste of Chinese tea is preserved in horse skin khurjuns. In terms of quality, they differed from other teas brought by sea [12:101].

While Chinese tea was brought from plantations along the Yangtze River to Yorkent and Kashgar, and from there to Bukhara through Kokand, this process was temporarily halted in 1852 after the uprising of East Turkestan Muslims in Western China against the Chinese government. the rest Kashkar silk is also competitive, and at the time it was equal to Kokan silk in terms of quality. While the silk was transported to the markets of Bukhara through Kokan, one pood of Kashkar silk of the 1st grade was sold in the Bukhara Khanate for 20 Bukhara gold. At the same time, silver yambi from Kashkar were brought to the Khanate of Bukhara, the price of which was equal to 32 Bukhara gold [13:105].

Another Kokandologist Sh.Koldoshev emphasized in his research that the Kokand khanate has a large contribution to the foreign trade and commercial affairs of the neighboring khanates and bordering countries, including the Kokand merchants, the Bukhara and Khiva khanates. and remembers that the centers located in them had important trade relations with Khiva, Bukhara, Tashkent, Samarkand and other cities. Also, Kokand Khanate had trade relations through Kashgar, China, Khiva, Bukhara and Iran. According to Chinese documents, at the end of the 18th century, the annual income of the Kokand Khanate from general trade reached 60,000 or 70,000 gold, sometimes 130,000 to 140,000 gold. Especially in Chinese documents, trade with East Turkestan and the Chinese Empire was developed, and it is stated that "the annual trade turnover of tea reached from 100,000 to 300,000 ching" [14:89-108].

Researcher T. Khudoykulov, while showing the important aspects of handicrafts in trade relations in the Kokan Khanate, recalls that the raw materials needed for handicrafts were purchased from the territory of the Khanate, neighboring countries and abroad [15:77]. Artisans mined iron ore, lead and other such minerals from the foothills of the Aloy ridge and Karatov [16:23]. It should be mentioned that the extraction of underground resources was so simple and few that it could not satisfy the need at the level of demand. That is why most of the metals were imported from Russia. As a result, merchants from Kokan brought a lot of Russian iron and steel products to the markets of the Bukhara Khanate. Another main reason for this can be explained by the fact that the borders of the Khanate are close to the borders of Siberia. At the same time, merchants from Bukhara also took an active part in the market of Akmasjid fortress. Here, among the Kokan merchants, they traded Russian and Kazakh goods. Some sources provide information on the activities of Kokand and Bukhara merchants along with Kokand soldiers in Akmasjid. It is also noted in the sources that in the 60s of the XIX century, a caravan led by Sadiq Yodgorov, a merchant from Kokand, brought Russian goods from Semipalatinsk to the Kokand Khanate, and also actively traded with China, India and Bukhara

[17:27]. Therefore, it can be concluded that the merchants from Kokan actively participated in the foreign trade relations of the Bukhara Khanate. Kokan markets were considered very profitable. It was also convenient for Bukhara merchants, who could be found in the khan's bazaars throughout the year. In the receipt book of the treasury of the Kokan Khanate, it is noted that the most income came from trade caravans from the Bukhara Khanate.

Turkmen and Mashhad carpets, famous in the Eastern world, were also highly valued in the Kokand Khanate, and they were mainly imported through the Bukhara Khanate. Usually, the trade profession is very demanding and requires patience and courage from the trader. For example, a large caravan entered Tashkent from Bukhara once every 40 days through the Chinese customs [18:66]. Problems such as distance, time, weather, geographical environment, lack of water were a constant companion of the merchant. Researcher Z. Madrahimov said that the markets of Tashkent were overflowing with the goods of Bukhara merchants. Only in the middle of the 19th century, an average of 3,000 camels of cotton, 10,000 camels of gray, flower-printed gauze, silk and semi-silk gauzes were brought to Tashkent markets from the Khanate of Bukhara., analyzes the importation of karakul, fox fur, cloaks, blankets, Indian, Afghan, and Persian goods [2:70].

Also, Samarkand merchants brought dried fruits to Tashkent every year on 500 camels. In the markets of Tashkent, carpets are considered a rare commodity, and they are mainly bought from the Bukhara Khanate. Among the food products, table salt was also brought to Tashkent markets from Karshi via Samarkand. Table salt known as "Samarkand salt" has been around since the 18th century. The merchants of the Bukhara khanate mainly stopped at the caravanserai of Isabek and Mulla Imamboy Rais in Tashkent and traded there.

In general, trade relations between Kokand and Bukhara were significantly damaged after the capture of a certain part of the Khanate by Tsarist Russia. Even the merchants of two countries will have to pay customs duties in the territory of three countries. According to the analysis of some researchers, from the second half of the 60s of the 19th century, 7,500 camels of goods were brought from the Khanate of Bukhara to the Khanate of Kokan through Khojand. In the early days of the occupation of Khojand, 13 thousand 141 rubles were collected from the Kokand-Bukhara trade caravans in Khojand customs, and in 1866, 22 thousand 950 rubles. 81 copies, 1872 22 thousand 950 rubles, 80 copies. duty was taken [19:103]. Also, tolls were charged in these cities from merchants of Kokand-Bukhara trade caravans who used the road passing through Oratepa and Jizzakh. According to the information in the archival documents on foreign import and export of the Kokan Khanate, there was silk fabric, dried apricots and other goods in the caravan led by the merchant Dustmuhammad sent from Bukhara to Kokan via Oratepa on June 1, 1865, or on December 31, 1866. In the trade caravan led by Aminboy, there were 2 camels of tea, paint and pepper, the merchant Saidboy from Samarkand

carried 50 camels of tea, paint and Indian goods, the merchant Muhammad Rizaboy carried tea and other handicrafts in 2 carts, and the merchant Nazarmuhammed carried yarn in 1 cart in his caravan. It is noted that he has paid tax for transporting goods.

Also, in 1868, 7 thousand 309 rubles were collected from the Kokan-Bukhara caravans at the Oratepa customs house alone. The fact that the duty was collected is also recorded in archive documents [20:1]. The interesting thing is that despite the large amount of taxes and various artificial barriers collected from the merchants of the two countries at these customs offices, trade relations have not stopped. Kokan Khanate was considered a good transit trade route for Bukhara merchants. This can be seen from the fact that caravans of 700-800 camels go from Bukhara to Kashgar through Kokan every year. There are even reports that traders from Bukhara went as far as Tibet through this road. Or, tourist Mir Izzatulla notes in his diaries that in the beginning of the 19th century, a number of merchants took jewelry products from Bukhara through Kokan to Yarkent. According to the researcher Ch. Ch. Valikhonov, famous Bukhara fabrics and black and gray black leather were brought to Kashgar through Kokan. Also, at the beginning of the 19th century, Russian goods were transported from the Bukhara Khanate to Kashgar through Kokand. The reason for this was that the Chinese government prevented Russian goods from coming to Kashgar through Gulja.

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Darvishaliyeva M.R.
Namangan davlat universiteti lingvistika (o'zbek tili)
yo'nalishi magistranti

M.KOSHG'ARIY NAZARIYALARINING NAMANGAN QIPCHOQ SHEVALARIDAGI KO'RINISHLARI

Annotatsiya. Maqolada XI asr va undan avvalgi turkiy tillardagi fonetik hodisalar bugungi o'zbek tili va shevalariga qiyosan tahlilga tortilgan. M.Koshg'ariy nazariyalarining Namangan qipchoq shevalaridagi ko'rinishlari misollarni tahlilga tortish orqali ochib berilgan.

Kalit so'zlar: qadimgi turkiy til, o'zbek dialektlari, lahja va sheva, fonetik hodisalar, fonetik variantlar, lisoniy fonetik va fonologik hodisalar.

Darvishaliyeva M.R.
graduate student
Namangan State University Linguistics (Uzbek language)

APPEARANCES OF M. KOSHGARI'S THEORIES IN EXEMPLARY KIPCHOK LANGUAGES

Annotation. The article analyzes phonetic phenomena in the Turkic languages of the 11th century and earlier in comparison with today's Uzbek language and dialects. Based on the analysis of examples, the manifestations of M. Koshgari's theory in the Namangan Kipchak dialects are revealed.

Key words: ancient Turkic language, Uzbek dialects, dialect and dialect, phonetic phenomena, phonetic variants, linguistic phonetic and phonological phenomena.

Tildagi o'zgarishlar, xoh u adabiy til, xoh sheva bo'lsin, birdaniga emas, balki asta-sekinlik bilan uzoq davr davomida sodir bo'lishi ma'lum jarayondir. Dastlab onda-sonda uchraydigan fonetik hodisalar, fonetik variantlar, yonmayon qo'llanishlar asta-sekin qonuniyatga aylanadi.

Har bir taraqqiyot davri uchun xos bo'lgan fonetik xususiyatlar va ularning ildizlari, butunlay o'zgarib ketmagan jihatlari Namangan qipchoq shevalarining undoshlar tizimida ham saqlanib qolgan.

Ma'lumki, qadimgi turkiy til undoshlarining qattiqligi (yo'g'onligi) va yumshoqligi (ingichkaligi) bilan eski turkiy va hozirgi o'zbek tilidan keskin farqlangan.

Eski turkiy tilda *q* va *k*, *g'* va *g* kabi ikki juft undosh orasidagina qattiqyumshoqlik farqi saqlanib qolgan xolos. Boshqa undoshlarda bunday holat

sezilmaydi¹. Biroq Namangan qipchoq shevalariga eski turkiy tilning ilk taraqqiyot davrlaridagi undoshlar tahlilga² asoslangan holda fikr yuritsak, *ng* undoshining yumshoqlik va qattiqlik jihatini ko‘ramiz.

ng – shevada chuqur til orqa sonor tovushi Namangan qipchoq shevalari fonetik-fonologik tizimida Koshg‘ariy davri tili fonetik-fonologik strukturasidagi ayrim unsurlarini saqlab qolgan. Mingbuloq tumani Gurtepa, Oltinko‘l, Mulkobod, Uzuntepa, Qumqishloq (Mingbuloq tumani) qishloqlari shevasida til o‘rta va chuqur til orqa sonorigi bilan farqlanadi. Barcha o‘zbek shevalari va adabiy tilda bo‘lganidek, faqat so‘zning o‘rtasi va oxirida keladi: [*mengəyəm*] menga ham, [*yəngittə*] hozir, [*ɔng*] oling, [*keng*] keling, [*sɔng*] soling, [*bɔng*] bo‘la qoling, [*tɔngngi*] tang‘imoq kabi.

Namangan viloyati qipchoq dialektal arealida XI asr turkiy til davridagi kabi³ yumshoqlik va qattiqlik fonologik belgilari, ma‘no farqlashni yuzaga keltiradi: [*nyməng(g’ɔ)*] nima uchun, nima sababdan – sabab ravishi so‘rog‘i, [*nyməngə*] nimaga – ot turkumi so‘rog‘i. [*bɔzɔrg’ɔ nyməng(g’ɔ) bɔrɔsɔn?*] Bozorga nima uchun (nima olishga) borasan? [*byn’ nyməngə sɔlɔy?*] Buni nimaga solay? kabi.

Bugungi kunda bu holat faqat ayrim so‘zlar miqyosidagina Koshg‘ariy davri tili xususiyatlarini o‘zida saqlab qolmoqda. Shevada qadimgi tipik jarayonligi susayib, asta-sekinlik bilan tillar integratsiyasi tufayli tugab bormoqda.

Turkologlar tomonidan *ng* undoshining urchishi, tarixiy taraqqiyoti murakkab masala ekanligini⁴ ta’kidlangan. Namangan qipchoq shevalarida turli hollarda *n* tovushi sifatida saqlanganligi, *y* va *g’* tovushlariga aylanganligi hamda asliday qo‘llanishini ko‘rishimiz mumkin.

XI asr tildagi *yəlyɨng* so‘zidagi *ng* undoshi *yɔlyɨn* tarzida *n* ga aylangan: [*yɔlyɨn*] alanga, [*yəlngɨz*] so‘zida *g’* ga o‘zgargan: [*yɔlg’ɨz*] yolg‘iz, [*səngək*] so‘zida *y* undoshiga o‘zgarganligini ko‘rishimiz mumkin: [*syyək*] suyak kabi. Mazkur shevada *ng* undoshi o‘zining tarixiy aslini ko‘p so‘zlar-da saqlab qolgan: [*onggyr’-cho’ngqyr*]⁵ notekis, [*engək*] engak: ruscha podborodok, [*ongəy//o’ng*] qulay, [*ɨngyqɔn*] rangi o‘chgan kabi.

¹ Нейматов Х. Ўзбек тили тирихий фонетикаси. – Тошкент: Ўқитувчи. – 1992.

² Қошғарий М. Девону луғот-ит турк. – Тошкент: 1960. I том. – Б. 218.

³ Қошғарий М. Девону луғот-ит турк. – Тошкент, 1963. I том –Б. 110.

⁴ Малов С.Е. Памятники древней тюркской письменности. – М.: Наука, 1951. – С.11; Шербак А. М. Грамматика староузбекского языка. – М. – Л., 1962; Сравнительная фонетика тюркского языка. – Л., 1970; Решетов В.В, Шоабдурахмонов Ш. Ўзбек диалектологияси. –Тошкент, 1978; Шоабдурахмонов Ш. Ўзбек шевалари ва уларнинг ҳақида умумий маълумот. Ўзбек халқ шевалари луғати. – Тошкент: Фан, 1962;Абдуллаев Ф.А. Ўзбек тилининг Хоразм шевалари. – Тошкент, 1961.

* *Mahmud Qoshg‘ariy ongur so‘zi g‘or – chuqurlik ma‘nosida qo‘llanishini ta‘kidlagan. Namangan qipchoq shevalarida bu so‘z faqat notekis yo‘l ma‘nosida ishlatiladi.*

⁵ Қошғарий М. Девону луғот-ит турк. – Тошкент, 1963. I том –Б. 110.

Bundan tashqari, xalq jonli tilida, ayrim turkiy adabiy tillarda *ng* undoshi *v* tarzida qo'llanishi yoki umuman tushib qolishi mumkinligi haqida fikrlar bor⁶. Biroq Namangan qipchoq shevalarida *ng* undoshining *v* undoshiga aylangan holatlari yoki umuman tushib qolishi uchramaydi. Chunki bu shevada *ng* undoshining alohida o'rni juda keng va ahamiyatli lisoniy-fonologik imkoniyatlari borligi kuzatiladi.

SHunisi xarakterliki, Namangan viloyati qipchoq shevalarida, huddi XI asr turkiy til davridagi kabi, bu undosh so'z, o'zak tarkibidagi unlilarning qattiq, yumshoqligigi va o'zidan keyin kelgan undosh tovushlarning artikulyatsion o'rniga ko'ra uch xil pozitsiyada talaffuz etiladi: a) o'zkdagi unlilar yumshoq, til oldi unlilari bo'lsa, *ng* undoshi nihoyat yumshoqlashib, til oldi tomon siljiydi. Til uchi egilib pastki tishga, egilgan joyi bilan yuqori tanglayning old tomoniga tegadi: [ek^hkzng] ekdiring, [b^hyz^hng] buzing, [s'yn'ngch'] singling-chi kabi; b) o'zakning tarkibida til orqa unlilari bo'lsa, orqaga siljiydi, til orqa undoshidek talaffuz etiladi: [n^hnyngyngy^hzdn ber^hng] noningizdan bering, [yang kept'] hozir kelibdi, [bung^h] bunga kabi; v) o'zak tarkibida til orqa unlilari bo'lib, [ng] undoshidan so'ng [g',q] chuqur, [g] sayoz til orqa tovushi kelsa, nisbatan orqaga siljib, chuqur til orqa tovushidek talaffuz etiladi, burunlashish kuchayadi. [ng] ham, [g'] undoshi ham sof *ng*, *g'* undoshlaridek talaffuz qilinmaydi: [y^hl^hngg'och] yalang'och, [om^hg'ongu] olmagan-ku, [bo'm^hg'ongu] bo'lmaganku, [by^hqyngl^hg'on] bilqillagan, yumshoq, [yngqy^hll^hg'on] inqillagan.

Namangan viloyati qipchoq shevalarida [ng] undoshi qator undoshlarga nisbatan turg'un bo'lsada, sporadik o'zgarishga yuz tutadi: [ng>y]: [siynim] singlim, [ko'y^hny^hm] ko'nglim, [sy^hy^hak] so'ngak kabi. Lekin bular Toshkent tip shevalaridagidek yoki qarluq lahjalari kabi keng tarqalgan emas.

Namangan viloyati qipchoq shevalarida chuqur til orqa *x* fonemasi bo'g'iz undoshi *h* undoshi kabi talaffuz qilinadi. Qipchoq shevalarida *x* (qattiq) va *h* (yumshoq) undoshlarining fonematik belgilari yo'q, ma'no farqlanmaydi.

H – sirg'aluvchi, jarangsiz bo'g'iz undoshi. Talaffuzda boshqa umumo'zbek shevalaridagidan farq qilmaydi. Dialektal areal qipchoq shevalarida *h* undoshi so'zning istalgan pozitsiyasida, chuqur til orqa *x* o'rnida ishlatiladi: [h^hayit] hayit, [h^hamm^h] hamma, [b^hoh^h] baho, [oh^hm^hoq] ahmoq, [d^hor^hh] daraxt, [y^hhl^h] uxlamoq (uyqi) kabi. Lekin so'z boshida ishlatilish darajasi shevalararo bir xil emas.

Namangan viloyati qipchoq shevalarida *h* so'z boshida kelganda “y” lovchilarda

nemischa (*ich*) tarzida talaffuz etiladi, “j”lovchilarda tushib qoladi: [h^hang^ham^h//^hang^ham^h] hangoma, [h^harak^hat//^harak^hat] harakat, [h^hap^hty^hak//^hap^hty^hak] haftiyak, [h^hopp^h//^hopp^h] semiz, [h^han^hapi^hy^h//^han^hap^h'y^h] hanafiya kabi.

⁶ Дмитриев Н. Фонетические закономерности начала и конца тюркского слова. ИСГТЯ. I. –С. 271; Щербак А.М. Сравнительная фонетика тюркских языков. – Л., 1970. – С.97; Нейматов Х. Ўзбек тили тарихий фонетикаси.– Тошкент: Ўқитувчи, 1992. – Б. 61- 66.

Namangan viloyati qipchoq shevalari hududiga mansub “y” lovchi qipchoq shevalarida (Mingbuloq tumanidagi Baland Gurtepa, Gurtepa, O’rtaqishloq, Uzuntepa, O’zgarish, Mulkobod, Etak, Qoryontoq, Do’msa, Qo’shqishloq, Sho’rsuv, Terak, Dovduq kabi qishloqlarda) o’zbek tilining boshqa shevalarida uchramaydigan, turkiy bashqir, xakas tillariga xos ayrim fonetik xususiyatlar kuzatiladi:

a) $s > h$ tovushlari almashuvi: Praga lingvistik maktabining fonologik konceptsiyasi bo’yicha, bir xil fonning qurshovida erkin almashinish munosabatida bo’lgan ikki tovushning biri o’rnida ikkinchisining kelishi ma’noga ta’sir etmasa, bu tovushlar bir fonemaning ikki varianti hisoblanadi. Odatda erkin almashinish munosabatida muayyan belgisiga ko’ra o’zaro yaqin bo’lgan tovushlar bo’ladi. Lekin ma’lum umumiy belgiga ega bo’lmagan tovushlar bunday munosabatga kirishmaydi.

SHunisi xarakterliki, Namangan qipchoq shevalarida akustik-artikulyatsion jihatdan umumiylikka ega bo’lmagan tovushlarda ham o’zaro erkin almashish distributsiyasi kuzatiladi. Xususan, s undoshi lokallik belgisiga ko’ra ham, akustik belgisiga ko’ra ham, artikulyatsion usuliga ko’ra ham bo’g’iz undoshi h ga o’xshamaydi. SHunday bo’lishiga qaramasdan, so’zning turli pozitsiyalarida bu tovushlarning o’zaro ma’noga ta’sir etmagan holda erkin almashinishi kuzatiladi. Masalan, so’zning anlaut pozitsiyasida: [homsɔhp’yɔz] sarimsoqpiyoz, [heskɔnmə] seskanma, [hɪnchələk] sinchalak, [həy’-hərəkət] sa’y-harakat, [hyɔp-kyp] suf-kuf, [hyhchelpək] suqchelpak: kinna, suq kirganga tandirda pishirib beriladigan maxsus non turi kabi.

Ko’rinadiki, anlautda s undoshining h undoshiga almashinishi mazkur undoshdan keyin kelgan unlilarning keng-torlik, lablanish-lablanmaslik belgilariga bog’liq emas. S va h undoshlarining keng unlilar oldida ham, tor unlilar oldida ham, lablangan va lablanmagan unlilar oldida ham almashinishi kuzatiladi.

Shevadagi $s > h$ undoshlarining yana bir xarakterli xususiyati shundaki, bu fonetik o’zgarish morfemik birliklarning moddiy shakliga ham ta’sir qiladi. Xususan, unli bilan tugagan asos qismga uchinchi shaxs egalik qo’shimchasi $-h$ shaklida qo’shiladi: [enə+h’] onasi, [ɔtɔ+h’] otasi, [bɔlɔ+h’] bolasi, o’zlashma so’zlarda: [mɔhnə+h’] mashinasi, [so’mkə+h’// hɔmkə+h’] sumkasi, [mɔhnə+h’] mashinasi. Namangan qipchoq shevalarida so’z oxirida h undoshining s undoshi o’rnida qo’llanmaydi.

Ma’lumki, rus va boshqa Ovrova tillaridan o’zlashgan so’zlarning boshida bir bo’g’in tarkibida kelgan ikki va undan ortiq undoshlarni talaffuz qilish qiyinligi tufayli, og’zaki nutqda talaffuz qulayligini ta’minlash uchun bunday leksema nomemalari fonetik tuzilishi turkiy nomemalari fonetik arxitektonikasiga moslashtiriladi. Natijada ana shunday o’zlashma leksemalarning fakultativ varianti vujudga keladi.

Namangan viloyati qipchoq shevalarida h undoshi sh , ch va hatto, ba’zan t undoshi bilan ham ana shunday munosabatga kirisha oladi.

Masalan: *sh>h*: [həqyr-hyqir] shaqir-shuqur, [hylpyq] shilpiq, [hmər] shimarmoq, [h'shshə] shisha, [həlvyrəmə] shalvirmoq, [hshirmə] shishirmoq, [hyndəychə] shundayligicha, [həmg'əlt] shamg'alat, [hynchə] shuncha, [hynchəlik] shunchalik, [məhnəqə//məhnəqə] mana shunaqa, [məhindəy] mana shunday, [məh'nchə] mana shuncha; *ch>h*: [həhchəymə] chaqchayma, [həkəngləmə] chakanglama, [hyngqyrmə] chinqirma, [hirəmmə] chiranma, [hmr'lmə] chimirilma, [həkkələ] cho'kkala, [huvvəs] chuvvos, [hul-chuli] chulichuli, [həkənə-hykənə] chakana-chukana, [həlkəsh-hulkəsh] chalkash-chulkash, [hənggək] changak: ilmoq, ilgich kabi.

Hudud shevalarida so'z oxiridagi *sh* va *ch* undoshi o'rnida *h* undoshining qo'llanishi kuzatilmaydi.

Ayrim hollarda til oldi, jarangsiz *t* undoshi ham bo'g'iz, sirg'aluvchi *h* undoshiga almashadi: [o'hlt] o'tlat, [qəhnə] qatnamoq, [ihtivər] itqib yubor, irg'itmoq kabi.

Ko'rinadiki, Namangan qipchoq shevalarida *h* undoshi juda faol qo'llanadi va turli pozitsiyalarda *s*, *ch*, *sh*, *t* undoshlari o'rnida almashinib kela oladi. Bu esa sheva vakillarining M.Koshg'ariy mansub bo'lgan turkiy sheva bilan genetik bog'liqligi haqidagi xulosalar kelib chiqishiga turtki bo'ladi. Chunki u o'zini unli bilan boshlangan so'zlar oldiga *h* undoshini orttirib qo'llaydigan uruqqa mansubligini ko'rsatgan edi⁷.

Mahmud Koshg'ariyning "Devonu lug'ot-it turk" asaridagi fonetik-fonologik nazariyalar bilan hozirgi o'zbek tili va Namangan qipchoq shevalari ayrim undoshlarini qiyoslash shuni ko'rsatadiki, tarixiy jihatdan undoshlar keskin o'zgarishlarga uchramagan. Undoshlarga oid o'zgarishlar, asosan, yangi undoshlarni o'zlashtirish va tovush almashinishlari bilan chegaralanadi, bu esa til tarixining asl ko'rinishi – shevalarda undoshlar unlilardan ko'ra barqaror bo'lgan deb xulosa chiqarishga imkon beradi.

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Гойибкулов О.О.
Ўзбекистон Республикаси Ички ишлар вазирлиги ҳузуридаги
Тергов департаменти ўта муҳим ишлар бўйича терговчиси

AXBOROT XAVFSIZLIGI DAVR TALABI

Annotatsiya. Ushbu maqolada zamonaviy jamiyatdagi axborot etikasi muammolari, fikr uyg'unligi, so'zlar va tinglovchilarga ma'lumot yetkazish usullari tahlil qilinadi. Axborot texnologiyalari nafaqat jamoat tomoniga, balki insonning ichki, ma'naviy hayotiga ham tajovuz qiladi. Muammo nafaqat ma'lumotlarning haddan tashqari ko'pligi, balki axborotga bo'lgan munosabatning o'zgarganida, ayniqsa mualliflar va axborot iste'molchilarida. Axborotga munosabat va uning axloqiy tomoni ushbu maqolada tadqiqot mavzusidir.

Kalit so'zlar: infoetika, neoretorika, ritorika, qora ritorika, axborot xavfsizligi etikasi.

Goyibkulov O.O.
Investigator for particularly important cases of the Investigation Department
under the Ministry of Internal Affairs of the Republic of Uzbekistan

INFORMATION SECURITY IS A REQUIREMENT OF THE TIMES

Abstract. This article analyzes the problems of information ethics in modern society, the consistency of opinions, words and methods of conveying information to the audience. Information technologies invade not only the social side, but also the inner, spiritual life of a person. The problem is not only information overload, but also a change in attitudes towards information, especially among authors and consumers of information. Attitude to information and its ethical aspect is the topic of research in this article.

Key words: infoethics, neo-rhetorics, rhetoric, black rhetoric, ethics of information security.

KIRISH: Bugungi kunda axborot xavfsizligini ta'minlaydigan uchta asosiy tamoyil ya'ni ma'lumot butunligi, axborotning konfidensialligi va foydalanish huquqlariga ega barch foydalanuvchilan axborordan foydalana olishlari; bilan bir qatorda ayrim faoliyat sohalari (huquqni muhofaza qilish organlari, mudofaa va maxsus tuzilmalar, bank va moliya institutlari, axborot tarmoqlari, davlat boshqaruv tizimlari) ularda ko'riladigan masalalarning muhimligi va xarakteriga ko'ra, ularning axborot tizimlari faoliyati ishonchligiga nisbatan yuqori talablar va xavfsizlik bo'yicha maxsus choralar ko'rilishini talab etadi. Axborotni muhofaza qilishning samaradorligi uning o'z vaqtidaligi, faolligi, uzluksizligi va kompleksligi bilan belgilanadi.

Raqamli tarmoqlarning rivojlanishi bilan "axborot xavfsizligi" tushunchasi dunyoda tobora dolzarb bo'lib bormoqda. Iqtisodiyot va ijtimoiy sohani raqamlashtirishga yo'l olgan O'zbekiston uchun ham bu masala ustuvor ahamiyatga ega. O'zbekiston Respublikasi Prezidenti tashabbusi bilan iyun oyi oxirida Toshkentda MDH davlatlarining axborot xavfsizligi masalalari bo'yicha xalqaro ekspertlar forumi o'tkazilgani bejiz emas.

Ko'pincha tibbiy va davlat muassasalari yoki chakana sektordagi tashkilotlar kiberhujumlarga duchor bo'ladi. Aksariyat hollarda sabab jinoyatchilarning harakatlaridir. Har qanday kompaniya, tashkilot yoki moliya instituti maqsad bo'lishi mumkin. Mutaxassislarning qayd etishicha, 2020 yilda dunyoda 1120 ta yirik kiberhujumlar qayd etilgan. Hammasi bo'lib, 20 milliard yozuv buzilgan. Global axborot texnologiyalari va telekommunikatsiya bozorini o'rganuvchi International Data Corporation xalqaro tadqiqot va konsalting kompaniyasi prognozlariga ko'ra, agar kiberxavflar soni o'sishda davom etsa, 2022-yilga borib kiberxavfsizlik yechimlari uchun global xarajatlar 133,7 milliard dollarga etadi. Ko'pgina hukumatlar kiberxavfsizlikning samarali amaliyotlarini amalga oshirishda tashkilotlarga yordam berish orqali kiberjinoyatchilarga qarshi kurashmoqda.

Hozirgi vaqtda Er sayyorasida etti milliarddan ziyod odam yashayotgan bo'lsa, tabiiyki, ularga havola etilayotgan axborot undan-da ko'proq. Masalaning shu tomoni ham borki, mazkur axborotlardan qaysi biri xolis, qaysi biri kimning manfaatlari uchun xizmat qilayotganini anglash bir qadar mushkul. Demak, axborot tarqatish, olish ortida strategiya bor ekan, uni himoya qilish, turli ma'lumotlar ta'siri va xurujlariga qarshi tura olishning ham ahamiyati ayni paytda juda muhim.¹

Ayni vaqtda butun dunyoda axborot xavfsizligi masalasiga dolzarb vazifa sifatida qaralayapti. Jumladan, mamlakatimizda ham axborot xavfsizligini ta'minlash, uning huquqiy bazasini yaratish borasida qator chora-tadbirlar amalga oshirib kelinmoqda. Xususan, kiber tahdidlarga qarshi kurashda barcha davlat organlari harakatlari muvofiqlashtirilayapti. E'tiborlisi, O'zbekiston Markaziy Osiyoda birinchilardan bo'lib axborot va kommunikasiya texnologiyalari sohasidagi xalqaro xavfsizlik tizimiga qo'shildi. Shuningdek, respublikamizda axborot xavfsizligi sohasiga ixtisoslashtirilgan xizmatlar va kompleks texnik echimlarni taqdim etadigan kompaniyalar faoliyat yuritayapti. Ta'kidlash joiz, hukumatimizning tegishli qarorlariga muvofiq, Axborot texnologiyalari va kommunikasiyalarini rivojlantirish vazirligi huzurida Axborot xavfsizligini ta'minlash markazi tashkil etilgan. Markaz kompyuter hodisalari bo'yicha axborotni yig'ish va tahlil qilish, axborot xavfsizligini ta'minlashga texnik va konsultativ yordam berish bo'yicha O'zbekistonda yagona davlat muassasasi sanaladi. Mazkur faoliyatdan ko'zda tutilgan asosiy maqsad iqtisodiyotning barcha tarmoqlari va sohalarida axborotni himoya qilishning

¹ <https://meduza.io/feature/2020/05/03/chem-zanimalsya-tot-samyy-institut-virusologii-v-uhani>

zamonaviy vositalarini yanada rivojlantirish va keng joriy qilishni ta'minlashdan iborat.

Bugungi kunda axborot-kommunikatsiya texnologiyalari iqtisodiyotning barcha sohalarida zamonaviy boshqaruv tizimlarining ajralmas qismidir. Iqtisodiyot tarmoqlarining o'zgarishi, bu jarayonning raqamlashuvi, mobillashuvi, sohaga sun'iy intellektning joriy etilishi bilan bog'liq muhim davrni boshdan kechirmoqda. O'zbekiston Respublikasi Prezidentining 2017 yil 7 fevraldagi PF-4947-son Farmoni bilan tasdiqlangan 2017 — 2021 yillarda O'zbekiston Respublikasini rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Harakatlar strategiyasida "Xavfsizlik, millatlararo totuvlik va diniy bag'rikenglikni ta'minlash, chuqur o'ylangan, o'zaro manfaatli va amaliy ruhdagi tashqi siyosat yuritish" deb nomlangan beshinchi yo'nalish doirasida mamlakatning konstitutsiyaviy tuzumini, suverenitetini, hududiy yaxlitligini himoya qilishga doir chora-tadbirlarni ro'yobga chiqarish, kiberxavfsizlik sohasining normativ-huquqiy asoslarini takomillashtirish belgilangan. Xususan, 2020 — 2023 yillarga mo'ljallangan kiberxavfsizlikka doir milliy strategiyani, "Kiberxavfsizlik to'g'risida" gi qonun loyihasini hamda O'zbekiston Respublikasi yagona axborot siyosati konsepsiyasi ishlab chiqish belgilandi.² Prezidentning 2018 yil 21 noyabrdagi PQ-4024-son Qarori bilan davlat unitar korxonasi shaklida Kiberxavfsizligi markazi tashkil etildi. Ta'kidlash joizki kiberxavfsizlik sohasiga tegishli bo'lgan 17 ta qonun hujjati, 9 ta Prezident Farmon va Qarorlari, 14 ta Vazirlar Mahkamasining Qarori, shuningdek tegishli normalar va ko'plab idoralararo me'yoriy-huquqiy hujjatlar qabul qilingan.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Darhaqiqat, XX asrning oxiri va asrimiz boshiga kelib hayotimizda "axborot asri", "axborotlashgan jamiyat", "axborot xuruji" kabi tushunchalar paydo bo'ldi. Bu esa bugungi kunda axborot tushunchasining ahamiyati oshganligidan, qamrovi kengayganligidan, maqsad-muddaosi o'zgarayotganligidan darak beradi. Taraqqiyotning hozirigi bosqichiga kelib, dunyo axborot makonida munosib o'rin egallashga erishish uchun moddiy ko'rinish va shaklga ega bo'lmagan, faqat aql bilan ko'rish va tafakkur bilan anglash mumkin bo'lgan jiddiy kurash avj olmoqda. Soha mutaxassislarining fikricha, axborot qurollari tushunchasi ostida biror xalq, millat mentaliteti, madaniyati, ma'naviyati, dini, davlatning informatsion va harbiy tizimiga salbiy ta'sir o'tkazadigan maxsus dezinformatsion texnologik vositalarning muayyan tizimi yotadi.³ Axborotga bo'lgan ehtiyojning qondirilishi ijobiy holat, ammo hech qanday asosga ega bo'lmagan, bir qarashda beozorgina bo'lib ko'ringan,

² Barakayevich, Q. S., & Baxtiyorovna, A. S. (2021). Xalqaro dastur talabalari asosida innovatsion ta'lim muhitini yaratish. Integration of science, education and practice. scientific-methodical journal, 1(02), 132-137.

³ Elmurzaeva, N. K., & Qorayev, S. B. (2021). Pedagogical Requirements for the Organization of the Educational Process in Specialized State Educational Institutions. Psychology and Education Journal, 58(1), 1078-1084.

lekin maqsad-muddaosi g'arazli bo'lgan axborotlarga yoshlarning aldanib qolayotganligi tashvishlanarlidir.

MUHOKAMA VA NATIJALAR:

Bu borada amalga oshirilayotgan ishlarning samaradorligini oshirish va takomillashtirish uchun yana quyidagi ishlarni taklif qilmoqchimiz:

1) Axborot xavfsizligini ta'minlashga qaratilgan milliy qonunchilik bazasini takomillashtirish, xususan, alohida qonun hujjati qabul qilish masalasini ko'rib chiqish;

2) milliy axborot makonimizni aholining qiziqishini inobatga olgan holda jarayonlarni ob'ektiv va pozitiv yorituvchi mahalliy va xorijiy axborotlar bilan muntazam to'ldirib borish;

3) xalqimizning, xususan, yoshlarning internetdan foydalanish madaniyatini o'stirish, undagi har qanday axborotni tafakkur va tahlil qilib, so'ng xulosa chiqarishga o'rgatishimiz zarur;

4) mamlakatimiz to'g'risida noto'g'ri, bir taraflama axborot tarqatuvchi har qanday xorijiy axborot vositalari faoliyatiga qonun doirasida chek qo'yish, bu kabi axborotlari uchun ularning javobgarligini oshirish va tarqatilgan axborotlarning bir taraflama yoki noto'g'ri ekanligini mutaxassislar ishtirokida xalqimizga o'z vaqtida yetkazish;

5) o'rta maxsus va professional ta'lim, shuningdek, oliy ta'lim muassasalarida axborot xavfsizligini ta'minlash, xususan, axborot xurujlari, uning shakl va ko'rinishlari, maqsadi va salbiy oqibatlari borasida maxsus kurslar o'tilishini ta'minlash;

Xulosa o'rnida aytganda, tobora kuchayib borayotgan globallashtirish jarayonida axborot xurujlari va kiber tahdidlardan himoyalash, o'z navbatida, ularga qarshi kurashish uchun har bir kishi hushyor va ogoh bo'lishi, axborotni tahlil qila bilishi lozimligini davrning o'zi talab etayapti. O'zbekistonda kiberxavfsizlikni ta'minlash bo'yicha olib borilayotgan tizimli va fundamental yondashuv, yagona normativ-huquqiy hujjatlar bazasini yaratish, ilg'or xorijiy tajribani joriy etish, innovatsion usullardan keng foydalanish davlat axborot siyosatini samarali olib borishga hamda axborot xavfsizligi sohasidagi muammolarni hal etishga xizmat qiladi. Bu esa axborot kommunikatsiya va texnologiyalari tizimini zamonaviy kiber tahdidlardan himoya qilish, turli darajadagi tizimlar uchun kiberxavfsizlik bo'yicha zamonaviy mexanizmlarni joriy etish, mazkur sohada davlat organlari, korxonalar va tashkilotlarning huquqlari va majburiyatlarini belgilash, ularning faoliyatini muvofiqlashtirish kabilarni amalga oshirish orqali belgilanadi. Hozirgi kunda yurtimizda olib borilayotgan barcha islohotlar zaminida xalqimizga qulayliklar yaratish maqsadi yotibdi. Zamonaviy davrda kiberxavfsizlikni ta'minlashga alohida e'tibor qaratilishi raqamli imkoniyatlardan ishonchli va xavfsiz tarzda foydalanishga asos bo'ladi.

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STUDY OF THE EFFECTIVENESS OF IMPROVING PHYSICAL AND FUNCTIONAL TRAINING INDICATORS OF YOUNG KARATE ATHLETES USING CROSSFIT TOOLS AND METHODS

Abstract. Karate, as a martial art and competitive sport, requires a high level of physical fitness, technical skill, and mental toughness. Young karate athletes, in particular, need to develop a strong foundation in physical and functional training to excel in the sport. In recent years, CrossFit, a high-intensity training program, has gained popularity among athletes and coaches as a means to improve overall fitness and athleticism. This study aims to investigate the effectiveness of incorporating CrossFit tools and methods into the training regimen of young karate athletes to enhance their physical and functional training indicators.

Keywords: karate, fitness, training courses, functions, effectiveness, training methods.

Introduction: Currently, an increasing number of sports require training programs to develop cardiovascular and respiratory function, coordination, speed-strength capabilities, and high resistance to heavy physical loads. Recent studies indicate that the use of various training simulators of semantic resistance in functional training sessions can significantly increase the effectiveness of training, which is associated with a significant improvement in functional and physical capabilities.

Background and Rationale

Improving and maintaining physical education in highly qualified karate athletes is only possible through balanced exposure and a combination of diverse exercises in physical and functional training. This requires the use of various modern methods and advanced technologies in sports training. The study and development of these methods is a pressing problem in the modern theory and methodology of comprehensive preparation for karate athletes. This scientific article aims to develop the most optimal set of methods and improve the main physical and functional indicators of young karate athletes at the basic training stage. It also focuses on the use of motor and teaching methods for further improvement. Modern martial arts are intensively developing. They have widely introduced complex methods of improving trainers and athletes in modern karate training. The most important aspect of this development is physical training. The general objective of physical training in karate is to prepare the athlete for efficient and high-quality performance of sports techniques. It aims to develop a wide range of general and special physical

abilities and qualities necessary for karate. The goal is to form a high level of physical fitness that ensures the rational distribution of blood flow to the muscles during explosive karate movements.

Research Objectives

We will consider physical training tools that are embedded in a single integrated method. The variety of exercises and new workouts with the use of specific equipment - the fight correctly combine technical, tactical and psychological training, the development of neuromuscular coordination. They accelerate the succession of specific work of athletes at different stages of preparation. The study can become promising in the future as it will improve the effectiveness of the training process of qualified karate athletes and reduce the risk of injuries.

The scientific and methodological support for increasing the physical and functional fitness of karatekas that takes into account the requirements of competitive activity pose urgent tasks for the system of improving the effectiveness of training and the search and rational use of new methods. Since physical fitness is a complex quality that includes general and special components, the main objectives of the study are: to consider the structural basis of physical fitness in a karateka; to theoretically substantiate and develop a training program to increase the level of physical and functional readiness through the use of the CrossFit methodology; experimentally determine the dynamics of the level of physical fitness of young athletes - karate athletes using the CrossFit methodology, draw conclusions about the effectiveness of the new training technology; to analyze and summarize the data obtained using the appropriate mathematical apparatus and statistical processing of quantitative and qualitative indicators, to reveal the patterns of the results; to justify the use of the developed program to increase physical fitness and karate activity and prepare methodological recommendations for their practical application in the system of effective sports training of athletes.

Scope and Significance

The issues raised in the section are of great importance for the training of athletes of all skill levels, but with only young athletes of sports categories the stakes are highest, since with the formation of a special in the future, life they can capitalize on the effectiveness of the methodology contingent and set the stage for the quick formation of special qualities. The issue is significant. So, the formation of a high level of technical and tactical preparedness of athletes, their harmonious development, is impossible without taking into account the peculiarities of sports achievements. The significant knowledge gained is that motor skills are implemented in concrete movements and actions, are a function of the structure of the human body and the laws of managing it, therefore they have, as a rule, a regulatory, internal organization. All training complex actions are built on similar principles, and therefore, the acquisition of skills in one sport contributes to some extent to the mastery of skills in others.

Literature Review

Karate is a physically demanding sport that requires quick movements, explosive power, and sustained endurance. Young karate athletes need to possess a high level of cardiovascular fitness, muscular strength and endurance, flexibility, and coordination to perform complex techniques and movements. Traditional karate training methods often focus on technical skill development, with less emphasis on overall physical fitness. However, research has shown that incorporating strength and conditioning exercises into karate training can improve performance and reduce the risk of injury (Kaneoka et al., 2013).

CrossFit, a high-intensity training program, has been shown to improve overall fitness and athleticism in athletes. CrossFit workouts are designed to be functional, scalable, and adaptable to individual fitness levels, making it an attractive option for young karate athletes. CrossFit training incorporates a variety of exercises, such as weightlifting, gymnastics, and cardio, which can help improve karate-specific skills like speed, agility, and power.

Several studies have examined the effectiveness of CrossFit training on athletic performance in various sports, including martial arts. For example, a study by García-López et al. (2018) found that CrossFit training improved muscular power and endurance in taekwondo athletes. Another study by Ávila-Gandía et al. (2019) reported that CrossFit training enhanced aerobic capacity and agility in judo athletes.

Methodology

This study employed a quasi-experimental design, where a group of young karate athletes (n=20) aged 12-15 years old were randomly assigned to either a control group (n=10) or an experimental group (n=10). The control group continued with their traditional karate training, while the experimental group participated in a 12-week CrossFit-based training program, in addition to their regular karate training.

The CrossFit-based training program consisted of three sessions per week, each lasting approximately 45 minutes. The program included a mix of weightlifting, gymnastics, and cardio exercises, as well as karate-specific drills and movements. Participants were monitored for their attendance and adherence to the training program.

Physical and functional training indicators were measured at pre- and post-intervention using a variety of tests, including:

- * Maximal oxygen uptake (VO₂max)
- * Body fat percentage
- * Squat, bench press, and deadlift one-rep max (1RM)
- * Agility T-test
- * Karate-specific tests (e.g., kicking speed, punching power)

Data Analysis

Data were analyzed using a mixed-design ANOVA to compare the pre- and post-intervention scores between the control and experimental groups. Significance was set at $p < 0.05$.

Results

The results of the study are presented in the following tables and figures.

Table 1: Mean $\pm$ SD of physical and functional training indicators at pre- and post-intervention

Variable	Control Group	Experimental Group
VO2max (ml/kg/min)	43.2 $\pm$ 4.1	45.6 $\pm$ 3.9 ($\Delta = 2.4$, $p < 0.01$)
Body fat percentage (%)	18.2 $\pm$ 2.5	16.1 $\pm$ 2.1 ($\Delta = -2.1$, $p < 0.05$)
Squat 1RM (kg)	55.4 $\pm$ 7.3	62.1 $\pm$ 6.5 ($\Delta = 6.7$, $p < 0.01$)
Bench press 1RM (kg)	32.5 $\pm$ 5.2	36.4 $\pm$ 4.9 ($\Delta = 3.9$, $p < 0.05$)
Deadlift 1RM (kg)	61.2 $\pm$ 8.1	67.8 $\pm$ 7.5 ($\Delta = 6.6$, $p < 0.01$)
Agility T-test (s)	11.4 $\pm$ 0.8	10.5 $\pm$ 0.6 ($\Delta = -0.9$, $p < 0.01$)
Kicking speed (ms)	2.5 $\pm$ 0.3	2.8 $\pm$ 0.2 ($\Delta = 0.3$, $p < 0.05$)
Punching power (W)	210 $\pm$ 30	240 $\pm$ 25 ($\Delta = 30$, $p < 0.01$)

Figure 1: Mean $\pm$ SD of karate-specific tests at pre- and post-intervention

Discussion

The results of this study demonstrate the effectiveness of incorporating CrossFit tools and methods into the training regimen of young karate athletes. Significant improvements were observed in the experimental group compared to the control group in various physical and functional training indicators, including VO2max, body fat percentage, squat, bench press, and deadlift 1RM, agility T-test, and karate-specific tests.

The improvements in cardiovascular fitness, muscular strength and endurance, and flexibility observed in the experimental group are likely due to the high-intensity, functional nature of CrossFit training. The exercises and movements used in CrossFit, such as weightlifting, gymnastics, and cardio, are designed to improve overall athleticism and can be adapted to individual fitness levels.

The significant enhancements in karate-specific tests, such as kicking speed and punching power, suggest that CrossFit training can translate to improved performance in karate. The incorporation of CrossFit training into the karate training program may have allowed the experimental group to develop a stronger foundation in physical fitness, which can enhance technical skill development and overall performance.

Conclusion.

In conclusion, this study provides evidence for the effectiveness of incorporating CrossFit tools and methods into the training regimen of young karate athletes to improve physical and functional training indicators. The results suggest that CrossFit training can enhance cardiovascular fitness, muscular strength and endurance, flexibility, and karate-specific skills, leading

to improved overall performance. The findings of this study have implications for coaches and trainers seeking to improve the physical fitness and athleticism of young karate athletes. Incorporating CrossFit training into a karate training program may provide a novel and effective way to enhance overall fitness and performance. Further research is needed to explore the long-term effects of CrossFit training on karate performance and to examine the potential applications of CrossFit training in other martial arts and sports.

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Ismoilova U.A.
Urganch davlat Universiteti Pedagogika fakulteti
“Boshlang‘ich ta’lim yo‘nalishi” talabasi

KO‘ZI OJIZ VA ZAIF KO‘RUVCHI SHAXSLARNING TA’LIM TIZIMI

Annotatsiya. Ushbu maqolada ko‘zi ojiz shaxslarning ta’lim tizimi va Brayl alifbosi va unda o‘qish, yozish strukturasi haqida ma’lumotlar bayon etilgan. Ixtisoslashtirilgan Nurli maskan maktab-internatlari darsliklari bilan ham qisqacha tanishishingiz mumkin.

Kalit so‘zlar: korreksiya defektologiya, surdopedagogika, oligafernopedagogika, tiplopedagogika, maxsus maktab, Nurli maskan, Brayl yozuvi, pribor, grifel.

Ismailova U.A.
student
"Primary Education"
Faculty of Pedagogy
Urganch State University

EDUCATIONAL SYSTEM OF BLIND AND VISUALLY IMPAIRED PERSONS

Abstract. This article describes information about the education system of the blind and the Braille alphabet and the structure of reading and writing in it. You can also briefly familiarize yourself with the textbooks of specialized Nurli maskan boarding schools.

Keywords: correctional defectology, deaf pedagogy, oligafernopedagogy, type pedagogy, special school, Nurli maskan, Braille writing, accessories, pencil.

Biz barpo etayotgan yangi, erkin va demokratik davlatda jamiyatning har bir a‘zosi bilim olish, zamonaviy kasb-hunarlarni egallash, o‘z iste’dod va qubilyatlarini ro‘yobga chiqarish, mehnat bilan band bo‘lish uchun zarur imkoniyatlarga ega bo‘lishi shart. Jamiyatimizning eng ehtiyojmand qatlamlaridan biri bo‘lgan nogironlar bilan bog‘liq faoliyatimizni tanqidiy qayta ko‘rib chiqar ekanmiz, bu insonlar ham mamlakatimiz fuqorolari, bizning yurtdoshlarimiz ekanini, binobarin, hech qachon o‘zlarini yolg‘iz his etmasliklari, ijtimoiy va iqtisodiy hayotimizda faol ishtirok etishlari uchun bundan buyon ham barcha kuch va imkoniyatlarimizni safarbar etamiz. Bir so‘z bilan aytganda, O‘zbekistonda hech kim mehr va e’tibordan chetda qolmaydi.

O‘zbekiston Respublikasi Prezidenti: Sh.M.Mirziyayev

Kirish:

Korreksiya – (yunoncha “correction” – tuzatish) – pedagogik uslub va tadbirlardan iborat maxsus ta’lim tizimi yordamida psixik va jismoniy rivojlanishidagi kamchiliklarini qisman yoki to’liq tuzatish ishlari tushuniladi.

Maxsus ta’lim tizimi deganda jismoniy va ruhiy kamchiliklarga ega bo’lgan bolalarga (ko’zi ojiz, kar-soqov, aqli zaif, tayanch harakatli apparatida nuqsoni bo’lgan) aniq maqsadni ko’zlab “Korreksiya”, “Kompensatsiya”, “Reabilitatsiya” ishlarini amalga oshiradigan maxsus ta’lim muassasalari: ko’zi ojiz bolalar uchun, eshitishda nuqsoni bo’lgan bolalar uchun, aqli zaif bolalar uchun maktab-internatlari tushuniladi.

Maxsus ta’lim pedagogikasi uch bo’limdan iborat bo’lib

Birinchi bo’lim:

Oligofrenopedagogika deb nomlanib, mazkur bo’limda aqli zaif bolalarga maxsus maktabda ta’lim-tarbiya berish.

Ikkinchi bo’lim:

Surdopedagogika – kar va zaif eshituvchi bolalarga maxsus maktabda ta’lim-tarbiya berish.

Uchinchi bo’lim:

Tiplopedagogika – ko’r va zaif ko’ruvchi bolalar maktabda o’qitish jarayonlarining xususiyatlari, ko’r va zaif ko’ruvchi bolalar maktabida ta’limni tashkil etish shakllari va metodlari va bu bolalarni tarbiyalash jarayonida maktab va oila hamkorligi, tiflotexnika kabi masalalar yotadi. Bu maqolada biz asosan Tiplopedagogika haqida gaplashamiz.

Tiplopedagogika - yunoncha typhlos so’zidan olingan bo’lib ko’r va zaif ko’ruvchilar pedagogikasi degan ma’noni bildiradi. Maxsus maktab hamda maktabgacha muassasalar tuzilmasini, ularning ta’lim tarbiyasining tashkiliy qismlarini ishlab chiqadi. Tiplopedagogikaning eng muhim vazifasi bolalarda saqlanib qolgan ko’rish imkoniyatlaridan o’qish jarayonida to’g’ri foydalanish va uni rivojlantirish, ko’rish imkoniyatlarini saqlash uchun sharoit vujudga keltirish, ta’limning texnika vositalarini qo’llashdan iborat. Ko’rishga aloqador nuqsonlar kelib chiqish sabablariga ko’ra tug’ma va orttirilgan bo’ladi. Ko’rishda nuqsoni bo’lgan bolalar ko’ruv o’tkirriga ko’ra 2 turga bo’linadi.

1.Total ko’zi ojizlar (mutloqo ko’r maydiganlar) – ko’rish o’tkirriga 0.

2.Zaif ko’ruvchilar – ko’rish o’tkirriga 0,05 gacha.

Zaif ko’ruvchilar ko’rish o’tkirriga ko’ra quyidagi guruhlariga bo’linadi.

1.Ko’ruv o’tkirriga 0,05 dan 0,1 gacha.

2. Ko’ruv o’tkirriga 0,1dan 0,2 gacha

3. Ko’ruv o’tkirriga 0,2dan yuqori 0,4 gacha

Ushbu guruhdagi bolalar tevarak-atrofni tasavvur orqali his etadilar va ular o’qish yozishda Brayl alifbosidan foydalanadilar. Umumta’lim maktablarida alifbega tayyorlov davrida O’quvchilar ilmoqcha, bayroqcha, tayoqchalarni yozishni o’rganishsa “Nurli maskan” o’quvchilari 6 nuqtani o’rganishadi.

Brayl alifbosi

A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				

Brayl alifbosi 1829-yil fransiyalik tiplopedagog Lui Brayl tomonidan yaratilgan. Brayl 1924-yil ya'ni 15 yoshida dastlabki eksperiment ishlarini boshlagan. Bu kichik tizim ikkita vertikal qatordan iborat bo'lgan 1,2,3 nuqtalar o'ng tomonda 4,5,6 nuqtalar chap tomonda joylashtirilgan bo'lib, musiqa notalari, matematik sonlarni ham o'z ichiga oladi.

O'qish jarayonida 14
25
36
Yozish jarayonida 41
52
63

Aslida o'qish va yozishda nuqtalar bir xil raqamlarga ega, ammo o'qishda chapdan o'ngga o'qiladi. Yozuvda o'ngdan chapga yoziladi. Buning sababi yozuvda maxsus qog'oz pribor ichiga qo'yib grifel (bigizsimon qalam) bilan xuddi arab alifbosida o'ngdan chapga yozilganidek Brayl yozuvi ham shu tartibda yoziladi. Yozilgan yozuv o'qish uchun pribor ichidan maxsus qog'oz olinadi bigizsimon qalam bilan yozilgani uchun qog'ozda teshikchalar bo'ladi. Qog'oz orqa tomoniga o'giriladi bunda bo'rtma harflar bo'ladi va uni ko'zi ojiz inson barmoqlari bilan paypaslash orqali o'qiydi. Qog'oz orqa tarafiga o'girilganligani sababli yozuvlar chapdan o'ngga qarab o'qiladi.

Ko'zi ojizlar uchun tovush signallari o'ziga xos mo'ljal o'rnini egallaydi, ko'radigan bolalar uchun ham tovushlar muhim rol o'ynaydi, ammo ko'zi ojizlar uchun tovush signallari mo'ljal olish uchun asosiy faktor hisoblanadi. Maxsus ta'lim sharoitida eshituv, teri, hid bilish, vibratsion va boshqa psixik jarayonlarning sensor analizatori rivojlanishi asoslari shakllanadi. L.S.Vigotskiy tomonidan ko'rlar oltinchi sezgi (harorat)ga egaligi ko'rsatilib, bu ularga

predmetlarni masofadan sezishga ranglarni ham sezishga imkon yaratadi. Maxsus ta'lim erta boshlanganda normal maydon va sterotopik ko'ruv yaxshi rivojlanadi va mukammallashadi. Bu ularda kelajakda murakkab fazoviy ko'rgazmalarni idrok etish imkonini beradi.

O'zbekiston Respublikasida ko'rishda nuqsoni bo'lgan bolalar uchun ta'lim muassasalar O'zbekiston Respublikasi Vazirlar Mahkamasining 2010-yil 18-iyundagi 117-sonli qaroriga muvofiq tashkil etilgan. Qarorga muvofiq maktabgacha ta'lim muassasalarda ko'rishda og'ir nuqsonlari bo'lgan bolalar – ko'zi ojizlar, ambliopiya va g'ilaylik, zaif ko'ruvchilar ta'lim tarbiya olishlari uchun mo'ljallangan ta'lim muassasalariga 2-3 yoshdan, har bir guruhga 6-8 nafardan qabul qilish mo'ljallangan.

Ko'rishda imkoniyati cheklangan bolalar maktab-intematlari hozirda "Nurli maskan" nomi bilan yuritiladi. Ko'zi ojiz va zaif ko'ruvchi bolalar uchun maktablarda o'qitish sistemasi Boshlang'ich I-IV sinflar, yuqori V-XI sinflarni o'z ichiga oladi. Ko'zi ojiz bolalar maktab muassasaga psixologik-tibbiy-pedagogik komissiya xulosasiga ko'ra qabul qilinadi. Ko'zi ojiz o'quvchilar har bir sinfda 10-12 nafar o'quvchidan, murakkab nuqsonli bolalar uchun 5-7 o'quvchidan tashkil etiladi. Nurli maskan maktab-internati darsliklari ham umumta'lim maktab darsliklari asosida o'tiladi. O'quvchilar maktab darsliklarining Brayl alifbosi asosida chiqarilgan darsliklardan foydalanadilar. Umumta'lim maktab darslaridan farqi Nurli maskanda korreksion darslar kiritilgan.

Bulardan:

1. Logopediya (nutq o'stirish).
2. Predmet tasavvuri (tasavvurni shakllantirish).
3. Mayda qo'l motorikasi (teri tuyish).
4. Mo'ljal olish (atrof muhitda erkin harakatlanish).
5. Ijtimoiy-maishiy yo'nalish (bolalarni ijtimoiy hayotga yo'naltirish).
6. Ritmika (musiqa va harakat hamkorligi asosida jismoniy mashqlar bajarish).
7. Davolash gimnastikasi (turli kasalliklarning amaliyotda, davolash)

kabi darslar ko'zi ojiz o'quvchilar ko'ruv idrokni korreksiyalash va shu ko'rish darajasini saqlab qolish, tasavvurlarni aniqlashtirish, ko'rgazmali obrazli tasavvurni takomillashtirish, o'z-o'zini nazorat qilish harakatlarni boshqarish o'z-o'ziga xizmat ko'rsatish malakalarini kengaytirish, ehtiyojlaridan kelib chiqqan holda yotoqxona, sinf xonasi, maktab va maktab hovlisida to'g'ri yo'nalishni belgilab harakatlanishga o'rgatish va shunga o'xshash bir qancha hayotiy saboqlarni berishni maqsad qiladi.

Maxsus maktablarni tugatgan o'quvchilar kasb tayyorgarligini hunar maktablarida olishlari mumkin.

Ko'rishda nuqsoni bo'lgan shaxslar ham O'zbekiston Respublikasi barcha fuqorolari kabi oliy o'quv yurtlarida ta'lim olish huquqiga ega. Ko'zi ojiz va

zaif ko‘ruvchilar barcha kasblarni tanlash huquqiga ega. Oliy o‘quv yurtlarida o‘qish muddati uzaytirilmaydi.

Hozirda yurtimizda 16 ta Nurli maskan ixtisoslashtirilgan maktab-internatlari o‘z faoliyatini olib bormoqda. Vazirlar mahkamasining 2023-yil 14-avgustdagi 374-sonli qaroriga muvofiq Nurli maskan maktab-internatlarida ko‘zi ojiz va zaif ko‘ruvchi bolalarni kasb-hunarga o‘rgatish maqsadida maxsus o‘quv-ishlab chiqarish korxonalarini yo‘lga qo‘yish ko‘zda tutilgan.

Xulosa o‘rnida shuni aytish mumkinki ko‘zi ojiz va zaif ko‘ruvchi insonlar ham jamiyatimiz bir bo‘lagi va ular shu jamiyatda o‘z o‘rnini topishlari uchun zarur bo‘lgan barcha sharoitlar mavjud. Shuningdek, Maxsus ixtisoslashtirilgan maktab-internatlariga yirik korxonalar va klasterlarni birliktirib sharoitlarni yaxshilash qayt etilgan. Nafaqat yurtimizda balki butun dunyoda imkoniyati cheklangan shaxslarga katta e‘tibor qaratiladi. Birlashgan Millatlar Tashkiloti Bosh Assambleyasining 1992-yil 14-oktabrdagi rezolyutsiyasiga muvofiq, har yil 3-dakabr sanasi butun dunyoda Xalqaro nogironlar kuni sifatida nishonlanib, 13-noyabr Jahon sog‘liqni saqlash tashkiloti qarori bilan butun dunyoda Xalqaro ko‘zi ojizlar (oq hassa) kuni sifatida nishonlanib kelayotgani bunga misol bo‘la oladi.

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Jurayev A.N.
professor
Andijan Institute of Agriculture and Agrotechnologies
Muminjonov S.R.
doctoral student
Andijan Institute of Agriculture and Agrotechnologies

EFFECT OF PLANT THICKNESS AND APPLICATION OF CHEMICALS ON SOIL AGROPHYSICAL PROPERTIES

Abstract. In this article, information on the effect of peanut seedling thickness and growth regulators on the agrophysical properties of the soil of the experimental field where peanut was planted is covered.

Key words: Peanut, growth regulators, porosity, bulk density of soil, planting pattern, planting dates, soil, topsoil.

Soil density is one of the important physical properties of soil, because soil density is important for plant growth. In the field experiments we conducted, it was observed that the volume weight of the soil was affected by the applied factors. Research is located in Andijan district, Andijan region **“Gold fiber cotton”** carried out on the farm. According to the studies, it was found that the volume weight of the soil was 1.27 g/cm³ in the 0-30 cm layer at the beginning of the operation period, and it was 1.33 g/cm³ in the 30-50 cm layer.

According to the data obtained from the field experiments, it was found that the volume weight of the soil was 1.331 g/cm³ in the 0-30 cm layer, and 1.382 g/cm³ in the 30-50 cm layer, in the variant planted in the 60x5-1 scheme, but no biological preparation was used. In option 2, where "Biogutten" preparation was used, the volume weight of the soil was 1,327-1,365 g/cm³, corresponding to the soil layers. It was found that when the planting scheme of peanuts was set as 90x(60x30)x5-1, the volume weight of the soil was better than that of peanuts planted in the scheme of 60x5-1.

Table 1

Bulk density of soil				
№	Tillage	Seedling thickness, million bushels	Bulk density of soil	
			0-30 см	30-50 см
	At the beginning of the period of action		1,27	1,33
1	60x5-1	Control	1,331	1,382
2		Biogutten 1l/ga	1,327	1,365
3		Biogutten 2 l/ga	1,324	1,362
4		Biogutten 2 l/ga+ калий гуммат	1,321	1,360
5	90x(60x30)x5-1	Biogutten 1l/ga	1,318	1,354
6		Biogutten 2 l/ga	1,315	1,351

7		Biogutten 2 l/ga+ калий гуммат	1,312	1,343
8	90x(60x30)x10-1	Biogutten 1l/ga	1,310	1,341
9		Biogutten 2 l/ga	1,305	1,337
10		Biogutten 2 l/ga+ калий гуммат	1,302	1,335

The results of the observation show that the highest volume weight of the soil was observed in the control option, while the lowest one was in the option where the 90x(60x30)x10-1 scheme was planted and the biological preparation "Biogutten" was applied at the rate of 2 l/ha and an additional suspension was used. Because in these options, plant growth and root mass have a positive effect on the physical properties of the soil.

Effect of seedling thickness and biological preparations on soil porosity

The total volume of voids during soil formation is called soil porosity. The porosity of the soil depends on its specific mass and volume weight. Porosity also changes with their change (Tursunov L. 1988). The porosity of the soil is calculated as an inversely proportional indicator of its volume weight. Taking this into account, the porosity, which is one of the important physical properties of the soil, was also studied in field experiments.

Table 2

Effect on soil porosity

№	Tillage	Seedling thickness, million bushels	Bulk density of soil	
			0-30 cm	30-50 cm
	At the beginning of the period of action		53,0	50,7
1	60x5-1	Control	50,7	48,8
2		Biogutten 1l/ga	50,9	49,4
3		Biogutten 2 l/ga	51,0	49,6
4		Biogutten 2 l/ga+	51,1	49,6
5	90x(60x30)x5-1	Biogutten 1l/ga	51,2	49,9
6		Biogutten 2 l/ga	51,3	50,0
7		Biogutten 2 l/ga+	51,4	50,3
8	90x(60x30)x10-1	Biogutten 1l/ga	51,5	50,3
9		Biogutten 2 l/ga	51,7	50,5
10		Biogutten 2 l/ga+	51,8	50,6

As a result of studies, it was observed that at the beginning of the operation period, the porosity of the soil was 53.0% in the 0-30 cm layer, and 50.7% in the 30-50 cm layer. It was found that the porosity of the soil was 50.7-48.8%, respectively, in the 1st option, which was taken as a control, no biological preparation was used, and peanuts were planted in a 60x5x1 scheme.

It was found that the porosity of the soil changed in a positive direction with the change of planting scheme and the use of biological preparations. It was observed that the soil porosity was 51.4% in the 0-30 cm layer and 50.3% in the 30-50 cm layer in the 7th option, where the planting scheme was 90x(60x30)x5-

1 and the biological preparation "Biogutten" + clay gummat was used. According to the results of the analysis, the sowing scheme of the pea was 90x(60x30)x10-1, and in the 10th option, where the biological preparation "Biogutten" + bran gummat was used, the porosity of the soil was the highest compared to other options, that is, according to it, 51.8- It was found to be 50.65.

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BANK KREDITI: UNING TURLARI VA TASNIFI

Annotatsiya. Bu moliyaviy majburiyat bo'lib, unda bir tomon (qarz beruvchi) ikkinchi shaxsga (qarz oluvchiga) foizlar bilan to'lash shartlarida ma'lum miqdorda pul yoki boshqa resurs beradi. Kreditning asosiy maqsadi qarz oluvchiga o'z maqsadlariga erishish uchun pul mablag'lari yoki resurslardan vaqtincha foydalanish imkoniyatini berishdir, xoh u tovarlarni sotib olish, to'lov xizmatlari, investitsiyalar yoki boshqa ehtiyojlar, keyinchalik to'lash va foizlarni to'lash sharti bilan.

Kalit so'zlar: kredit, resurs, tovar, foiz, investitsiya, ehtiyoj.

Karimjonov D.I.
Management course 3rd year student
Andijan Institute of Mechanical Engineering

BANK LOAN: ITS TYPES AND CLASSIFICATION

Abstract. It is a financial obligation in which one party (lender) gives another person (borrower) a certain amount of money or other resource on terms of payment with interest. The main purpose of the loan is to provide the borrower with the opportunity to temporarily use funds or resources to achieve their goals, whether it is the purchase of goods, payment services, investments or other needs, with the condition of later repayment and payment of interest.

Key words: credit, resource, commodity, interest, investment, need.

Kirish. "Kredit" atamasi tovar ssudasi (narsalarni ssuda berish), tijorat krediti (avans, avans to'lovi, tovar, ish uchun to'lovni kechiktirish yoki bo'lib-bo'lib to'lash shaklida pul yoki narsalarni qarzga berish) uchun ishlatiladigan xizmatlar, byudjet ssudasi (yuridik shaxslarga byudjet mablag'larini qaytariladigan va qoplanadigan asosda taqdim etish) va soliq imtiyozlari (daromad solig'i yoki boshqa soliqning bir qismini to'lashni kechiktirish).

Ushbu atama ikki tomondan ko'rib chiqilishi mumkin: bir tomondan, kreditning o'zini ikki darajada tushunish taklif etiladi - ma'lum maqsad uchun bank tomonidan ajratilgan ma'lum pul miqdori va moliyaviy imkoniyatlarni qondirishning ma'lum bir texnologiyasi. qarz oluvchi tomonidan e'lon qilingan ehtiyojlar, boshqa tomondan, ushbu texnologiya va undan foydalanish natijalari o'rtasida farqlash taklif etiladi;

Metodlar. Bank kreditlari faol va passivga bo'linadi. Birinchi holda, bank kredit beradi, ya'ni. kreditor vazifasini bajaradi, ikkinchisida u qarz oladi, ya'ni.

qarz oluvchi hisoblanadi. Bank vaziyatga qarab faol yoki passiv funktsiyani bajaradigan boshqa banklar (boshqa kredit tashkilotlari), shu jumladan markaziy bank bilan kredit munosabatlariga kirishishi (qarz olishi yoki berishi) mumkin. Bu holatda biz banklararo kreditlash bilan shug'ullanamiz. Boshqa barcha korxonalar, tashkilotlar, muassasalar va jismoniy shaxslarga (iqtisodiyotning nomoliyaviy sektori) kelsak, bankning ular bilan kredit munosabatlari boshqacha xususiyatga ega - bu erda bank deyarli har doim kredit beruvchi tomon hisoblanadi. Keyinchalik, ayniqsa, faol bank kreditlari haqida gapiramiz.

Kreditning tasnifi, aniqroq aytganda, tijorat banklari tomonidan o'z mijozlariga (ham yuridik, ham jismoniy shaxslarga) ko'rsatilayotgan asosiy kredit xizmatlarini quyidagi tasnif sifatida ko'rsatish mumkin.

1. Qarzning iqtisodiy maqsadiga ko'ra.

1.1. Tegishli (maqsadli):

I. to'lov (aniq tijorat bitimini amalga oshirish yoki vaqtinchalik ehtiyojni qondirish uchun):

- mijoz kontragentlarining hisob-kitob (to'lov) hujjatlarini to'lash;
- qimmatli qog'ozlarni sotib olish uchun;
- avans to'lovlari uchun;
- byudjetlarga to'lovlar uchun;
- ish haqi uchun (qarz oluvchining kredit hisobvarag'idan chek orqali pul berish);
- boshqa.

II. ishlab chiqarish xarajatlarini moliyalashtirish uchun, ya'ni. ustida:

- tovar-moddiy zaxiralar zaxiralarini shakllantirish;
- joriy ishlab chiqarish xarajatlarini moliyalashtirish;
- investitsiya xarajatlarini, shu jumladan lizing uchun kreditlarni moliyalashtirish va boshqalar. operatsiyalar (oralik);

III. veksellarni hisobga olish (sotib olish), shu jumladan repo operatsiyalari (qayta sotish majburiyati bilan sotib olish);

IV. iste'mol kreditlari (jismoniy shaxslar).

1.2. Bog'liqsiz (aniq maqsadni ko'rsatmasdan).

2. Qarz berish shakliga ko'ra.

2.1. Naqd pulsiz shaklda:

I. naqd pulsiz pul mablag'larini qarz oluvchining tegishli hisob raqamiga kiritish, shu jumladan. ilgari berilgan kreditni qayta tuzish va yangisini taqdim etish;

II. bank veksellaridan foydalangan holda kredit berish;

III. aralash shaklda (oldingi 2 variantning kombinatsiyasi).

2.2. Naqd pulda (odatda jismoniy shaxslarga)

3. Kredit berish texnikasiga ko'ra.

3.1. Bir so'm.

3.2. Overdraft bilan (mijozga o'z kontragentlarining tovarlari, ishlari va xizmatlari uchun joriy hisobvarag'idan uning hisobvarag'iga kredit tushumlari

hajmidan ortiq miqdorda to'lash huquqini beruvchi kreditlash sxemasi, ya'ni ushbu hisobvaraqa debet qoldig'i bo'lishi., maksimal ruxsat etilgan miqdori va muddati bank va mijoz o'rtasidagi kredit shartnomasida qisqa muddatli, uzaytirilgan, mavsumiy overdraft turlari mavjud);

3.3. Kredit liniyasi shaklida:

- oddiy (aylanmaydigan) kredit liniyasi;
- aylanma (qayta tiklanadigan) kredit liniyasi, shu jumladan:
- chaqiruv bo'yicha (talab bo'yicha) kredit liniyasi;
- joriy kredit liniyasi;

Chaqiruv kredit liniyasi - bu kreditlash kelishilgan miqdor chegarasida (masalan, qarz oluvchining bankka garovga qo'yilgan veksellarning qiymati bilan belgilanadigan) va kelishilgan vaqt ichida amalga oshiriladigan sxema. Ilgari olingan kreditlarni to'lash usuli, limit doimiy va avtomatik ravishda (qo'shimcha shartnoma tuzmasdan) tiklanishi mumkin.

Natijalar va muhokamalar. Shartnoma kredit liniyasi qarz oluvchining joriy ishlab chiqarish ehtiyojlarini (kelishilgan miqdorlar chegarasida va shartnomaning belgilangan muddati doirasida) kreditlashni o'z ichiga oladi, bunda kreditlar uzluksiz va avtomatik ravishda beriladi va to'lanadi, bu yagona joriy hisobda aks ettiriladi. kredit va joriy hisobvaraqlarning xususiyatlari (uning debet balansida qarz oluvchining bank oldidagi qarzi miqdori, kreditda - qarz oluvchining mavjud mablag'lari mavjudligi); chegara har safar tiklanadi. Shartnoma bo'yicha kredit qarz oluvchiga har qanday tushumni hisob raqamiga o'tkazish orqali to'lanadi.

3.4. Birlashtirilgan variantlar.

4. Qarz berish usuli bilan

4.1. Jismoniy shaxs (qarz oluvchiga bitta bank tomonidan beriladi).

4.2. Sindikatsiyalangan.

5. Kreditni qaytarish muddati va texnikasi

5.1. Muddat oxirida bir bo'lib to'lanishi mumkin.

5.2. Muntazam vaqt oralig'ida teng qismlarda to'lanishi mumkin (bu variant, keyingi kabi, aniq sanalar va miqdorlarni ko'rsatgan holda, asosiy qarz va foizlarni to'lash jadvalini kelishishni o'z ichiga oladi). Aslida, bu oddiy kredit deb ataladigan (teng oylik to'lovlar bilan).

5.3. Turli vaqt oralig'ida teng bo'lmagan qismlarda to'lanishi mumkin:

– murakkab kredit (muddat oxirida kredit summasining 20% dan 50% gacha to'lash bilan);

– progressiv ssuda (qarz shartnomasining amal qilish muddati tugashi bilan to'lovlar bosqichma-bosqich oshib boradi);

– mavsumiy ssuda (mavsumiy ishlab chiqarish uchun kredit, faqat daromadning maksimal miqdori tushadigan oylarda to'lash bilan).

Xulosa. Alohida-alohida, banklarning o'z mijozlariga kredit berish bo'yicha kafolat operatsiyalarini, shuningdek, kreditlash masalalari bo'yicha

maslahat xizmatlarini ajratib ko'rsatishimiz mumkin. Kreditlarni ma'lum guruhlar va turlarga ajratish uchun boshqa mezonlar qo'llanilishi mumkin.

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*Karshieva B.F., doctor of philosophy (PhD) in pedagogical sciences
associate professor
Termez State University
ORCID 0009-0006-5922-5118*

TEACHING ENGLISH TO TECHNICAL STUDENTS THROUGH THE PRINCIPLES OF INTEGRATION BASED ON INTERDISCIPLINARY RELATIONS

Annotation. This article examines the innovative approach of teaching English to technical students by integrating language instruction with technical subjects through interdisciplinary relations. This method aims to make language learning more relevant and practical for students in technical fields. The article explains how combining English instruction with technical content creates a cohesive learning experience that mirrors real-world applications. This approach utilizes Content-Based Instruction (CBI), Project-Based Learning (PBL), and Task-Based Language Teaching (TBLT) to enhance both language and technical skills.

Key words: Content-Based Instruction (CBI), Project-Based Learning (PBL), and Task-Based Language Teaching (TBLT), technical students, technical skills.

In today's globalized world, proficiency in English is an essential skill for technical students. However, traditional language teaching methods often fall short in engaging these students, who might not see the immediate relevance of learning English. Integrating English instruction with technical subjects through interdisciplinary relations can make language learning more meaningful and practical. This approach not only improves language proficiency but also enhances students' technical skills and prepares them for the global job market.

The Concept of Interdisciplinary Integration

Interdisciplinary integration involves teaching English in conjunction with technical subjects, creating a cohesive learning experience that reflects the interconnected nature of real-world applications. This method leverages the principles of Content-Based Instruction (CBI), Project-Based Learning (PBL), and Task-Based Language Teaching (TBLT) to provide a holistic educational approach.

Principles of Integration

1. **Contextual Learning:** English is taught within the context of technical subjects. For example, engineering students might learn English through technical manuals, project documentation, and scientific research articles. This

contextual approach helps students understand the practical applications of language skills in their field of study.

2. Content-Based Instruction (CBI): CBI focuses on teaching English through specific content areas. In this model, language learning is integrated with subject matter learning. For technical students, this might involve using English to teach concepts in computer science, engineering, or biotechnology.

3. Project-Based Learning (PBL): PBL engages students in real-world projects that require the use of English. For instance, students might work on designing a prototype or conducting an experiment, and then present their findings in English. This method fosters active learning and practical application of language skills.

4. Task-Based Language Teaching (TBLT): TBLT emphasizes using language as a tool to complete meaningful tasks. Technical students might engage in tasks such as writing technical reports, creating user manuals, or developing presentations, all of which require precise and clear use of English.

5. Collaborative Learning: Group projects and collaborative tasks encourage communication among students from different disciplines. This not only improves language skills but also fosters teamwork and interdisciplinary understanding.

Implementing Interdisciplinary Integration

1. Curriculum Design: Designing a curriculum that integrates English with technical subjects requires collaboration between language and technical educators. Courses should include modules that focus on technical vocabulary, report writing, and technical presentations in English.

2. Material Development: Creating relevant teaching materials is crucial for integrated learning. This includes technical documents, industry reports, and multimedia resources that are specifically tailored to the students' field of study.

3. Teaching Strategies: A variety of teaching strategies can enhance integrated learning. These include role-playing technical scenarios, conducting simulations, and solving industry-related problems using English.

4. Assessment Methods: Assessments should measure both language proficiency and technical understanding. This can be done through technical presentations, written reports, and collaborative projects that require the use of English.

Benefits of Interdisciplinary Integration

1. Relevance and Engagement: When students see the direct application of English in their technical fields, they are more motivated to learn. This relevance enhances their engagement and commitment to language learning.

2. Improved Communication Skills: Technical students develop better communication skills, which are essential in the global workforce. They learn to articulate technical concepts clearly and effectively in English.

3. Holistic Education: An integrated approach provides a more comprehensive education, preparing students for real-world challenges where interdisciplinary knowledge is crucial.

4. Career Readiness: Employers value graduates who can communicate effectively in English within their technical fields. Integrated language learning enhances students' employability and career prospects.

Challenges and Solutions

1. Resource Development: Developing interdisciplinary teaching materials can be resource-intensive. Collaborating with industry professionals and using existing resources can help overcome this challenge.

2. Teacher Training: Educators need to be equipped with the skills to teach integrated courses. Professional development programs can provide the necessary training and support.

3. Student Adaptation: Some students may initially find the integrated approach challenging. Providing additional support through tutoring and resources can help them adapt.

Conclusion: Teaching English to technical students through interdisciplinary integration offers a dynamic and effective approach to language education. By contextualizing English within technical subjects, educators can enhance students' motivation, communication skills, and career readiness. While there are challenges in implementing this approach, thoughtful curriculum design, resource development, and teacher training can ensure its success. Ultimately, interdisciplinary integration prepares technical students for the demands of the global job market, making them more competent and confident professionals.

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THE WORLD'S BIGGEST ENVIRONMENTAL PROBLEM AND ITS SOLUTION

Abstract. In this article, the problems of the Aral Sea and the results of political reforms and practical work in the field of environmental protection, as well as the continuation of state support for some issues that are of priority in improving the socio-ecological condition of the republic, are included.

Key words and phrases: Environment, freon, chlorine, fluorine, carbon, atmosphere, ecological safety, sanitary - epidemiological situation.

Year by year population growth, the development of industry and transport, the development of science and technology, are expanding the sphere of human influence on the biosphere. This, in turn, causes one or another environmental problem. Ecological problem means any phenomenon related to natural phenomena (natural disasters, climate change, mass migration of animals, etc.) related to the impact of man on nature, i.e., processes that have economic significance in his economy and life. As a result of human work, various wastes are released into the environment. Part of the waste (solid, gaseous and liquid) affects the atmosphere, the other affects water, land, flora and fauna and accumulates over time. It is now fully confirmed that their gradual accumulation over the years causes various problems, sometimes very dangerous for human life. As a result of human economic activity, major environmental problems are arising in the world. They are as follows: "greenhouse effect", "hole" of call to prayer, desertification.

"Greenhouse effect". Since the 50s of the 20th century, due to the sharp increase in energy production, a large amount of waste has been released into the atmosphere. The amount of waste released into the atmosphere was 5 billion tons per year. This amount began to increase every year. This caused the average temperature on Earth to increase from 14.5 C in 1890 to 15.2 C in 1980, i.e. by 0.7 degrees. This indicator has the characteristic of increasing every year. This causes the "greenhouse effect". According to scientists, if the current rate of increase of gases causing the "greenhouse effect" is maintained, as a result of a temperature increase of 0.2-0.5 degrees every 10 years, tundra, forest-tundra, taiga, mixed and broad-leaved forests, forest-steppe and steppe nature zones are expected to shift to the north. In addition, the water flow of rivers in Europe and Africa will increase. Global warming is causing glaciers to melt and ocean waters to expand due to heat. During the 20th century, scientists estimate that the ocean level rose by 17.5 centimeters.

According to American scientists, by the year 2100, the world ocean level may rise by 1.4-2.2 meters. This causes most of the countries located on the coast of the ocean to be submerged. Azan "hole". Since the 50s of the 20th century, it has been observed that the amount of freon gases (chlorine, fluorine, carbon) in the air has increased. These gases began to erode the ozone layer located at an altitude of 25 kilometers. It is known that the azon layer captures the harmful ultraviolet rays coming from the Sun. As a result of the erosion of the azon layer, an azon "hole" was formed. It has been determined that the penetration of ultraviolet rays from this hole to the Earth's surface can drastically reduce the yield of grain crops and cause people to get skin cancer. In 1989, scientists, experts and statesmen of 81 countries adopted the "Helsinki Declaration on the Protection of the Azone Layer" and defined measures to reduce the production of freon gases by the year 2000. As a result, the area of the azon "hole" has been shrinking in recent years. Desertification. Currently, the process of desertification, i.e. the transformation of fertile lands and pastures into deserts, is taking place under the influence of natural and artificial factors. Natural factors mainly include drought.

For example, in 1968-1974, as a result of a catastrophic drought in the coastal region of the Sahara, more than 60% of the area of Lake Chad, Niger, and Senegal rivers dried up. As a result of human's improper use of land, large areas of fertile land are turning into desert. Currently, under the influence of human activity, a desert has been formed on an area of 9 million square kilometers. Every year, about 21 million hectares of land are completely degraded and turned into desert. Every year, 6 million hectares of irrigated land become desert. Currently, regular scientific and practical work is being carried out to prevent desertification. An organization coordinating the fight against desertification is operating in Nairobi, the capital of Kenya. Regional ecological problems arise due to the tension of the interaction between nature and society in highly developed areas of industry and agriculture. These ecological problems drastically change the natural environment and affect public health. Currently, regional environmental problems exist in the Middle, Black, Azov, Baltic, Northern, Caribbean Seas, Persian Gulf, Caspian and Aral Seas, Baikal, Balkhash, Ladoga, Onega, Chad, Great Lakes and other regions.

The territorial environmental problem that arose in Central Asia and Uzbekistan is the problem of the Aral Sea. During the years 1911-1960, the Aral Sea received an average of 52 cubic kilometers of water annually, and its level regularly reached 53 m absolute height, its water area was 66 thousand square kilometers, and the average salinity level of water was 9.5-10 percent (9.5-10 g/l) and its average depth was 16 meters. Since 1961, as a result of the development of reserve lands in Central Asia and South Kazakhstan, the construction of a number of large water reservoirs, the construction and operation of canals, collector-water systems, the amount of water flowing into the Aral Sea from Amudarya and Syrdarya began to decrease. As a result, the

level of the Aral Sea decreased and its area began to decrease. As a result, the level of the Aral Sea began to decrease, its area began to decrease, and the level of water salinity began to increase. Currently, the dry area of the Aral Sea is 3 million ha. Since the dry part of the sea consists of a bare plain, the horizontal movement of groundwater is difficult, so the main part of it evaporates and leads to an increase in the amount of salt in the soil. As a result of the reduction of the water flowing into the lower reaches of Amudarya and Syrdarya, the area of marshes and groves in these areas will decrease and the process of desertification will develop. Currently, the solution to the problem of the Aral Sea is focused on two things - keeping the sea level at a certain level and improving the ecological conditions of the Aral Sea. In order to maintain the level of the Aral sea at a certain height, that is, 33 meters absolute height, 20 cubic kilometers of water from Amudarya and Syrdarya should fall to the island every year.

The main way to improve the ecological conditions in the island region is to provide the population with clean drinking water, to regularly send water to the dry riverbeds and lakes, to strengthen the sand with plants to block the movement of the wind in the dry part of the sea, to improve the land reclamation, and to expand the area of pastures and hayfields. Ecological condition of the Aral Sea. The Aral Sea used to be one of the largest inland seas in the world and was used for fishing, hunting, transportation and recreational purposes. The water regime of the sea is made up of the burning Amudarya, Syrdarya, groundwater and atmospheric fuels, and water evaporation from the surface. In ancient historical times, the change of the sea level by 1.5-2.10 was related to the natural climate, the volume of water was 100-150 cubic km, the area of the water surface was 4000 square km. the amount of water poured into the delta of Amudarya and Syrdarya decreased. Thus, at present, the sea level has decreased by 16.8 m compared to 1961. 1994 36.6 m. In this case, the volume of the sea increases by 3 times, the surface by 2 times, the salinity level increases from 9-10 g/l to 34-37 g/l; By 2000, 180-200 g/l was expected. Today, the decrease in sea level is 80 - 110 cm per year. The Kirgok line has decreased by 60-80 km, and the open land is 23 thousand square km. In the lower reaches of Amudarya and Syrdarya, the quality of water deteriorates and becomes unfit for drinking. Ecosystems, plants and animals are in deep crisis. The worst situation is the Southern Island. This region includes such landscape complexes as the northwestern Kyzyl kum, Zaungaoz, Kara kum, South Ustyurt and the Amudarya delta. The total area of the island coast is 473,000 km², while its southern part is 245,000 km².

This includes the territory of the Kyrgyz Republic, the Khorezm region of Uzbekistan, and the Toshavvoz regions of Turkmenistan. The phenomenon of rapid desertification occurring on the island and along the island is unprecedented in the world's experience. That is why quantitative and qualitative assessment faces many difficulties. Due to the opening of the seabed

and the drying of river deltas, desert areas are expanding. The surface of 1 million ha that has been uncovered is covered with small salt particles and forms new sand layers. Thus, a powerful new source of wind-driven sand and salt aerosols has emerged in Central Asia. According to preliminary data, 100-150 mln. up to tons of dust - pollen can rise. Dust - salt dust raised from the bottom of the sea increases atmospheric pollution by 5%. The rise of dust - pollen into the atmosphere was observed from space 1 time in 1875. The length of Chang-Pozon is 400 km, the width is 40 km, and the radius is 300 km. As a result of precipitation of salts on the surface of the earth, the productivity of cotton decreased by 5-15% and that of rice by 3-6%.

The average amount of dust-salt particles falling on the island is 520 kg/ha, and it has become one of the main causes of soil deterioration. Dust-salt fractions in the irrigated areas of the Republic of Kazakhstan range from 250 kg/ha to 500 t in Chimboy district. Saline sand salts are occupying 15 thousand hectares of pastures along the island. Fields allocated for cotton are infested with disease-causing pests. the harvest of agricultural products is decreasing. Deterioration of land reclamation in the areas upstream of the river (Surkhondarya, Kashkadarya, Bukhara, Samarkand) leads to an increase in land in the II category. The middle course of Amudarya is located. A complex reclamation situation is emerging in the water management districts of Turkmenistan. In the rivers of Amudarya and Syrdarya, most of the areas are classified as 3rd and 4th category lands with non-coniferous melioration conditions, 35-70% of silted and heavily silted areas.

Due to soil salinization, the yield of agricultural products decreased by 30% in Uzbekistan, 40% in Turkestan, 33% in Kazakhstan, 1990 in Tajikistan and 20% in Kyrgyzstan. The settlement of highly saline groundwater is intensifying the process of desertification. As a result of lowering the banks of the Amudarya and Syrdarya, it reduces floods in the lower part of the rivers. This, in turn, leads to the reduction of the areas of tukai plants, and the previously humus-rich meadow-swamp soils turn into infertile meadows, barren deserts, sandy soils. Mammals and birds have declined. Arid fields are filled with rodents that spread dangerous diseases for the population. The sanitary-epidemiological situation of the island coast is extremely difficult, and the centralized water supply is 29-67%. Half of the population uses polluted open water bodies. Can the Aral Sea be saved? The basis of the island problem is to preserve it as a sea. It should be noted that the island is known to have changed its shape and dried up many times during its history compared to scientific data.

To restore the initial absolute height of the Aral Sea, more than a thousand cubic km of water is needed. The problem of the Aral Sea is also noteworthy. The Aral Sea began to dry up especially in the 80s. At present, it has become a common problem of Central Asia. The sea is currently not considered the "dead sea". There is almost no living organism in the sea. Salts accumulated on the dry shores of the sea are mixed with dust when the wind blows, posing a serious

threat to human health. The residents there are facing water problems. In addition, almost half of the Aral Sea is drying up, and no one cares. With foreign funds allocated for the restoration of the Aral Sea, no one controls the spending of these funds on the sea. It follows that the funds "do not reach" there. In short, it can be described as a drought in the countries of Central Asia. The world community and the countries of Central Asia will realize this "when the knife is stuck in the bone". Unfortunately, after the Aral Sea dries up, solutions to this problem will be sought. The main reason for the drying up of the Aral Sea is that it is used for household needs, that is, because of the use of Amudarya and Syrdarya for irrigation of cotton and wheat, less water has begun to reach the Aral Sea. Due to this, there are currently several opinions about the preservation of the Aral Sea, which is slowly drying up. It is necessary to save the Aral Sea in any way and restore it to its former state.

The level of the Aral Sea cannot be maintained at a stable level, so it is inevitable that it will dry up completely. It is possible and feasible to maintain the level of the Aral Sea at a certain level. The first idea was developed in 1986-1987 by the members of the Union of Writers of Uzbekistan and other writers of the republic. In the second opinion, they say that the water should be used to develop and irrigate their new lands, the sea cannot be saved, it is inevitable that it will dry up. The third opinion was expected by scientists and specialists who were specifically engaged in the problem of the island. They expressed their opinion on this problem. They explained on the basis of their many years of scientific research and proved that it is possible to maintain the level of the sea at a certain absolute height, correctly estimating all its ecological and socio-economic importance. It is impossible to raise the Aral Sea to the initial absolute height (53) m. Several ideas are currently being floated to keep the island level at an absolute height. Some want to transfer the commercial sea water to the Island through the canal: Many want to fill the Island with the water of Siberian rivers. Some suggested melting the Amudarya and Syrdarya headwaters of 17,000 km². Reservoirs in Central Asia (92, 72 in Uzbekistan) have released water into rivers. In addition, some experts believe that at a depth of about 1-1.5 thousand meters under the Aral Sea, there is 4 times and more underground water compared to the volume of water of the island until 1961. show that it is possible. 70 km³/cubic km of water is needed to maintain the sea.

But the Republic of Uzbekistan needs to dig 18-20,000 wells around the sea, which will require 30 million tons of pipes. Thus, the only way to maintain the level of the island at a certain absolute height is to preserve the water reserves that are present in this danger itself. At least 20 km³/cubic meter of water should be poured into the island every year. Well, where to find this 20 km³ of water. It is known that 90% of water is used for irrigation. Its profitability ratio is 0.63. If this indicator is increased to 0.80, a lot of water will accumulate. Therefore, the main focus should be on reducing water loss as much as possible.

The risk of drying up of the Aral Sea is a very serious problem, it can be said that it has become a national problem. The problem of the Aral Sea goes back a long way. The narrowing of the Aral Sea is one of the biggest environmental and humanitarian tragedies in human history. About 37 million people living in the sea basin were affected by it.

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A CULTURAL ANALYSIS OF THE STUDY OF PHRASEOLOGICAL UNITS IN THE ENGLISH LANGUAGE

Annotation. This article provides a comprehensive cultural analysis of phraseological units in the English language, highlighting their significance as cultural artifacts that offer deep insights into the values, beliefs, and history of English-speaking communities. It explores how these expressions, including idioms, fixed expressions, and set phrases, encapsulate historical events, societal norms, and cultural beliefs.

Key words: Historical Context, Phraseological units, non-native speakers, real-life situations.

Phraseological units, commonly known as idioms, fixed expressions, or set phrases, offer a unique window into the cultural and social fabric of a language community. In English, these expressions are not only integral to effective communication but also rich with cultural significance. This article explores the cultural dimensions of studying phraseological units in the English language, examining how they reflect cultural values, historical contexts, and social norms.

The Cultural Significance of Phraseological Units

Phraseological units in any language are deeply embedded in the culture from which they originate. They often encapsulate historical events, social customs, and collective wisdom, serving as linguistic time capsules that preserve cultural heritage.

- **Historical Context:** Many English idioms have historical roots that provide insights into past events and societal developments. For example, the idiom "turn a blind eye" refers to Admiral Horatio Nelson, who is said to have used his blind eye to ignore signals to withdraw from battle. Such idioms offer a glimpse into historical narratives and influential figures.

- **Social Norms and Values:** Phraseological units often reflect the values and norms of a society. The expression "the early bird catches the worm" emphasizes the value placed on punctuality and proactivity in English-speaking cultures. Similarly, "actions speak louder than words" underscores the importance of deeds over mere promises.

- **Cultural Beliefs and Superstitions:** Some idioms are rooted in cultural beliefs and superstitions. For example, "knock on wood" is a phrase used to ward off bad luck, reflecting a cultural practice that dates back to ancient times when people believed that spirits lived in trees.

Challenges in Understanding Phraseological Units

For non-native speakers, the cultural nuances embedded in phraseological units can pose significant challenges. The figurative nature of these expressions means that understanding them requires more than just linguistic knowledge; it necessitates cultural insight.

1. **Literal vs. Figurative Meaning:** The literal meaning of the words in a phraseological unit often differs significantly from the figurative meaning. For example, "spill the beans" means to reveal a secret, not to actually spill any beans. This can be perplexing for learners unfamiliar with the cultural context.

2. **Cultural Specificity:** Many phraseological units are specific to the culture in which they developed, making them difficult to translate or understand without cultural knowledge. For instance, the phrase "raining cats and dogs" has no direct equivalent in many other languages, as it is rooted in English folklore and historical misconceptions about weather phenomena.

The Role of Phraseological Units in Cultural Identity

Phraseological units contribute to the cultural identity of a language community. They are markers of linguistic creativity and cultural uniqueness, distinguishing one language from another.

1. **Linguistic Creativity:** The creative use of language in idioms and fixed expressions showcases the ingenuity of a culture's use of its language. Phrases like "barking up the wrong tree" or "burning the midnight oil" demonstrate the playful and imaginative aspects of English.

2. **Cultural Uniqueness:** The unique phraseological units of a language are part of what makes it distinct. They carry cultural connotations that resonate deeply with native speakers, fostering a sense of belonging and shared understanding.

Strategies for Learning Phraseological Units

To effectively learn and appreciate phraseological units, especially for non-native speakers, a focus on cultural immersion and contextual learning is essential.

1. **Cultural Immersion:** Engaging with the culture of native speakers through media, literature, and interaction can provide valuable context for understanding phraseological units. Watching films, reading books, and conversing with native speakers expose learners to the natural use of these expressions.

2. **Contextual Learning:** Learning idioms and fixed expressions in context helps in grasping their meanings and nuances. Instead of memorizing lists, encountering them in stories, conversations, or authentic materials aids in understanding how they are used in real-life situations.

3. **Cross-Cultural Comparisons:** Comparing phraseological units across languages can highlight cultural differences and similarities, enriching the learning experience. Understanding that different cultures have their unique

ways of expressing similar ideas can foster a deeper appreciation for linguistic diversity.

Result. Many English idioms have origins that trace back to historical events and cultural practices. For instance:

- **"Bite the bullet"**: This idiom, meaning to endure a painful situation, originates from the practice of having soldiers bite on a bullet during surgery without anesthesia.

- **"Throw in the towel"**: Derived from boxing, where a trainer throws a towel into the ring to concede defeat, this phrase has come to mean giving up or admitting failure.

These idioms provide glimpses into historical practices and societal norms of the times they originated in, preserving the essence of those eras.

Phraseological units often encapsulate the values and societal norms of English-speaking cultures:

- **"Time is money"**: Reflecting the high value placed on efficiency and productivity in Western cultures, this phrase emphasizes the importance of managing time wisely.

- **"Every cloud has a silver lining"**: This optimistic outlook encourages finding the positive aspect in any negative situation, reflecting a cultural tendency towards hopefulness and resilience.

Such expressions reveal underlying cultural attitudes and priorities, offering insights into what is valued and esteemed in these societies.

Many idioms are rooted in cultural beliefs and superstitions, providing a window into the folklore and mythologies of English-speaking communities:

- **"Break a leg"**: Wishing someone good luck by saying "break a leg" comes from a theatrical superstition where wishing someone good luck directly is believed to bring bad luck.

- **"Knock on wood"**: This phrase is used to ward off bad luck and has ancient origins in the belief that spirits lived in trees, and knocking would call upon their protection.

These idioms highlight the superstitions and traditional beliefs that continue to influence modern language use.

Phraseological units contribute to the linguistic creativity and cultural identity of English-speaking communities:

- **"Barking up the wrong tree"**: This idiom means pursuing a mistaken or misguided course of action and showcases the playful, metaphorical use of language.

- **"The ball is in your court"**: Originating from tennis, this phrase means it is someone's turn to take action or make a decision, reflecting the competitive and active nature of Western cultures.

These expressions enhance the richness and expressiveness of the language, making it more colorful and engaging.

For non-native speakers, mastering phraseological units can be challenging due to their figurative nature and cultural specificity:

- **Literal vs. Figurative Meaning:** Idioms like "spill the beans" (reveal a secret) or "kick the bucket" (die) can be perplexing because their meanings are not literal.

- **Cultural Specificity:** Understanding idioms like "raining cats and dogs" requires familiarity with the cultural context that gave rise to these expressions.

Conclusion. Phraseological units in the English language are not just linguistic constructs but cultural artifacts that offer profound insights into the values, beliefs, and history of English-speaking communities. Understanding and appreciating these expressions requires an exploration of their cultural roots and contexts. For language learners, this cultural analysis enhances not only linguistic proficiency but also intercultural competence, bridging gaps between languages and cultures.

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ASSESSMENT OF ECONOMIC IMPACTS OF CLIMATE CHANGE IN UZBEKISTAN

Abstract. Situated in the Central Asia, Uzbekistan is considered a vulnerable country to climate changes. As climate change is a global issue, the analysis of the climate-economic relation of Uzbekistan is estimated in comparison with other countries. This research paper overview the relationship between climate change and economy. The results indicate that despite delicate situation regarding climate change, Uzbekistan is progressing to improve readiness for further negative consequences of the phenomenon.

Keywords: Climate change, economic stability, agriculture, economic security, temperature levels.

INTRODUCTION

Negative changes in the environment can threaten humanity at various levels. It is known that global average temperature has risen and changing climate has caused many discussions. On a planetary scale, rising temperatures can be dangerous for its inhabitants, plants and animals. Wildfires caused by climate change can turn green forests into ash, reduce animal species, and cause people to evacuate their homes. Climate change affects all countries. Earth's temperature has been rising since the Industrial Revolution. Although natural variability plays a role, the preponderance of evidence shows that human activity, particularly the emission of heat-trapping greenhouse gases, is one of the main factors driving the warming of the planet.

Relative to other scientific metrics, Earth's temperature is remarkably intimately related to the world economy. A delicate situation is being played out as our planet warms, with certain industries perhaps benefiting and others facing major upheavals. In order to navigate a future shaped by climate change, it is imperative to comprehend this complex link.

Agriculture is one of the industries that is most directly impacted economically by temperature rise. Traditional growing seasons can be thrown off by warmer temperatures, which can result in crop failures in certain areas and open up new growth prospects in others. This change could jeopardize food security and destabilize food prices, especially for vulnerable populations in emerging nations. Furthermore, severe weather conditions like droughts, which are made worse by climate change, can completely destroy agricultural output, affecting the world's food supply and leading to financial difficulties.

Today, other relatively debated issue that many countries including Uzbekistan has started facing is climate change. Modern monitoring data on the

state of the climate system show that the number of days with high air temperature is increasing throughout Uzbekistan, in all seasons of the year. In this regard, the issue has been focused in recent years, action plan to transition to a "green" economy and ensure "green" growth in the Republic of Uzbekistan until 2030, approved by the decision of the President of the Republic of Uzbekistan No. PD-436 of December 2, 2022, in order to provide, as well as increase the effectiveness of measures to reduce the risk of natural disasters and increase resilience to climate change.

LITERATURE REVIEW

According to the analysis by scientists at NASA's Goddard Institute for Space Studies (GISS), the average global temperature on Earth has risen by at least 1.1°C since 1880. The main upward trend of the warming has occurred since then. The Global Temperature Anomaly of 2022 relative to 1951-1980, and the last 9 years were known to be the warmest years⁴.

The impact of the climate shifts can be seen globally in different scenarios from long lasting draughts to extreme weather conditions such as floods. In 2013, the IPCC's report made an accent on the overall impact of climate change of economic development. Global greenhouse emission has been continuously rising and accounting for 49 mil. Tons in 2019⁵. Climate change is predicted to have serious consequences on developing countries if measures are not taken to reach carbon neutrality.

Economic outcomes such as agricultural output, and important economic resources, such as water and human health are directly affected by climate factors. In addition, climate crisis indirectly affects huge variety of economic activities, such as energy production, manufacturing and other spheres (Arent et al., 2014).

The impact of climate change on economies globally has already caused serious debates. Considering the complexity of assessing the relationship between climate shifts and economic stability and security the task may face difficulties even on fundamental level: the type of mechanisms through which economic stability is affected by climate shifts, identifying and investigating the scope of influence is significantly huge and complex. This is obvious in the following review of literature. Much research has been done on the relationship between the climate and agriculture (Deschenes and Greenstone 2007; Guiteras 2007). Most important but less discussed are classical ideas in economic growth which the relationship between development and temperature.

It is vital to consider the following primary directions of activity in order to guarantee the environmental safety of sustainable development under market relations conditions: a new level of environmental and nature utilization; an ecologically sound assessment of productive forces; the development of

⁴ NASA. (n.d.). World of change: Global temperatures. NASA.
<https://earthobservatory.nasa.gov/world-of-change/global-temperatures>

⁵ World Resources Institute. (n.d.). <https://doi.org/10.46830/wripub>

agriculture, industry, energy, transportation, and utilities; the sensible and all-encompassing use of natural resources; the neutralization of waste, disposal, and use of secondary resources (Abdulkosimov, 2019).

The unrelenting irrigation of crops high in water content is the reason for the Aral Sea's progressive disappearance in Central Asia. The agriculture industry is facing a growing number of complex, multifaceted issues in recent years. Unpredictable and abrupt fluctuations in the climate have further confounded coping strategies associated to market output and risk (Bobojonov, 2014). Finding ways to control risk and use water more efficiently are crucial issues in the area as it relates to climate change.

Finding effective water-saving techniques is necessary to address the water shortage in dryland locations in particular considering the side effects of climate change. The impact of water uses and land management strategies on water productivity in Uzbekistan was examined by Uzbek and foreign scientists. One of the main problems with furrow irrigation's low water consumption efficiency rates is that it must be fixed for better water management. The research findings show that technology can help to reduce the significant difference between low and high-water productivity values as well as the role of legislative incentives if of huge importance (Mirshadiev, 2018).

There are two types of empirical study on the connection between financial stability and climate disasters. First, according to Noth and Schüwer (2017), financial risks will rise in response to climate disaster losses. They investigate how natural disasters linked to climate change affect bank risk and discover that in impacted locations, natural catastrophes greatly raise the operational risk faced by banks. Second, there is little evidence that damages from climatic disasters have a detrimental effect on financial stability (Murshed et al., 2021; Cavallo et al., 2013). They contend that there is little correlation between natural disasters brought on by climate change and the financial stability and economic prosperity of wealthy nations.

In conclusion, there is a serious risk to economic security from climate change on all fronts. The study emphasizes how urgent it is to combine adaptation and mitigation actions. Through an awareness of the complex effects and the application of preemptive measures, decision-makers can strengthen economies and guarantee a more stable future for everybody.

METHODOLOGY

It should be noted that there is no single correct methodology, but rather an attempt was made to link the research question and chosen methods together. With the help of chosen method, deep understanding of the analysis of climate-economy relationship is made for future policy recommendation.

In the purpose of obtaining proper results for the research, the analysis of qualitative data collected using quantitative and non-quantitative methods. Statistical descriptive and inferential methods are used for achieving the

objectives. Diagrams, data tables and visualization methods help to enrich the understanding ways of ensuring economic security in the face of climate change.

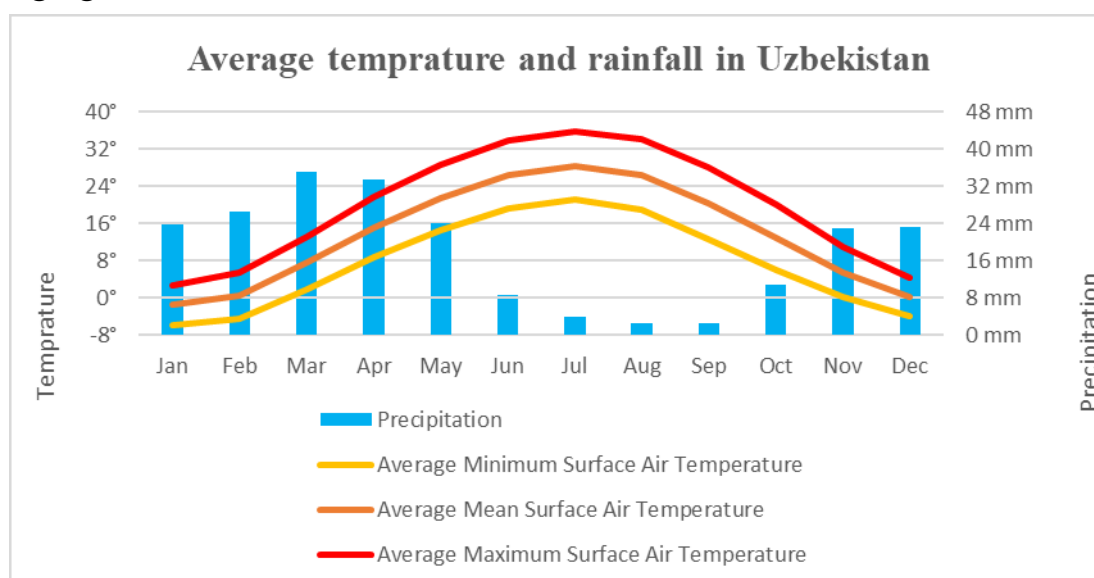
RESULTS

By 2050, Uzbekistan—currently the most populous nation in Central Asia—is predicted to have more than 50 million citizens. A reformative new development model is being pursued due to the combination of being highly dependent on diminishing natural resources and rapidly increasing population in need of employment and skills. Uzbekistan is currently undergoing extensive changes with the goal of making the nation an upper-middle-income nation with a contemporary economy driven by the private sector. After seven years, policy frameworks are getting better, but there is still more work to be done⁶.

On April 19, 2017, Uzbekistan submitted its Intended Nationally Determined Contribution to the UNFCCC Secretariat, so signing the Paris Agreement. On October 2, 2018 (Law of the Republic of Uzbekistan No. 491), the nation accepted the Paris Agreement, making the INDC the nation's first NDC⁷.

According to the INDC, the Republic of Uzbekistan aims to increase its efforts to address climate change in the long run until 2030. This would enable it to cut particular greenhouse gas emissions per GDP unit by 10% from 2010 levels by that date.

Uzbekistan, a Central Asian nation nestled amidst towering mountain ranges and vast deserts, boasts a climate as diverse as its landscapes. Understanding average temperature and rainfall patterns across this region is crucial for appreciating its unique ecosystems and the challenges posed by a changing climate.



⁶The Country Climate and Development Report (CCDR)

⁷https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Uzbekistan%20First/INDC%20Uzbekistan%2018-04-2017_Eng.pdf

Figure 1. Average monthly temperature and rainfall in Uzbekistan, 1991–20228

Dominated by a continental climate, Uzbekistan experiences significant seasonal variations. Summers are long, hot, and dry. Average temperatures soar to a scorching 27.2°C (81°F) in July, with highs exceeding 35°C (95°F) in major cities like Tashkent. This period sees minimal rainfall, often less than 25 mm (1 inch) per month, creating arid conditions. Conversely, winters are cold, particularly in the north, where temperatures can plummet to -8°C (18°F) on average. Precipitation levels rise slightly during this season, with March being the wettest month, receiving around 66 mm (2.6 inches) on average.

Climate change poses a monumental challenge for nations around the globe. Its impact isn't uniform, with some countries more vulnerable than others. The Notre Dame Global Adaptation Index (ND-GAIN)⁹ emerges as a crucial tool in navigating this complex landscape. Analysis of the ND-GAIN ranking system, its significance, and its limitations in understanding a nation's preparedness for a changing climate is important.

The ND-GAIN index ranks countries based on two key dimensions: vulnerability and readiness. Vulnerability assesses a country's exposure, sensitivity, and capacity to adapt to the negative effects of climate change across six life-supporting sectors: food, water, health, ecosystems, human habitat, and infrastructure. Readiness, on the other hand, evaluates a nation's ability to leverage investments and translate them into concrete adaptation actions. These are further broken down into economic, governance, and social readiness sub-components.

Table 1. The ND-GAIN Ranking of Uzbekistan, 1996-2021¹⁰

ND-GAIN Ranking													
Year	96	97	98	99	00	01	02	03	04	05	06	07	08
Ranking	87	86	88	88	88	88	85	88	94	103	117	111	108
Year	09	10	11	12	13	14	15	16	17	18	19	20	21
Ranking	107	113	116	114	108	99	98	93	89	80	76	76	72

The analysis of the climate profile of Uzbekistan has been made and it analyzes country's position according to ND-GAIN Index. According to ND-GAIN Index, Uzbekistan ranked at 83 in 2020. The ND-GAIN Index shows Uzbekistan's vulnerability to climate shifts and global issues in combination

⁸ WBG Climate Change Knowledge Portal (CCKP, 2022). Climate Data: Historical. Available at: <https://climateknowledgeportal.worldbank.org/country/uzbekistan>

⁹ University of Notre Dame (2021). Notre Dame Global Adaptation Initiative.

¹⁰ University of Notre Dame (2021). *Notre Dame Global Adaptation Initiative*. Available: <https://gain.nd.edu/our-work/country-index/>

with its preparation to progress resilience. The aim of the index is ND-GAIN ranking is to support public and private sector better implement investments in reply to sudden global issues ahead. As of today, Uzbekistan improved its position ranking at 72.

A nation's score decreases with increasing vulnerability and increases with readiness to strengthen its resilience. Norway is ranked first and gets the highest score.

The ND-GAIN ranking serves several significant purposes. Firstly, it provides a valuable comparative framework for policymakers. By pinpointing a country's strengths and weaknesses in both vulnerability and readiness, the index helps prioritize areas for improvement.

Ensuring food security for any country in the face of climate change is one of the most serious issues today. The frequency and severity of droughts can destabilize agricultural production and undermine food security. The frequency and severity of droughts can destabilize agricultural production and undermine food security.

The main tasks of the agrarian policy of the Republic of Uzbekistan	
ensuring the country's food security, providing the population and industry with agricultural products	implementation of structural changes in agriculture as well as increase productivity in agriculture and maintain economic efficiency of the network
increase the standard of living of the rural population	implementation of structural changes in agriculture
increase in foreign exchange earnings due to increase in export of agricultural products	strengthening the competitive environment in agriculture
to moderate the distribution of incomes coming to the agricultural economy among other sectors	improvement of rural infrastructure and market relations in agriculture;

Table 2. The main tasks of the agrarian policy of the Republic of Uzbekistan

In the Republic of Uzbekistan, agricultural reform is being implemented in very difficult conditions. These conditions may include:

- obsolescence of technical base of agriculture;
- the fact that the price parity for agricultural and industrial products has not developed in a favorable condition for the agricultural economy;
- insufficiently developed market infrastructure in agriculture;
- relatively low purchasing power of the rural population;
- limited opportunities to bring cheap and high-quality machinery and equipment for agriculture;
- decrease in supply (production of some) of agricultural chemicals, mineral fertilizers:

- relatively high rate of inflation in the first years of independence;
- decrease in the quality of land and water resources.

CHAPTER V. CONCLUSION

In the face of escalating climate change, ensuring economic security has become an imperative for governments, businesses, and individuals worldwide. Climate change poses multifaceted challenges to economic stability, ranging from disruptions in food and water systems to increased healthcare costs and the displacement of populations. This article explores the various dimensions of economic security in the context of climate change and outlines strategies for mitigating risks and building resilience.

Impacts of Climate Change on Economic Security:

- **Disruption of Food and Water Systems:** Climate change can lead to shifts in precipitation patterns, extreme weather events, and the degradation of land and water resources, affecting agricultural productivity and food availability. This disruption can contribute to food insecurity, malnutrition, and increased vulnerability to poverty.

- **Impact on Insurance and Financial Markets:** Climate-related risks pose challenges for insurance markets by increasing premiums and reducing coverage options, while also affecting financial markets through asset devaluation and investment uncertainty.

- **Displacement and Migration:** Climate-induced environmental changes, including droughts, and desertification, can force populations to migrate in search of safer and more sustainable living conditions, leading to social, economic, and political challenges for both origin and destination areas.

Uzbekistan agrees with the international community that every attempt should be made to stop climate change. Uzbekistan has updated and strengthened its commitments (NDC) under the Paris Agreement for the period until 2030 based on the ability and responsibility and taking into account the nation's transition to a resource-efficient "green" development model, which is based on the decarbonization of the economy and the ongoing socio-economic reforms in the country. Through the creation of a roadmap for 2030, the nation is putting into practice a national strategy for the transition to a green economy, with the following goals in mind:

- double the GDP's carbon intensity and energy efficiency indicator;
- further develop renewable energy sources to increase their share to 25% of total power generation;
- guarantee that up to 100% of the population and economic sectors have access to modern, affordable, and reliable energy supply;
- upgrade the infrastructure of industrial enterprises to ensure their sustainability by increasing energy efficiency by at least 20% and by expanding the use of clean and environmentally friendly technologies and industrial processes;
- achieve land degradation neutrality;

- greatly increase the water use efficiency in all economic sectors;
- expand the production and use of motor fuels and vehicles with improved energy-efficiency and environmental performance, as well as develop electric transport;

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Kurbanova B.K.
Urganch davlat universiteti
Mustaqil tadqiqotchisi

“OSHIQNOMA” TURKUM DOSTONLARIDAGI ARABIY O‘ZLASHMALAR HAQIDA

Annotatsiya. Ushbu maqolada “Oshiqnoma” turkum dostonlaridagi arabiy tillarga oid diniy xarakterga ega bo‘lgan o‘zbek tilidagi o‘zlashma so‘zlar tahlili, ushbu qatlamning shakllanishi hamda hozirda ham qo‘llanilayotgan arabiy qatlam birliklarining qo‘llanilishiga bag‘ishlangan.

Kalit so‘zlar: o‘z qatlam, o‘zlashgan qatlam, arab tili, islom dini, arabiy tillar, dostonlar leksikasi.

Kurbanova B.K.
Independent researcher
Urganch State University

ABOUT THE ARABIC VARIATIONS IN THE SERIES OF "OSHIKNOMA" SERIES

Abstact. The given article is devoted to brighten up the peculiarities of grammatic dialectisms in Khorezm dialect. Maanuscript and lithographic texts are used as the basis in order to solve this problem.

Key words: Khorezm, dastan, dialectism, vocabulary, grammar, comparative analysis.

O‘zbek tili va shevalariga arabiy o‘zlashmalarning kirib kelishi haqida ko‘plagan manbalarda ma’lumotlar berib o‘tilgan. Ularning aksariyatida arabiy o‘zlashmalar tilimiz va shevalarimizga islomiy qarashlar bilan birga kirib kelganligi haqida aytiladi. Demak, VIII asrning boshlaridagi ijtimoiy-siyosiy vaziyatdan keyin arabiy til unsurlarining asosiy ekspansiyasi boshlangan.

Islom dini bugungi kunda dunyo aholisining ko‘pchiligi, xususan, o‘zbek xalqining ajralmas bir bo‘lagi hamda hayotining asosiga aylandi. Islom dini xalqimizning ongiga, shuuriga shu qadar singib ketganki, bu uning ijtimoiy-siyosiy, ma’naviy hayotida yaqqol aks etgan. Shu bilan birga, mazkur hududda oldindan mavjud bo‘lgan e’tiqodiy qarashlar ham butkul izsiz yo‘qolib ketmagan.

O‘zbek xalqining og‘zaki hamda yozma adabiyotiga nazar tashlaydigan bo‘lsak, bu xalqining necha ming yillar davomida saqlanib kelayotgan urf-odatlar, an’ana va marosimlari islomiy qarashlar bilan shu qadar qorishib, uyg‘unlashib ketganki, hozirda ularni ajratish mushkul. Aytish mumkinki, VIII asrlarda arab bosqini davrida, islom dini bilan birgalikda arablar tili, madaniyati,

kitobot san'ati, sh'eriya keng miqyosda bizning hududlarda ham yoyildi. Yaqin o'tmishgacha yurtimizda arab tiliga asoslangan yozuv iste'molda bo'ldi. Binobarin, bu yozuv orqali arablarning grammatikasi, leksikadan bevosita foydalanilib kelindi. Bu holat xalq og'zaki ijodi va dostonlarini ham chetlab o'tgan emas.

O'zbek tili tarixiy leksikasini yozma manbalar asosida ko'zdan kechirar ekanmiz, unda arabizmlar XIX asr oxiri va XX asr boshlarigacha tadrijiy ko'payganini ko'rishimiz mumkin. Qadimgi turkiy bitiklarda arab so'zlari bo'lmagani holda¹¹, XI asr yodgorligi "Qutadg'u bilik"ka nisbatan XII-XIII asrlar yodgorligi deb topilgan "Hibatul-haqoyiq"da arabizmlar ko'proq uchraydi¹².

Biz tekshirayotgan manba, xususan, "Oshiqnoma" turkum dostonlari, asosan, Xorazm o'g'uz lahjasi va unga mansub shevalarda saqlangan bo'lib, doston ijrochisining muayyan darajadagi leksik boyligi, ifoda usullar va savodxoniligi bilan bog'liq ravishda shakllangan til hisoblanadi. Doston ijrichilari ham mazkur hudud aholisining vakili hisoblanishi va xalq orasida yurib ular bilan bevosita jonli muloqot qilinganini hisobga olsak, biz tekshirayotgan dostonlar tili muayyan davrdagi lahja va shevalarning noyob manbasi bo'la olishi inkor etish qiyin.

O'g'uz lahjasiga mansub shevalardagi dostonlar tiliga e'tibor berar ekanmiz, ulardagi xilma-xillik, rang-baranglik, beqiyos uslub hamda yo'nalishlar har qanday tadqiqotchini o'ziga jalb qilmay qo'ymaydi. Bugungi kungacha yetib kelgan Xorazm xalq dostonlari leksikasini tekshirgan olimlarning va bizning kuzatishlarimizdan ma'lum bo'ladiki, ularda ham eroniy qatlam, ham arabiy qatlam, ham turkiy qatlamga oid leksik va Grammatik resurslarning anchayin faol qo'llanilganligini kuzatamiz. Bu mushtaraklik bugungi kunda ham o'z ahamiyatini yo'qotgan emas.

Xorazm lahja va shevlaridagi o'zlashma qatlam birliklarini, xususan, arabizmlarni o'tgan asrda ko'plab olimlarimiz, xususan, F.Abdullayev, O.Madrahimovlar o'zlarining shevaga oid kitoblarida atroflicha yoritib o'tganlar¹³. Xorazm folklor asarlarilaridagi arab lug'aviy qatlamiga mansub o'zlashma so'zlarni, asosan, davlat boshqaruvi bilan bog'liq o'zlashma so'zlar va diniy mavzularga oid o'zlashma so'zlar tashkil etadi.

Xorazm dostonlari orasida eng katta ahamiyatga molik manba sifatida "Oshiqnoma" turkumiga kiritilgan dostonlarni keltirish mumkin. Mazkur turkumga mansub dostonlar tilining o'ziga xosligi, xalq jonli shevalariga

¹¹ Абдурахмонов Ф., Рустамов А. Қадимги туркий тил. –Тошкент: Ўқитувчи, 1981. –Б. 80.

¹² Маллаев Н.М. Ўзбек адабиёти тарихи. –Тошкент: Ўқитувчи, 1976. – Б.140.

¹³ Абдуллаев Ф. Арабизмы в узбекском языке: Автореф. дисс. канд. филол. наук. –Ташкент: 1945; Ўша муаллиф. Ўзбек тили лексикасининг баъзи бир масалаларига доир // Тил ва адабиёт институтилари, 1-китоб. –Тошкент: 1946. –Б.83-93; Мадрахимов О. Ўзбек тилининг ўғуз лаҳжаси лексикаси. –Тошкент: Фан, 1973. – Б.41-46; Усмонов С. Ўзбек тилининг лўғат составида тожикча-форсча ва арабча сўзлар // Навоийга армуғон. –Тошкент: Фан, 1968. –Б.109-120.

anchayin yaqinchiligi, tilining jozibadorligi kabi fatorlar bizning e'tiborimizni tortdi. Mazkur kichik tadqiqotimizda ana shu turkumga oid dostonlardagi ayrim arabiy qatlamga oid birliklarni tahlil qilishga harakat qildik va bu o'rinda biz ko'proq e'tiqodiy xarakterga ega bo'lgan turdosh birliklar ustida tahlillar olib bordik.

Roviy – ushbu so'z arabiy qatlamga oid bo'lib, deyarli barcha turdagi dostonlarda uchrashni mumkin. “*Ammo roviylar andog' rivoyat qilurlarkim, ozarbayjon viloyatinda ikki kishi bor erdi. Birini Oshiq Ahmad va yana birini Oshiq Muhammad der erdilar*”¹⁴. Mazkur so'z arabiy tillarda rivoyat qiluvchi, hikoya qilib beruvchi ma'nolarini ifodalashi ko'plagan lug'atlarda keltiriladi. Islomiy e'tiqodimizda muhim o'rin tutuvchi hadislar, asosan, roviylardan yig'ilgan bo'ladi.

Kofir – arabiy tillarda inkor etuvchi, dinni rad etuvchi, g'ayridin kabi ma'nolarda ishlatiladi. “Oshiqnoma” turkumining ikkinchi kitobida o'rin olgan quyidagi parchada qo'llanilgan:

*Kofirlara o'qin otg'on, Jazirada vatan tutg'on,
Bahaqqi eran-u chiltan, O'zing yetkur yora mani...*¹⁵.

Islomiy qarashlarga ko'ra islom dinidan boshqa dinlarga e'tiqod qiluvchilar yoki hech qaysi dinga mansub bo'lmaganlar ham kofir sifatida qaraladi. Kufr aslida yolg'on degan semasiga ham ega bo'lib, yolg'onga ishongan, aldangan kabi ma'nolarni ham ifodalashi mumkin.

Musulmon – so'zi islom dinini qabul qilgan kishilarga nisbatan qo'llaniladigan so'z bo'lib, umumiy ma'no ifodalaydi. Mazkur so'zning jins ifodalash xususiyatiga ko'ra ayollarga nisbatan *muslima* shaklida qo'llanishi ma'lum holatdir. Musulmonchilik tarixiga oid manbalarda, shuningdek, mumtoz adabiyotimiz satrlarida ham o'zining faolligi bilan yuqori o'rinda turuvchi musulmon so'zi to'g'risida anchayin batafsil va rang-barang ma'lumotlarni olishimiz mumkin. Biroq, bizning obyektimiz dostonlar matnlari bo'lgani bois ularga murojaat etish bilan chegaralanamiz.

“Oshiq G'arib va Shohsanam” dostonida uchraydi:

*“...Otam kofir man musulmon bo'lmisham,
Eranlardin madad istab kelmisham...”*¹⁶.

Xorazm dostonlari matnlarida, xususan, “Oshiqnoma” turkumidagi dostonlarda islomiy e'tiqodga aloqador ko'plagan leksik birliklar, diniy atamalar mavjud. Jumladan: *ummat, iymon, inshollo, zaifa, shahid, sajda, tavfiq, tayammum, shariat, gunoh* va boshqalarni keltirish mumkin.

Xulosa o'rnida keltirish mumkinki, dostonlarimiz matnlaridagi bunday elementlarni to'plab tahlil qilish belgilangan hududda tarqalgan shevalar

¹⁴ Oshiqnoma. 1-kitob. Mas'ul muharrir S.Ro'zimboyev. –Urganch: Xorazm nashriyoti, 2006. –B.9.

¹⁵ Oshiqnoma. 2-kitob. Mas'ul muharrir S.Ro'zimboyev. –Urganch: Xorazm nashriyoti, 2006. –B. 25.

¹⁶ Oshiqnoma. 2-kitob. Keltirilgan manba, 295-bet.

leksikasini shu bilan birga o'zbek adabiy tilimizdagi ayrim so'zlar semantikasiga doir masalalarni yoritishda muhim material vazifasini barajaradi.

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WAYS TO IMPROVE COMMUNICATION SKILLS IN ENGLISH LANGUAGE

Annotation. Enhancing one's communication abilities is crucial for achieving success in both personal and professional domains. Effective communication encompasses both the skill to express information clearly and properly, as well as the ability to listen and reply appropriately. This article explores techniques for improving communication abilities, utilizing findings from recent research and expert advice. The main areas of emphasis include attentive listening, precision and brevity in spoken and written communication, the significance of non-verbal interaction, and the function of feedback. By implementing these tactics, individuals can greatly enhance their capacity to communicate proficiently, thereby promoting stronger connections and attaining higher levels of accomplishment in their pursuits. Brownell's (2012) studies underscore the value of active listening, while Strunk and White (2000) stress the significance of using clear and succinct language. The research conducted by Mehrabian (1971) on non-verbal communication and Hattie and Timperley's (2007) study on feedback emphasize the complex and diverse aspects of effective communication.

Kalit so'zlar: active listening, clarity and conciseness, non-verbal communication, feedback mechanism.

INTRODUCTION

Efficient communication is a fundamental aspect of prosperous interactions in both personal and professional contexts. Effective communication encompasses the capacity to express ideas clearly, attentively comprehend others, decipher non-verbal signals, and offer valuable criticism. Despite its significance, numerous persons encounter difficulties in communication, resulting in misunderstandings and disputes. This study examines practical techniques for improving communication skills, with a specific emphasis on active listening, clear and concise verbal and written communication, the importance of non-verbal cues, and the function of feedback in promoting effective communication. By employing these tactics, individuals can enhance their capacity to communicate information, cultivate more robust connections, and attain higher levels of accomplishment in their personal and professional endeavors. Based on current research and professional recommendations, this analysis offers a thorough manual for cultivating communication abilities that are crucial in today's interconnected society.

WAYS TO IMPROVE COMMUNICATION SKILLS IN ENGLISH LANGUAGE

In the present age, where each day commences with a communication to our cherished individuals, English has become an indispensable requirement in all aspects of life. It is essential to possess a strong foundation in the English language while talking with others.

To improve your conversational English, actively participate in numerous English discussions and immerse yourself in English-language media. View English-language news programs. If the news articles are too fast-paced for you, consider accessing news programs from BBC Learning English, which provides news content specifically designed for different levels of English language skill. Engage in listening to podcasts or radio shows that narrate stories on diverse subjects. [6]

English is rapidly becoming the predominant language worldwide, and it is essential for us to stay up to date in order to stay in sync with the rest of the world. Verbal expression does not come readily. Despite dedicating many hours to remembering vocabulary, idioms, and syntax, the knowledge fails to come to fruition, resulting in stuttering when speaking in front of a large audience. [6]

Proficiency in English communication is highly coveted, as it has become indispensable for thriving in any occupation in the contemporary world. However, it is undeniable that mastering crucial English communication skills can only be achieved via consistent practice and continuous exposure. Proficiency in English communication is crucial since it has the potential to influence nearly every aspect of your existence. Proficiency in English is essential for success in both personal and professional dealings, and can only be achieved by consistent practice.

Moreover, residing in a country that ranks third in terms of the highest number of English speakers, it requires significant effort to meet the societal standards. Enhancing one's communication abilities is crucial for achieving productive relationships in both personal and professional contexts. Below are several essential tactics to improve communication skills, backed by extensive research and professional advice:

3. Active Listening- Active listening is an essential element of successful communication. Active listening entails complete focus on the speaker, comprehending their message, providing insightful responses, and retaining the information conveyed. Brownell (2012) suggests that active listening can be enhanced by engaging in eye contact, demonstrating comprehension through nodding, and seeking clarification through the use of probing questions. By doing this, not only does it demonstrate respect for the speaker, but it also guarantees that the listener completely understands the message.[1]

4. Clarity and Conciseness- Effective and succinct communication helps avoid misconceptions. Strunk and White (2000) stress the significance of meticulous word selection and the avoidance of superfluous jargon. Proficient

communicators employ concise language and structure their thoughts in a coherent manner.[2] Clarity is especially crucial in written communication, as the lack of instant feedback can cause confusion if the message is not explicit.

5. Non-Verbal Communication- Non-verbal cues, including body language, facial emotions, and gestures, have a substantial impact on communication. In his study conducted in 1971, Mehrabian discovered that a significant proportion of communication is conveyed through non-verbal means. Enhancing non-verbal communication is being conscious of one's body language and ensuring that it corresponds with the spoken word.[3] For instance, adopting an open posture might enhance the engagement and positivity of encounters.

6. Feedback Mechanism- Engaging in the process of seeking and offering feedback is crucial for enhancing one's communication abilities. Constructive feedback assists individuals in identifying areas for enhancement and honing their communication style. Feedback that is effective should be precise, prompt, and centered on actions rather than individual characteristics.[4]

7. Cultivate empathy Empathy- is the ability to comprehend and participate in the emotions of others. Engaging in empathetic communication fosters stronger interpersonal bonds and improves mutual comprehension. One can accomplish this by attentively listening to others, displaying authentic curiosity in their worries, and reacting with empathy.

8. Enhance your emotional intelligence. Emotional intelligence (EI) refers to the capacity to identify and regulate one's own emotions, while also comprehending and exerting control over the emotions of others. Having a high emotional intelligence (EI) helps enhance communication skills by enabling individuals to effectively handle social intricacies, regulate their behavior, and make informed decisions that lead to favorable outcomes.

9. Enhance proficiency in delivering speeches and presentations to a large audience. Public speaking is a prevalent obstacle, yet enhancing this talent can significantly improve general communication capabilities. Effective strategies encompass consistent practice, meticulous organization of ideas, utilization of visual aids, and active audience involvement through eye contact and interactive questioning.

CONCLUSION

Enhancing communication abilities is an ongoing endeavor that involves regular practice and a keen sense of self-awareness. To boost their capacity to communicate effectively, individuals can improve by emphasizing active listening, clarity, non-verbal communication, and feedback mechanisms. These enhancements not only enable improved personal connections but also contribute to professional achievement. Enhancing communication skills directly correlates with the capacity to establish more robust relationships and accomplish objectives with greater efficiency. By incorporating these tactics, individuals can greatly improve their ability to communicate, resulting in more robust relationships and more success in different areas of life. Enhancing

communication skills enhances the capacity to establish connections with others, resolve problems, and accomplish personal and professional objectives.

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Mamadaliyev R.R.
assistant
Department of Uzbek Language and Humanities
Tashkent University of Information Technologies
named after Muhammad al-Khwarizmi
Fergana branch
Inamov O.T.
assistant
Department of Uzbek Language and Humanities
Tashkent University of Information Technologies
named after Muhammad al-Khwarizmi
Fergana branch

THE TIMURID EMPIRE THROUGH WESTERN EYES: HISTORICAL STUDIES FROM FRANCE, ENGLAND, AND AMERICA

Annotation. This article provides a comprehensive historiographical analysis of Emir Timur and the Timurid Empire, as viewed through the lens of Western historians. It meticulously examines the contributions of French, English and American historians to the study of Timur, highlighting how perspectives on his legacy have evolved over time. The analysis commences with an overview of Timur's significance in global history, proceeding to scrutinize the works of prominent French historians such as Barthélemy d'Herbelot, Joseph de Guignes, Louis-Mathieu Langlès, Rene Grousset, Jean-Paul Roux, and Lucien Kehren. It subsequently addresses the contributions of English historiography, featuring the works of Christopher Marlowe, Edward Gibbon, Hilda Hookham, and Justin Marozzi. The final section explores American academic contributions, focusing on the research of Beatrice Forbes Manz, John Woods, Eva Maria Subtelny, and Lisa Golombek. The article concludes by synthesizing the diverse array of interpretations regarding Timur's legacy, ranging from depictions of him as a formidable conqueror to those of a just and strategic ruler, thereby reflecting the complexity and sustained scholarly interest in his historical impact.

Key words. Timur, Timurid Empire, Western historiography, French, English and American historians.

Introduction. The Timurid Empire, which holds an important place in Turkish and world history, and especially the figure of Emir Timur, has always attracted significant interest from researchers and has been the subject of numerous scientific studies. Many works have been published by Western historians as well. The history of the Timurid state in the West dates back quite a long time. Topics such as Emir Timur's personality, the centralized state system he established, his diplomatic relations, and his military campaigns have

attracted and continue to attract many historians' interest. French historians in particular have been at the forefront of these studies.

French Historiography. One of the first historians in French historiography to conduct research on Timur was Barthélemy d'Herbelot (d. 1695). In his work titled "Bibliothèque orientale ou dictionnaire universel contenant tout ce qui regarde la connoissance des peuples de l'Orient" (The Eastern Library), he mentions Emir Timur while discussing the history of Eastern countries. The author extensively discusses the wars between Emir Timur and Tokhtamysh within the scope of their relations.

French Orientalist and Turkologist Joseph de Guignes, in volumes IV and V of his five-volume work "Histoire générale des Huns, des Turcs, des Mongols et des autres Tartares occidentaux" (General History of the Huns, Turks, Mongols, and other Western Tartars), addresses the period of Emir Timur and the Timurids. He portrays Timur as a nomadic barbarian responsible for the destruction of many countries.

Among the important works in French historiography on the history of Emir Timur is Louis-Mathieu Langlès' book "Life of Timur". This book garnered significant interest after its publication and was translated into Russian in the 19th century. Langlès notes that Timur was always engaged in state affairs and planning campaigns even while the people and the army celebrated the victory in Samarkand after the campaign against Tokhtamysh. He writes that Timur, as a just ruler, always tried to be informed about the activities of the governors and the condition of the people, listened to the complaints of the oppressed, and ensured justice, mentioning that thieves were executed. He describes Timur as a ruler who knew that the primary duty of a ruler was to protect the people from invasions, robbery, and oppression by those in power. The author examines nearly all of Timur's political activities and provides a comprehensive study of his life.

In the 20th century, works by French Orientalists such as Rene Grousset's "The Empire of the Steppes: Attila, Genghis Khan, and Timur" and Jean-Paul Roux's "Tamerlane" have an important place in the development of Timurid studies. Particularly, Jean-Paul Roux in his studies mentions that Timur had both positive and negative activities and that in recent times he has been depicted more with his good sides. Roux writes that in terms of how to approach Timur, he should be placed in the same rank as some of the greatest rulers in world history, such as Darius, Alexander, Julius Caesar, Genghis Khan, and Napoleon Bonaparte, and should be seen as one of the greatest commanders in history.

Another French historian, Lucien Kehren, also thoroughly investigates the history of Timur in his work "Tamerlan, l'Empire du Seigneur de fer" (Emir Timur's Empire). He examines many topics related to Timur's political activities, the economy, and the culture of the Timurid state. Kehren's study also covers the throne struggles among Timur's successors and their reigns after Timur's death. An important section of the work is dedicated to Timur's relations

with European countries. However, a notable point in Kehren's research is his somewhat biased approach. Kehren refers to Timur as the "great emir" and writes about his exceptional memory, bravery, and justice with praise.

English Historiography. the Timurid state. Christopher Marlowe wrote his work "Tamburlaine the Great" about Timur as early as the 16th century. Although the work contains many controversial and unrealistic details, it is significant in showing the great interest in Timur in England. Marlowe's work continued to be performed on theater stages in Europe without losing its popularity even centuries after its publication. Influenced by his work, a portrait of Timur as a cruel, merciless barbarian who conquered the world with his sword was formed in the West.

The famous English historian and author of "The History of the Decline and Fall of the Roman Empire," Edward Gibbon (1737-1794), included the Timurid period in his research. The 7th volume of his work provides information about the Timurid period. Gibbon writes about Timur's campaigns and the power struggles after his death. Gibbon describes Timur as the "Mongol Emperor" and sometimes as "Tatar"; he provides information about the relations between the two great states of the period, the Ottoman and the Timurid states, and the Battle of Ankara. Focusing particularly on Timur's attitude towards Bayezid after the battle, Gibbon tries to prove that Bayezid was put in an iron cage.

Another researcher, Hilda Hookham, made a more academic contribution with her work "Tamburlaine the Conqueror." By comparing primary sources of the Timurid period and studying subsequent works, she produced a significant work. Hookham states that although the Timurid period did not attract much interest among Europeans, it holds an important place in history and that Timur should be ranked alongside great rulers like Attila, Alexander, and Genghis Khan.

In recent years, journalist, traveler, and historian Justin Marozzi has conducted research on Emir Timur, examining the routes Timur traveled and visiting many of the cities he campaigned. As a result of his investigations, he produced the work "Tamerlane: Sword of Islam, Conqueror of the World." One of the most notable aspects of his work is the maps he created of the states existing in Central Asia during the Timurid period and the routes of Timur's campaigns. His observations on how the approaches to the Timurid period changed during the Soviet era and after the establishment of the independent Republic of Uzbekistan are also noteworthy.

American Contributions. Interest in the Timurid period is also evident among historians in the United States. The works of Beatrice Forbes Manz on Timur and the Timurid period are particularly noteworthy. Her works such as "The Rise and Rule of Tamerlane: Power, Politics, and Religion in Timurid Iran" analyze the governance and policies of the Timurid state in detail and are considered significant contributions to the field. Manz provides extensive

information about the administrative mechanisms of the state, the policies implemented by the rulers, the struggles for dominance among the tribes forming the Timurid state, Timur's efforts to unite and govern these tribes, and offers important insights into Timur's policies and the governance system of the Timurid state.

The research of John Woods, a professor at the University of Chicago, holds an important place in studies on the Timurid period. Woods has conducted research on the history of Turkey, Iran, and Central Asia from the 13th to the 18th centuries. His works, such as "The Timurid Dynasty," "Timur's Genealogy," and "The Rise of Timurid Historiography," address various issues of the Timurid period.

Hungarian traveler and Turkologist Arminius Vambery should also be placed in an important position in early Timurid studies as he conducted research during his travels in Central Asia and collected information about Timur. His work "Geschichte Buchara" (History of Bukhara) contains a significant section dedicated to the history of Emir Timur and the Timurids, discussing the political history of the Timurid state. A notable aspect of his research is his rejection of the notion that Timur's lineage traced back to the Mongols, arguing instead that he was a Turkic ruler. At that time, such an approach was not common among many historians. The Timurids were mostly accepted as a Mongol-Turkic dynasty.

In recent years, Eva Maria Subtelny, a professor at the University of Toronto and an expert in Iranian studies, has conducted significant research on the culture of the Timurid period. Her works, such as "Timurids in Transition: Turko-Persian Politics and Acculturation in Medieval Iran," "The Timurid Legacy: A Reaffirmation and a Reassessment," and "Socioeconomic Bases of Cultural Patronage Under the Later Timurids," have enriched cultural research on the Timurid period. Subtelny provides important information about the economy, agricultural and commercial activities, the internal and external politics implemented by the rulers to govern the state, and the cultural heritage of the Timurids.

Lisa Golombek from the University of Toronto is renowned for her studies on Timurid period art. Her works, such as "The Timurid Architecture of Iran and Turan" and "Tamerlane's Tableware: A New Approach to the Chinoiserie Ceramics of Fifteenth-Sixteenth Century Iran," make significant contributions to the field of art history with her research on Timurid period architecture, painting, ceramics, and other art forms.

Conclusion. The approaches to the Timurid period by Western historians vary. For example, historians like Roux describe Timur as a fearsome "executioner" who destroyed countries, while historians like Lucien Kehren refer to him as the "great emir." Researchers such as Beatrice Forbes Manz, Hilda Hookham, and Harold Lamb are considered to have a more objective approach to the Timurid period. In conclusion, Western historiography on the

Timurid period presents a rich and diverse array of perspectives, offering a nuanced understanding of Emir Timur's legacy, ranging from depictions of a fearsome conqueror to those of a just and strategic ruler

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CYBERSECURITY RISK ANALYSIS IN THE IOT: A SYSTEMATIC REVIEW

Abstract. The Internet of Things (IoT) is increasingly becoming a part of our daily lives. This integration raises serious concerns about potential cybersecurity threats and the need for reliable solutions. This study presents a comprehensive systematic review of current literature exploring the various challenges and attacks that threaten IoT cybersecurity. Proposed frameworks and solutions are also discussed. Additionally, the study delves into emerging trends and identifies gaps in existing knowledge. A distinctive feature of this research is its in-depth exploration of machine learning methods to identify and mitigate IoT risks. The study also contributes by highlighting gaps in research on the economic impacts and specific security issues of industrial IoT. The review examines articles that provide valuable data and suggest possible future research directions. The findings indicate that privacy issues and cybercrimes are the primary concerns in IoT security. The potential of artificial intelligence to enhance future cybersecurity is evident. However certain attacks including breaches of confidentiality security authentication and data server connections remain inadequately addressed by existing solutions. This underscores the importance of further research and real-world testing of the proposed solutions. Moreover as IoT technology continues to evolve the role of proactive cybersecurity measures becomes crucial. Enhanced cooperation among international cybersecurity communities can drive the development of new standards and practices that effectively address the unique vulnerabilities associated with IoT. Collaborative efforts are essential to keep pace with the rapid deployment of IoT technologies and to preemptively counter emerging cyber threats. This proactive approach can significantly strengthen the resilience of IoT systems against sophisticated cyberattacks.

Keywords: Internet of Things (IoT); cybersecurity; cybersecurity frameworks; cybersecurity approaches.

Introduction

The Internet of Things (IoT) has penetrated numerous sensitive areas, including healthcare and the economic sector. However, IoT is increasingly spreading in homes, in large cities, and other diverse areas of life, which are no less important. Moreover, IoT provides connections to smart objects, applications, and cloud computing; in 2020, 50 billion IoT devices were connected to the internet [1]. This vast data source, along with the future trends of artificial intelligence on which the world has come to rely, has pressured

providers and developers of IoT devices to secure this technology to meet upcoming demands. However, trust in a device begins with ensuring its security, which has become essential, especially when these devices are connected to the internet, making them vulnerable to numerous threats and cyberattacks [2]. Security threats include cybercrimes, software piracy, and malware attacks [1], as well as various other destructive attacks. Nonetheless, this constantly evolving sector cannot rely on existing approaches to provide security. New risks are emerging that require updates to new frameworks and solutions along with updating IoT disciplines [3]. Additionally, it is recommended to periodically update the methods and strategies used. In this regard, the proposed study includes a current assessment of advancements in cybersecurity risk analysis for the Internet of Things, as presented in recent publications. This assessment also identifies various frameworks and methodologies designed to analyze cybersecurity risks in IoT, revealing the various threats and challenges faced by IoT devices. We will delve into individual algorithms and approaches, providing insight into their real-world applications and effectiveness. Furthermore, we identify significant gaps in research to assess the economic consequences of IoT cybersecurity incidents and highlight the need for tailored security solutions in the industrial IoT sector. To ensure a comprehensive approach to IoT cybersecurity, it is imperative to foster collaboration between technology developers, regulatory bodies, and cybersecurity experts. Strengthening partnerships among these stakeholders can lead to more innovative and effective security measures, contributing to the creation of a safer IoT environment that can better resist emerging and evolving cyber threats.

Methodology

Information Sources: The author relied on reputable databases such as Science Direct and IEEE, as well as high-impact-factor international journals, to source papers and articles for this review.

This methodical selection and sourcing process enhances the validity of the review, ensuring that it incorporates a broad spectrum of perspectives and findings. By drawing from diverse and authoritative sources, the review aims to provide a comprehensive understanding of the current state and advancements in IoT cybersecurity. This approach not only enriches the content with high-quality data but also positions the paper as a valuable resource for scholars and practitioners looking to deepen their understanding of the field.

Search Strategy and Selection Process. The authors used specific keywords (IoT, cybersecurity, cybersecurity frameworks, cybersecurity approaches) in trusted search engines such as Google Scholar, Academia, Science Direct, and IEEE. Research articles that met the inclusion criteria were then selected based on the year of publication, with a primary focus on works published from 2015 to 2023, particularly from 2018 to 2023. The selected studies were also evaluated for the depth of their analysis and their impact on the

research field. Ultimately, this process led to the selection of articles that underwent systematic review.

Data Analysis and Synthesis. Each of the selected studies was categorized by type, such as empirical research, case study, survey, or review article. Furthermore, the research objectives and questions addressed in each study were highlighted, and significant results and recommendations were extracted. To simplify this process, the author used a table format to present information related to threats, challenges, impacts of attacks, proposed frameworks and approaches, and notable detection methods. The findings included a comprehensive summary of insights derived from the reviewed studies. Various types of attacks and challenges were thoroughly examined. Moreover, the authors identified a research gap that had not been addressed in previous works. Finally, emerging trends in IoT cybersecurity were distilled from the literature and succinctly presented in the findings. This systematic approach ensures that the review thoroughly encompasses the most pertinent and up-to-date literature while also delivering an incisive critique that adds to the active discussions on IoT cybersecurity. The employed methods provide an in-depth exploration of prevailing threats and remedies, establishing this review as a crucial tool for entities aiming to bolster IoT security protocols effectively. This amplifies the strategic importance of the review, influencing the development of future studies and shaping policy initiatives in the realm of IoT cybersecurity.

Review Process and Analysis Techniques: In addition to the above methodologies, the authors implemented a rigorous review process involving multiple stages of quality checks and peer evaluations. This involved cross-referencing the selected studies with other significant works in the field to ensure consistency and reliability of the findings. Advanced statistical tools and software were utilized for data analysis to provide more precise and insightful results. The review also incorporated feedback from cybersecurity experts to validate the interpretations and conclusions drawn from the data. This collaborative approach not only enriched the analysis but also enhanced the credibility of the review.

Categorization of Cybersecurity Challenges: The authors categorized the cybersecurity challenges into distinct groups such as device-level security, network security, data security, and application security. Each category was analyzed in detail, with specific focus on the unique challenges and potential solutions associated with each level of the IoT ecosystem. This granular approach allowed for a more nuanced understanding of the multifaceted nature of IoT cybersecurity.

Identification of Future Research Directions: Based on the systematic review and analysis, the authors identified key areas for future research. These include the development of more sophisticated threat detection algorithms, enhanced encryption techniques for IoT devices, and comprehensive security frameworks that integrate multiple layers of protection. The review also

highlighted the need for greater interdisciplinary collaboration to address the complex challenges of IoT cybersecurity.

Practical Implications and Recommendations: The review concluded with practical recommendations for IoT developers, policymakers, and end-users. These recommendations are aimed at improving the overall security posture of IoT systems. For instance, the authors suggested adopting a security-by-design approach during the development of IoT devices, implementing regular security updates, and fostering a culture of cybersecurity awareness among users. These actionable insights are intended to guide stakeholders in mitigating risks and enhancing the resilience of IoT networks.

By incorporating these additional elements, the methodology section provides a comprehensive overview of the research process and highlights the systematic and thorough approach taken by the authors to produce a high-quality review.

LITERATURE REVIEW

The evaluation in Study [1] focused on addressing two major threats causing significant economic damage to IoT systems: software piracy and malware attacks. This empirical study employed an experimental methodology to assess a novel approach aimed at detecting pirated software and malware-infected files within the IoT network. The results of the experiments demonstrated the high effectiveness of this proposed approach compared to previous methods in improving IoT cybersecurity. Study [2], on the other hand, examined the increasingly pervasive role of IoT in our daily lives and the associated risks with its widespread adoption. This empirical investigation used the EBIOS methodology to conduct a comprehensive risk analysis to identify vulnerabilities within the IoT architecture. The primary objective was to determine the most critical security risks that developers should prioritize for mitigation. The findings highlighted that sensors, smart switches, and small actuators, in particular contexts, are the most vulnerable components in the IoT ecosystem. Study [3] focused on elucidating concepts related to IoT risk assessment. The primary goal was to uncover the underlying reasons for the inadequacy of existing risk assessment approaches tailored to IoT. The study's results revealed that the main reasons for the limitations of current IoT risk assessment methodologies include:

- Deficiencies in regular evaluations.
- Evolving system boundaries with constrained system understanding.
- The complexity of comprehending interconnections.
- Neglecting the potential of assets as attack vectors.

Furthermore, there is a need for automated and continuous risk assessment methods, as well as the creation of innovative backup tools for simulation and forecasting.

These advancements would address the existing gaps and significantly strengthen the IoT security landscape. Implementing automated risk assessment

and predictive modeling tools will provide a proactive approach to identifying and mitigating potential threats, thereby enhancing the overall resilience and reliability of IoT systems in an increasingly interconnected world.

Attacks and Challenges. In Study [4], a survey-based research paper delved into the challenges and current state of IoT. The primary objective was to introduce security standards, prevalent issues, and forthcoming trends in IoT security. The methodology predominantly relied on a literature review. The findings indicated that recent IoT studies had been addressing authentication, access control, and protocols. Study [7] centered on cybersecurity threats to healthcare services, specifically in hospitals and clinics employing IoT technology. It introduced an adaptive cybersecurity framework designed to dynamically adapt to cyber threats. The research emphasized adaptive security measures that anticipate and respond to dynamic attacks targeting healthcare services and infrastructure [14]. The results demonstrated the framework's efficacy in providing robust defense against dynamic and adaptive attacks.

Study [8] underscored the significance of cyber risk within IoT systems and aimed to identify risks while defining relevant risk assessment techniques. It conducted an analysis of existing cyber risk assessment approaches through a review of relevant literature. This foundational study provided essential definitions in the context of IoT cybersecurity, offering an overview of studies on IoT cyber risk quantification, as well as strategies for mitigating and transferring cyber risks.

Study [9] tackled privacy concerns in IoT and explored the role of computational intelligence (CI) in cybersecurity. The study sought to assess the relevance of CI technologies in addressing IoT cybersecurity issues. This survey-based research paper drew upon secondary data from a review of related literature, primarily highlighting the challenges faced by CI technologies in IoT cybersecurity.

Study [10] addressed the pressing need for novel solutions to combat global cybercrimes affecting IoT systems. The authors provided insights and solutions related to cybercrimes, offering a comprehensive overview of diverse cybersecurity challenges in IoT. These challenges were categorized based on IoT security features, and the study proposed blockchain as an ideal solution, offering integrity, authentication, and encryption.

Study [11] explored various concerns related to IoT devices, particularly data theft and data breach incidents. This review article aimed to identify IoT security challenges, requirements, and proposed solutions. The key findings emphasized that IoT security is influenced by factors such as the cost of cybersecurity solutions, data volume, and data sensitivity.

Study [12] delved into IoT's background and security, along with potential cybersecurity threats and available solutions. Additionally, the study introduced a novel three-layered solution model: lower (IoT), middle (edge), and upper (cloud). This empirical study assessed the proposed solution's effectiveness,

revealing that the introduced model could mitigate certain potential vulnerabilities.

Study [13] aimed to create a taxonomy of threats impacting IoT devices and systems, accompanied by an analysis of attacks and intruders. The findings highlighted the paramount importance of issues like confidentiality, privacy, and organizational trust in IoT cybersecurity. Moreover, the paper paved the way for future research by shedding light on the consequences of these threats.

It is also worth noting that IoT cybersecurity is a rapidly evolving field, requiring continuous collaboration between researchers, developers, and regulators to devise and implement effective security measures. This collaboration is particularly crucial to stay ahead of constantly changing threats and to ensure the protection of sensitive data and infrastructure. Furthermore, integrating multidisciplinary approaches and fostering international cooperation can enhance the development of robust security protocols. By sharing knowledge and best practices, stakeholders can address emerging vulnerabilities more effectively, ensuring that IoT ecosystems remain resilient against sophisticated cyber threats. This concerted effort is essential for safeguarding the integrity and reliability of IoT networks in the long term.

Conclusion

In conclusion, this systematic review has provided insights into the diverse and constantly changing landscape of IoT cybersecurity. The literature analysis highlighted that IoT devices and systems are exposed to a wide array of cyber threats, with particular emphasis on privacy issues and cybercrimes. This reaffirms the urgent need for ongoing efforts to address these pressing challenges. Moreover, the review underscored the significant potential of artificial intelligence as a promising approach to bolster IoT cybersecurity. As the complexity and scope of the IoT environment increase, traditional security measures alone may prove insufficient to counter sophisticated attacks. The integration of artificial intelligence and machine learning promises to create adaptive, proactive, and more effective security solutions capable of mitigating evolving threats. Nonetheless, while the review offered valuable insights from existing research, critical areas warranting further investigation remain. Some attacks and vulnerabilities received limited coverage in the proposed solutions, highlighting the need for more tailored and precise countermeasures. The realm of IoT cybersecurity is dynamic and continually evolving, demanding ongoing vigilance and innovation to effectively safeguard against cyber threats. This review establishes a foundation for future researchers and emphasizes the importance of collective efforts in securing IoT for the greater benefit of society. It is also crucial to emphasize the need for interdisciplinary collaboration and global engagement, including data sharing and best practices, to strengthen and deepen understanding and responses to IoT-related cyber threats.

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*Mominov M.R.
Topvoldiev A.A.
"Cotton Industry Scientific Center" JSC
Fergana Polytechnic Institute*

BASED ON THE OPTIMUM PARAMETERS OF THE MACHINE TRANSFERRING COTTON TO OPEN AND CLOSED WAREHOUSES

Abstract. The article presents the analysis of the optimal parameters of the working parts of the machine used in the transfer of raw cotton to the ginning fields using standard methods. In this case, the influence of the input parameters of each working part on the output factors has been fully studied, and the selected values of the input factors have been determined. Based on the optimal values, a pilot copy of the proposed machine will be built.

Key words: cotton, fiber, waste, model, active, passive, storage area, seed, storage, dirt, moisture, density, weight, quality indicator.

Enter

Today, the importance of research and development in the development of the national economy is increasing, and production enterprises are improving on the basis of world scientific achievements. This improvement is carried out through its automation and mechanization, the use of new techniques and technology.

Every production, including the reception of raw materials in textiles, the production of semi-finished products in various workshops and their reception in the next departments, the production of finished products, the adoption of new techniques, the improvement of technological processes, technological there are common problems such as placement of equipment and optimization of their main technological and structural parameters.

At all these stages, research work is carried out, and at all stages, quality control of semi-finished products, yarn, fabric and finished products is carried out. The most advanced method of processing experimental results is the method of mathematical statistics. The use of statistical methods in conducting experiments and processing their results allows to minimize the size of tests and the amount of processed operations. [1].

STATEMENT OF THE PROBLEM

The experiment is called multi-factorial or factorial planning, and planning in which the levels of all influencing factors are changed at the same time.

This planning method allows to obtain high accuracy results with a small number of experiments. Each regression coefficient in the mathematical model obtained as a result of experiments conducted on the basis of factorial planning

is found as a result of all N experiments, so its variance is smaller than the error variance of N experiments.

If the regression mathematical model of the process is in the form of the following linear equation, then it can be used to find the regression coefficients $N \cdot n + 1$ it is enough to conduct experiments and the variance of the regression coefficients decreases as the number of factors increases [2; 26-34 b.]. It was shown that the accuracy of the regression coefficients in the traditional planning method does not depend on the number of factors.

Experiments are carried out in a factorial planning method, they are carried out in a randomized order, that is, in a random sequence. The main purpose of this is to eliminate the influence of uncontrollable factors (raw materials of different quality, time change) on the output parameters, that is, to make their influence random [3; 102-116 b.].

The method of factorial planning of experiments is used in the implementation of full factorial experiment (TOT), residual factor experiment (COT) and central non-composite experiment (MNCT) used to obtain second-order models, Rototabelli central composite experiment (RMCT), etc. [4; 58-72 b.].

The mathematical model obtained on the basis of factor planning of the experiment allows to evaluate not only the influence of each factor on the technological process, but also the interaction.

We plan to use the TOT 23 method for the process we are studying. Because connections between incoming and outgoing factors and outgoing results are intended to be analyzed quickly and with little experience [6; 1-67 b.].

Optimization is carried out with the help of multifactor planning of the experiment, that is, the TOT 23 experiment is conducted. Here, 2 is the number of levels; 3 – number of factors; the number of tests will be $2^3 = 8$.

1. Factors affecting the implementation of the optimization process and output parameters are selected.

Input parameters that require optimization by value:

X1- Magnetic drum magnet working thickness, (mm).

X2-Distance between piles (mm).

X3- Height h of the pile (on side a , mm).

As an outgoing parameter:

Y1 – Cleaning efficiency of the device (%),

Y2 – The amount of defects and impurities in the fiber (%) indicators were obtained.

2. Variation limits of the factors are determined and included in the following table.

Table of factor levels in natural value

Table 1.1

Varying factors	Basic level of factors	Bottom level	High level	Range of variation
Magnetic drum magnet working thickness (mm)	10	7	13	3
Distance between piles (mm)	23	20	26	3
Height h of pile (on side a, mm)	30	20	40	10

2. In order to simplify the processing of research results, we will switch from natural values of factors to coded values.

$$x_i = \frac{X_i - X_{ai}}{I_i} \quad (1.1)$$

Here X_i - coded value of the factor;

X_{ai} - natural value of the second factor;

I_i - range of variation.

The results of coding are included in table 3.2.

Thus, after encoding, all higher levels are denoted by +1 or simply (+) and lower levels by -1 or simply (-).

Factor coding results

1.2 - table

№	Factors that vary	Low level coding	High level coding
1	Magnetic drum magnet working thickness (mm)	$x_1 = \frac{7 - 10}{3} = -1$	$x_1 = \frac{13 - 10}{3} = 1$
2	Distance between piles (mm)	$x_2 = \frac{20 - 23}{3} = -1$	$x_2 = \frac{26 - 23}{3} = 1$
3	Height h of pile (on side a, mm)	$x_3 = \frac{20 - 30}{10} = -1$	$x_3 = \frac{40 - 30}{10} = 1$

Experiments are carried out strictly according to the sequence given in column 4, with the values of the input parameters set. The results are recorded in column 5. The 4-column order is based on a random table, and its task is to eliminate the influence of random factors on the studied process by conducting tests in this order.

№	Factors				Cotton Cleaning Efficiency %				Amount of defects and impurity in the fiber %			
	X ₀	X ₁	X ₂	X ₃	Y ₁₁	Y ₁₂	Y ₁₃	Y _{o'r}	Y ₂₁	Y ₂₂	Y ₂₃	Y _{o'r}
1.	+	-	-	-	3,7	3,9	4,1	3,87	1,9	1,8	1,7	1,8
2.	+	+	-	-	5,7	5,7	6,2	5,86	1,8	1,9	1,8	1,83
3.	+	-	+	-	4,2	4,3	3,8	4,09	2	1,8	2,1	1,96
4.	+	+	+	-	3,7	4,1	3,7	3,85	2,2	2,1	2,3	2,2
5.	+	-	-	+	4,5	4,1	4,8	4,47	2,4	2,5	2,4	2,43
6.	+	+	-	+	4,2	4,6	5,5	4,75	2,2	2,3	2,1	2,2
7.	+	-	+	+	5,1	5,3	5,5	5,33	2,6	2,7	2,8	2,7
8.	+	+	+	+	4,1	3,9	4,0	4	2,4	2,5	2,6	2,5

Table summarizing the results of experiments

1.3 - table (longitudinally)

№	Factors				Interrelated factors				value of Y ₁	value of Y ₂	Serial dispersion	Serial dispersion
	x ₀	x ₁	x ₂	x ₃	x ₁ x ₂	x ₁ x ₃	x ₂ x ₃	x ₁ x ₂ x ₃			S ² (Y ₁)	S ² (Y ₂)
1	+	-	-	-	+	+	+	-	1,8	3,87	0,010	0,039
2	+	+	-	-	-	-	+	+	1,83	5,86	0,003	0,064
3	+	-	+	-	-	+	-	+	1,96	4,09	0,023	0,075
4	+	+	+	-	+	-	-	-	2,2	3,85	0,009	0,061
5	+	-	-	+	+	-	-	+	2,43	4,47	0,003	0,116
6	+	+	-	+	-	+	-	-	2,2	4,75	0,009	0,418
7	+	-	+	+	-	-	+	-	2,7	5,33	0,009	0,043
8	+	+	+	+	+	+	+	+	2,5	4	0,010	0,004

3. The testing matrix is created and the experimental results are processed. The planning matrix in which the research results are included is presented in the table above.

Arithmetic average value of optimization parameters for each test consisting of repetitions of experimental results.

$$\bar{Y} = \frac{\sum_{i=1}^N Y_i}{m} \quad (1.2)$$

is considered.

$$\bar{Y}_{1i} = \frac{17,6}{8} = 2,2, \bar{Y}_{2i} = \frac{36,2}{8} = 4,52,$$

$$S^2(Y_1) = 0,01 \quad S^2(Y_2) = 0,14$$

Homogeneity of variance is determined using the Cochran criterion.

$$G_x = \frac{S^2\{Y\}_{max}}{\sum S^2\{Y\}} (1.4)$$

Here G_x - Estimated value of the Cochran criterion

$S^2\{Y\}_{max}$ - I – maximum variance of the chi test

$\sum S^2\{Y\}$ - sum of all linear variances

to the height

$$G_x\{Y_1\} = \frac{S^2\{Y_1\}_{max}}{\sum S^2\{Y_1\}} = \frac{0,02}{0,08} = 0,302$$

$$1) \quad G_x\{Y_2\} = \frac{S^2\{Y_2\}_{max}}{\sum S^2\{Y_2\}} = \frac{0,41}{0,82} = 0,509$$

To determine the recovery of experience, we compare the calculated value of the Cochran criterion with the table.

In our case $TOT 2^3$ and $P_D=0,95$ for

$$G_x\{Y_1\} = 0,302 < G_{tab} = 0,5137$$

$$G_x\{Y_2\} = 0,5 < G_{tab} = 0,5137$$

If $G_x\{Y\} < G_{tab}$ there is, it is possible to calculate the regression coefficients.

$$Y_R = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_{12}x_1x_2 + b_{13}x_1x_3 + b_{23}x_2x_3 + b_{123}x_1x_2x_3 \quad (1.5)$$

The coefficients in Eq.

$$b_0 = \frac{1}{N} \sum Y \quad (1.6)$$

Here i is the test order

j – order of factors

$$b_i = \frac{1}{N} \sum x_i \bar{Y} \quad (1.7)$$

$$b_{ij} = \frac{1}{N} \sum x_i x_j \bar{Y} \quad (1.8)$$

For our example, it is as follows:

Y_1 - Calculation of the coefficients in the equation according to the amount of impurities and defects:

$$Y_1 = 2,2 + 0,25x_1 + 0,13x_2 - 0,02x_3 + 0,005x_1x_2 - 0,08x_1x_3 + 0,3x_2x_3 - 0,02x_1x_2x_3$$

Y_2 - Calculation of the coefficients in the equation according to the cleaning efficiency:

$$Y_2 = 4,52 + 0,11x_1 - 0,21x_2 + 0,08x_3 + 0,23x_1x_2 - 0,35x_1x_3 - 0,48x_2x_3 + 0,07x_1x_2x_3$$

The significance of the regression coefficients is determined using the Student's criterion tR:

$$t_R\{b_i\} = \frac{|b_i|}{S\{b_i\}} \quad (1.9)$$

$$S\{b_i\} = \frac{S^2\{Y\}}{N} \quad (1.10)$$

Here $S^2\{Y\}$ – linear variance. It is determined using the following formula.

$$S^2\{Y\} = \frac{1}{m} S^2\{\bar{Y}\} \quad (1.11)$$

Here, m is the number of test repetitions.

$S^2\{\bar{Y}\}$ – recovery variance. It is determined using the following formula.

$$S_m^2\{Y\} = \frac{1}{N} S^2\{Y\} \quad (1.12)$$

Here N is the number of trials.

$S^2(Y_1)$ – sum of linear variances:

$$S^2(b_0) = \frac{1}{8} 0,08 = 0,0095 \quad S^2(b_{ij}) = \frac{0,0012}{8} = 0,0001$$

$$S^2(b_i) = \frac{1}{8} 0,0095 = 0,0012 \quad S(b_{ii}) = \sqrt{0,0001} = 0,012$$

$S^2(Y_2)$ – sum of linear variances:

$$S^2(b_0) = \frac{1}{8} 0,82 = 0,102 \quad S^2(b_{ij}) = \frac{0,012}{8} = 0,0016$$

$$S^2(b_i) = \frac{1}{8} 0,102 = 0,012 \quad S(b_{ii}) = \sqrt{0,0016} = 0,04$$

We determine the calculated values of the Student's criterion for the calculated coefficients:

Y₁- Calculated values of Student's criterion for:

$$t_1(b_0) = \frac{|2,202|}{0,009} = 231,8 \quad t_1(b_{12}) = \frac{|0,005|}{0,0001} = 33,7$$

$$t_1(b_1) = \frac{|0,255|}{0,001} = 214,7 \quad t_1(b_{13}) = \frac{|-0,087|}{0,0001} = 589,5$$

$$t_1(b_2) = \frac{|0,1375|}{0,0012} = 115,8 \quad t_1(b_{23}) = \frac{|0,03|}{0,0001} = 202,1$$

$$t_1(b_3) = \frac{|-0,02|}{0,0012} = 16,8 \quad t_1(b_{123}) = \frac{|-0,022|}{0,012} = 1,8$$

Y₂- Calculated values of Student's criterion for:

$$t_2(b_0) = \frac{|4,52|}{0,1025} = 44,2 \quad t_2(b_{12}) = \frac{|0,2375|}{0,0016} = 148,3$$

$$t_2(b_1) = \frac{|0,11|}{0,12} = 8,6 \quad t_2(b_{13}) = \frac{|-0,35|}{0,016} = 218,5$$

$$t_2(b_2) = \frac{|-0,21|}{0,012} = 16,4 \quad t_2(b_{23}) = \frac{|-0,48|}{0,016} = 299,7$$

$$t_2(b_3) = \frac{|0,87|}{0,12} = 6,8 \quad t_2(b_{123}) = \frac{|0,0775|}{0,04} = 1,9$$

The calculated value of the student's criterion is compared with the tabular value of this criterion obtained from the 3rd appendix of the textbook "Fundamentals of modeling technological processes of the textile industry".

$f_2 = (m - 1)N = 16$; here $m=3$, $N=8$ $t_{tab}[P = 0,95; f_2 = 16] = 2,12$

If the regression coefficients $t_R > t_{tab}$, will be important.

Thus, Y_1 – in our equation for the amount of impurities and defects caused by the use of our device $b_0, b_1, b_2, b_{12}, b_{23}$ coefficients became significant and Y_2 – our equation for the cleaning efficiency of the device b_0, b_1, b_3, b_{12} coefficients became significant [2; 1-114 b.]. The regression equation looks like this after discarding the non-significant coefficients::

Y_1 - Calculate the coefficients in the equation for the amount of impurities and impurities in the fiber:

$$Y_1 = 2,2 + 0,25x_1 + 0,13x_2 - 0,02x_3 + 0,005x_1x_2 - 0,08x_1x_3 + 0,3x_2x_3$$

Y_2 - Calculation of coefficients in the equation according to the efficiency of cleaning:

$$Y_2 = 4,52 + 0,11x_1 - 0,21x_2 + 0,08x_3 + 0,23x_1x_2 - 0,35x_1x_3 - 0,48x_2x_3$$

It should not be forgotten that if all regression coefficients are significant, the model is considered inadequate. The model can be tested even if only one coefficient is not significant.

The resulting equation is checked for adequacy. The test is performed using Fisher's test. The estimated value of Fisher's criterion is determined as follows.

$$F_R = \frac{S_{ad}^2\{Y\}}{S^2\{Y\}} N - M > 0 \quad (1.14)$$

Here $S_{ad}^2\{Y\}$ - adequate variance

$S^2\{Y\}$ - linear variance (3.3 – determined by the formula)

$$S^2(Y_1) = 0,01 \quad S^2(Y_2) = 0,14$$

$$S_{ad}^2\{Y\} = \frac{m}{N-M} \sum (Y_i - Y_{Ri}) \quad (1.15)$$

Here M is the number of significant regression coefficients ($M=7,1,7,1$), N is the total number of tests ($N=8$), m is the number of repeated tests ($m=3$).

The calculated value of the optimized factor Y (1.13) (1.14) equation

1.3 is determined by putting the coded values of $(-1$ and $+1)$ from columns 2 and 3 of the table. Values are taken row-wise, not column-wise. Calculations for formula Y are as follows:

We determine the adequacy variance using the formula (1.15).:

Y1- Calculation of Adequacy Dispersion by the amount of defects and impurity in the fiber:

$$S_{ad}^2\{Y_1\} = \frac{3}{8-7} 0,004 = 0,12$$
$$F_{RY1} = \frac{0,12}{0,08} = 0,15$$

Y2- Calculation of Adequacy dispersion according to the amount of mechanical damage of the pipe:

$$S_{ad}^2\{Y_2\} = \frac{3}{8-7} 0,048 = 0,144$$
$$F_{RY2} = \frac{0,144}{0,82} = 0,17$$

The tabular value of this criterion is taken from Appendix 4 of the textbook "Fundamentals of Modeling Technological Processes of the Textile Industry" and is equal to the following for our example.

$$F_{tab} = [P = 0,95; f_1 = N(m - 1) = 16; f_2 = N - M = 7] = 2,12$$

If $F_m < F_{jtab}$, the template is adequate. Under investigation $F_{m1} < F_{tab} (0,12 < 0,15, 0,14 < 0,17)$, so the process is stationary and the model is adequate.

Since the equation is adequate, the mathematical model is analyzed.

The analysis can be carried out only according to the coded pattern of factor values. The value of the regression coefficients describes the contribution of the corresponding factor to the amount of the output parameter.

CONCLUSION

As a result of this research, a mathematical model of the machine for transferring cotton to open and closed warehouses was developed, and it was possible to prevent cotton from being stored with active impurities in the gins, and after using a blind conveyor during the transfer process, additional fractions in the raw material were reduced, and cotton was partially cleaned before ginning., the decrease in the cost of the product was eliminated due to the reduction of dirt, as well as the reduction of energy consumption required for cleaning was achieved and quality preservation of low-grade cotton was ensured. It is explained by the fact that in order to eliminate these shortcomings, a belt conveyor of a new design was proposed and put into production. The results of the research serve to develop the theoretical basis of cotton preliminary processing, including the transfer of cotton raw materials to open and closed types of fields. Its practical importance is based on the fact that the created technical solutions are developed and put into practice based on the need for production, as well as the high economic efficiency that can be obtained.

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Mutalipova Z.U.
kafedrası assistenti
"Tarmoqlar Iqtisodiyoti"
Toshkent Amaliy Fanlar Universiteti

O'ZBEKISTONDA RAQAMLI TEXNOLOGIYALAR

Annotatsiya. Maqolada O'zbekiston Respublikasi iqtisodiyotini raqamlashtirish jarayonining asosiy yo'nalishlari ko'rib chiqiladi. O'zbekiston iqtisodiyotiga innovatsion IT-texnologiyalarni joriy etish jarayonidan kutilayotgan natijalarning qisqacha tahlili berilgan.

Kalit so'zlar: raqamli iqtisodiyot, elektron tijorat, raqamlashtirish, raqamli texnologiyalar.

Mutalipova Z.U.
assistant
department "Economics of industries"
Tashkent University Applied Sciences (TAFU)

DIGITAL TECHNOLOGIES IN UZBEKISTAN

Abstract. The article discusses the key directions of the process of digitalization of the economy of the Republic of Uzbekistan. A brief analysis is given of the expected results of the process of introducing innovative IT technologies into the economy of Uzbekistan.

Keywords: digital economy, e-commerce, digitalization, digital technologies.

O'zbekiston Respublikasida raqamli iqtisodiyotni muvaffaqiyatli joriy etish maqsadida Prezidentning maxsus farmoni qabul qilindi. Iqtisodiyot va boshqaruvning turli sohalarida 270 ga yaqin loyihani amalga oshirish doirasida yaqin yillarda raqamli texnologiyalar ulushini ikki baravar oshirish rejalashtirilgan, bu esa mamlakatimizning zamonaviy virtual iqtisodiy makonini yaratish uchun asos bo'lishi kerak.[1]

O'zbekiston telekommunikatsiya sanoati jadal rivojlanmoqda: hamma joyda keng polosali ulanish portlari o'rnatilmoqda; optik tolali liniyalar yotqizilmoqda; mobil aloqaning mavjudligi va mobil aloqa xizmatlari sifati ortib bormoqda; ko'pgina ijtimoiy ob'ektlar allaqachon yuqori tezlikdagi Internet bilan ta'minlangan; Katta hajmdagi raqamli ma'lumotlarni saqlash uchun apparat va server sig'implari soni, sig'imi va ma'lumotlar markazlari soni barqaror ravishda o'sib bormoqda [2].

O'zbekiston Respublikasi Vazirlar Mahkamasi milliy raqamli iqtisodiyotni rivojlantirishning asosiy yo'nalishlarini belgilab berdi:

1. Maxsus axborot tizimlari orqali xo'jalik yurituvchi sub'ektlarni aniqlash.

2. Elektron xizmatlar tizimini keng joriy etish.

3. Xalqaro bozorda yuqori darajada rivojlangan raqamli iqtisodiyotni yaratishga yordam beradigan samarali texnologik yechimlarni xarid qilish.

4. Yuqori texnologiyali ishlab chiqarishlarni joylashtirish uchun ixtisoslashtirilgan sanoat hududlarini yaratish.

5. Ichki va tashqi axborot texnologiyalari bozorlarida ijtimoiy ahamiyatga molik maqsadlarga erishish uchun davlat va biznesning uzoq muddatli, o'zaro manfaatli shartlarda o'zaro hamkorligini ta'minlash.

6. Telekommunikatsiya infratuzilmasini takomillashtirish.

7. Telekommunikatsiya xizmatlarini ko'rsatishni rivojlantirish.

8. Iqtisodiyotga elektron xizmatlar va elektron tijoratni joriy etish.

9. Raqamli iqtisodiyotda dasturiy ta'minotni muntazam va tizimli yangilash.

10. Butunjahon tarmoq milliy segmentining shakllanishi.

11. Iqtisodiyotni boshqarish uchun o'zimizning texnik va dasturiy ta'minot tizimlarini ishlab chiqish.

12. Iqtisodiy sohada faoliyat yurituvchi mutaxassislarning kasbiy va malaka saviyasini oshirish. [3]

O'zbekistonda iqtisodiyotni raqamlashtirishni davlat tomonidan rag'batlantirish strategiyasi amalga oshirilmoqda:

- ikkita muammodan birini hal qiluvchi umumiy texnologik platformalar shakllantirilmoqda: 1) turli xildagi korxona va tashkilotlarni birlashtiruvchi; 2) muayyan texnologik qarorlarni bajarish tartibini belgilash; [4]

- axborot huquq va majburiyatlarining tashuvchisi bo'lgan sub'yektlarning huquqiy jihatdan mustahkamlanishini talab qiluvchi yangi ijtimoiy munosabatlar turlari aniqlandi [5];

- fuqarolarning raqamli o'zaro hamkorligini tartibga soluvchi me'yoriy-huquqiy baza, "Elektron hukumat" tizimi, aholiga ko'rsatilayotgan elektron xizmatlar sifati takomillashtirilmoqda;

- dasturchilarni, IT-mutaxassislarni kasbiy qayta tayyorlash, raqamli texnologiyalardan foydalanuvchilarning malakasini oshirish tashkil etilgan;

- korxona va tashkilotlar faoliyatiga axborot tizimlarini joriy etish rag'batlantiriladi;

- boshqa mamlakatlardan kelgan xaridorlar bilan onlayn savdo moslashuvchan soliqqa tortish tizimi orqali rag'batlantiriladi;

- kibertahdidlardan kuchli himoya yaratiladi;

- iqtisodiyotning deyarli barcha tarmoqlariga innovatsion IT-texnologiyalarni jalb qilish va joriy etish uchun qulay shart-sharoitlar yaratilgan;

- eksportga yo'naltirilgan IT-industriyani yaratish bo'yicha muayyan qadamlar qo'yilmoqda: maxsus dasturlarni amalga oshirish jarayonida innovatsion IT-texnologiyalar ishlab chiqilmoqda; iqtisodiy jarayonlarni

boshqarishning axborot tizimlari faoliyatining yagona tartibi belgilandi; yangi axborot texnologiyalarini tashqi bozorga joriy etish vositalari ishlab chiqildi;

- iqtisodiy faoliyat bilan bog'liq tezkor qarorlar qabul qilish uchun mo'ljallangan muhim axborot resurslari yangilanadi;

- tarmoqlarni joylashtirishni rag'batlantirish maqsadida xorijiy investorlarga imtiyozlar berishga ruxsat etiladi, xususan, litsenziya narxi minimallashtiriladi [6];

- xalqaro aloqa kanallarining sig'imini oshirish bo'yicha ta'sirchan chora-tadbirlar ko'rilmoqda, ularning ko'lami muntazam kengaymoqda.[7]

Shunday qilib, O'zbekiston Respublikasida raqamli iqtisodiyotni shakllantirish va rivojlantirish uchun axborot-kommunikatsiya tuzilmasi takomillashtirilmoqda (Internet tezligi oshirilmoqda, elektron tijorat rag'batlantirilmoqda); IT-mutaxassislarini tayyorlash, tayyorlash va qayta tayyorlash tizimi yangilanmoqda; Innovatsion biznes g'oyalar qo'llab-quvvatlanadi va ular uchun startaplar yaratiladi; xo'jalik faoliyatining raqamli shakllarini rivojlantirish yo'lidagi to'siqlar bartaraf etiladi va bartaraf etiladi; aholining ehtiyoj va talablarini qondirishga yo'naltirilgan ishlab chiqarish faoliyati sohasini elektron shaklda rivojlantirish masalalari bo'yicha davlat, tijorat, notijorat tuzilmalari va jamoatchilikning yuqori sifatli o'zaro hamkorligi ta'minlanadi. iqtisodiyot, ta'lim va mutaxassislarning kasbiy tayyorgarligi, maxsus ilmiy tadqiqotlar va tadqiqotlar, axborot infratuzilmasi, kiberxavfsizlik tizimlari.

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*Nabiyeva A.M.
"Tarmoqlar iqtisodiyoti" kafedrası assistenti
Toshkent Amaliy Fanlar Universiteti*

O'ZBEKISTON IQTISODIYOTINING INNOVATSION RIVOJLANISHI

Annotatsiya. Maqolada O'zbekiston iqtisodiyotining rivojlanishi innovatsion rivojlanish sharoitida tahlil qilinadi. 2022 yil innovatsiyalar indeksi bo'yicha dunyo mamlakatlari reytingi O'zbekistonning ushbu reytingdagi o'rnini ko'rsatib berilgan. Shuningdek, ushbu reytingda O'zbekistonning kuchli va zaif tomonlari tahlil qilindi.

Kalit so'zlar: innovatsion rivojlanish, global innovatsiyalar indeksi, institutlar, inson kapitali va tadqiqotlari, infratuzilma, bilim va texnologiya iqtisodiyoti natijalari, ijodiy mehnat unumdorligi, ichki bozorni rivojlantirish, biznesni rivojlantirish.

*Nabieva A.M.
assistant
department "Economics Of Industries"
Tashkent University Applied Sciences (TAFU)*

INNOVATIVE DEVELOPMENT OF THE ECONOMY OF UZBEKISTAN

Abstract. The article analyzes the development of the economy of Uzbekistan in the context of innovative development. The rating of countries of the world according to the innovation index 2022 is given, indicating the place of Uzbekistan in this rating. An analysis of the strengths and weaknesses of Uzbekistan in this rating was also carried out.

Key words: innovative development, global innovation index, institutions, human capital and research, infrastructure, results of the knowledge and technology economy, creative work productivity, domestic market development, business development.

Yangi O'zbekistonni 2022-2026-yillarda rivojlantirish strategiyasining strategik maqsadlaridan biri "Iqtisodiyotga innovatsiyalarni keng joriy etish, sanoat korxonalari va ilmiy muassasalar o'rtasida kooperatsiya aloqalarini rivojlantirish" [1].

O'zbekiston Respublikasi Prezidentining 2018-yil 21-sentabrdagi PF-5544-son qarorida [2] O'zbekistonning 2030-yilgacha Global Innovatsion Index reytingi bo'yicha dunyoning 50 yetakchi davlati qatoriga kirishi maqsadi e'lon qilingan. Ushbu maqsadga erishishning asosi fan sohasini zamonaviy iqtisodiy sharoitlarga moslashtirishdan iborat bo'lib, bu o'z navbatida uning rivojlanishini

mustahkam normativ-huquqiy baza bilan tartibga solinadigan tarkibiy, tashkiliy, kadrlar, infratuzilma va moliyaviy ta'minlashda tub o'zgarishlarga olib kelishi kerak.

Bu ishlarni amalga oshirish yo'nalishida "Fan va ilmiy faoliyat to'g'risida"gi va "Innovatsion faoliyat to'g'risida"gi qonunlar qabul qilindi [3]. O'zbekiston Respublikasi Innovatsion rivojlanish vazirligi ushbu qonunlar bilan fan, ilmiy va innovatsion faoliyat sohasidagi vakolatli davlat organi etib belgilangan. Mazkur hujjatlar bilan bir qatorda mamlakatimiz uchun dolzarb va istiqbolli yo'nalish bo'lgan startap ekotizimini shakllantirishga asos bo'ladigan "Startaplar to'g'risida"gi qonun loyihasi ham ishlab chiqildi. Umuman olganda, so'nggi uch yilda mamlakatimizda O'zbekiston Respublikasining ilmiy-innovatsion rivojlanishini tartibga soluvchi 90 dan ortiq me'yoriy-huquqiy hujjatlar ishlab chiqilib, hayotga tatbiq etildi.

Innovatsion rivojlanish vazirligi tomonidan amalga oshirilgan keng qamrovli, maqsadli ishlar natijasida uzoq tanaffusdan so'ng ilk bor mamlakatimiz mavjud bo'lmagan davrda yaxshilangan ko'rsatkichlar bilan Global Innovatsion Indeks (GII) reytingiga kiritildi. O'zbekiston 131 ta davlat ichida 82-o'rinni (2022-yil) egalladi va 2015-yilga nisbatan (O'zbekiston 140 ta davlat ichida 122-o'rinni egalladi) ushbu yutuq so'nggi yillarda ushbu yo'nalishda amalga oshirilayotgan faol islohotlarning to'liq samaradorligini qayd etish imkonini beradi. Mamlakatlarning ilmiy-innovatsion salohiyati va yutuqlarini baholashda jami 80 ko'rsatkichdan foydalaniladi. O'zbekiston institutlar (Institutions), inson kapitali va tadqiqotlar (Human capital & Research), infratuzilma (Infrastructure), bilim va texnologiyalar iqtisodiyoti (Knowledge & technology outputs) va ijodiy mehnat samaradorligi (Creative outputs) kabi ko'rsatkichlarda ijobiy natijalarga erishdi.

Global innovatsiyalar indeksi - bu innovatsion rivojlanish darajasiga asoslangan jahon mamlakatlarini o'rganuvchi va unga qo'shiladigan reyting. Fransiyaning INSEAD xalqaro biznes maktabi metodlari bo'yicha hisoblangan. Tadqiqot 2007 yildan beri Xalqaro biznes maktabi INSEAD va Butunjahon Intellektual Mulk Tashkiloti (WIPO) o'rtasidagi qo'shma loyiha doirasida olib borilmoqda va hozirda dunyoning turli mamlakatlaridagi innovatsion rivojlanish ko'rsatkichlarining eng keng qamrovli to'plamini taqdim etadi.

Global innovatsiyalar indeksi iqtisodiy rivojlanishning turli darajalarida dunyo mamlakatlarining innovatsion rivojlanishini batafsil tavsiflovchi 82 xil o'zgaruvchidan iborat. Tadqiqot mualliflarining fikricha, iqtisodiy rivojlanish darajasi ham innovatsion salohiyat mavjudligi, ham uni amalga oshirish shartlari bilan bog'liq. Shuning uchun indeks ettita blokga birlashtirilgan ikki guruh ko'rsatkichlarini baholashning vaznli yig'indisi sifatida hisoblanadi:

Mavjud resurslar va innovatsiyalar uchun sharoitlar (Innovatsiya kiritish):

- muassasalar;
- inson kapitali va tadqiqot;
- infratuzilma;

- ichki bozorni rivojlantirish;

- Biznes rivoji.

Innovatsiyalarni joriy etishning amaliy natijalari (Innovation Output):

- texnologiya va bilimlar iqtisodiyotini rivojlantirish;

- ijodiy faoliyat natijalari.

Shunday qilib, yakuniy indeks xarajatlar va foyda nisbatini ifodalaydi, bu ma'lum bir mamlakatda innovatsiyalarni rivojlantirishga qaratilgan sa'y-harakatlar samaradorligini ob'ektiv baholash imkonini beradi.

Jadvalda 2022-yil sentabr oyida e'lon qilingan ma'lumotlarga ko'ra, Innovatsiyalar indeksi bo'yicha tartiblangan dunyodagi eng yaxshi 20 ta davlat va davlat maqomiga ega bo'lmagan ma'muriy hududlar ro'yxati keltirilgan.

Global Innovation Index 2020 (GII, Global Innovation Index) reytingida O'zbekiston 131 davlat ichida 93-o'rinni egalladi. So'nggi besh yil davomida ma'lumotlar yo'qligi sababli mamlakat GIIGA kiritilmagan. GII 2020 da O'zbekiston innovatsiyalarga investitsiyalar bo'yicha natijalarga qaraganda yaxshiroq ko'rsatkichni ko'rsatdi: Innovation Input subindeksi bo'yicha 81-o'rin va Innovation Output subindeksi bo'yicha 118-o'rin [4]. Mamlakat "Bozor rivojlanishi" (27-o'rin, Market sophistication), "Infratuzilma" (72, Infrastructure), "Inson kapitali va tadqiqot" (77, Human capital & research) kabi kichik indeks komponentlari bo'yicha o'rtachadan yuqori va o'rtadan past natijalarni ko'rsatdi. - "Bilim va texnologiyalarni rivojlantirish" (90, Knowledge & technology outputs), "Muassasalar" (95, Institutions), "Ijodiy faoliyat natijalari" (127, Creative outputs) va "Biznesni rivojlantirish" (127, Business sophistication).

2021-yil yakuniga ko'ra, O'zbekiston o'sishda davom etdi va yetti pog'onaga ko'tarilib, 86-o'rinni egalladi. (27,4 ball bilan mamlakat daromadi o'rtacha past bo'lgan mamlakatlar guruhida 10-o'rinni, mintaqaviy guruhda 4-o'rinni egalladi). O'zbekiston "Bozorning rivojlanish darajasi" pozitsiyasi bo'yicha (24-o'rin) [5].

Hisobotga ko'ra, O'zbekiston o'rtacha daromadi past bo'lgan mamlakatlar guruhida 10-o'rinni egallagan. Biroq, kechikish yoki ma'lumot yo'q bo'lgan parametrlarni yaxshilash kerak.

GII-2021 ma'lumotlariga ko'ra, O'zbekiston innovatsion tizimining kuchli tomonlariga quyidagilar kiradi:

- Institutlar (reytingda 94-o'rin): Biznes boshlash qulayligi (8) Inson kapitali va fan (72): oliy ta'lim (42), shu jumladan fan va muhandislik ixtisosligi bitiruvchilari soni (7), shuningdek, talaba-o'qituvchilar nisbati o'rta ta'limda (37).

- Bozorning rivojlanish darajasi (24): investitsiyalar (11), mahalliy sanoatni diversifikatsiya qilish (22), minoritar investorlarni himoya qilish qulayligi (36).

- Biznesni rivojlantirish darajasi (123): Biznes tomonidan moliyalashtirilgan ilmiy-tadqiqot ishlari (38)

- Texnologiya va bilimlar iqtisodiyotining rivojlanishi (77): Bilimlarning ta'siri (42), mehnat unumdorligining o'sishi (8), ixtiroga patentlar soni (47) va foydali model (22).

O'zbekistonda innovatsion faoliyat samaradorligiga salbiy ta'sir ko'rsatuvchi zaif tomonlarga quyidagilar kiradi:

- Inson kapitali va ilm-fan (72): oliy ta'limga qabul qilish (108 ta) va universitetlarning QS reytingidagi o'rni (74);

- Institutlar (94): tartibga solish sifati (126); qonun ustuvorligi (123).

- Infratuzilma (72): umumiy ekologik barqarorlik bloki (101), birinchi navbatda energiya samaradorligi (115) va ISO 14001 sertifikat (106).

- Biznesni rivojlantirish darajasi (123): ta'lim dasturlariga ega kompaniyalar soni (91); klasterlarning rivojlanishi (95).

- Texnologiya va bilimlar iqtisodiyotini rivojlantirish (77): ilmiy-texnikaviy maqolalar/milliard PPP \$ YaIM (125), keltirilgan hujjatlar H-indeksi (112), bilimlarni tarqatish (102), olingan ISO 9001 sifat sertifikatlar soni (83).

- Ijodiy faoliyat natijalari (113): Internet ijodkorligi (122), Madaniy-ijodiy xizmatlar eksporti, umumiy savdoning % i (95), bosma va boshqa ommaviy axborot vositalari (79) [6].

Reyting tuzuvchilarning fikricha, O'zbekistonda innovatsiyalar samaradorligi aholi jon boshiga yalpi ichki mahsulot va fan, texnologiya va innovatsiyalarga yo'naltirilgan investitsiyalarning joriy qiymatini hisobga olgan holda kutilayotgan darajaga mos keladi. Etakchi mamlakatlardan ortda qolish an'anaviy tarzda tadbirkorlik va ijodiy faoliyat uchun sharoit yaratuvchi institutlar samaradorligining pastligi bilan belgilanadi.

Biroq hali ham shunday pozitsiyalar mavjudki, ular bo'yicha O'zbekistonning global indekslardagi reytingini baholash va yaxshilash imkonini beradigan ma'lumotlar yo'q. Bular kabi sohalar:

- ko'p bilim talab qiladigan bandlik (%).

- Oliy ma'lumotga ega bo'lgan ayollar (%).

- Ilmiy-tadqiqot ishlari sohasida universitetlar va sanoat o'rtasidagi hamkorlik.

- Klasterlarning rivojlanish darajasi va chuqurligi.

- o'qish, matematika va tabiiy fanlar bo'yicha PISA shkalasi.

- Bozor kapitallashuvi, YaIMga nisbatan %.

- Venchur investorlari, bitimlar/milliard YaIM.

- venchur kapitalni oluvchilar, bitimlar/mlrd. XQH bo'yicha YaIM.

- Dasturiy ta'minot bo'yicha xarajatlar, YaIMga nisbatan %.

- Jahon brendi qiymati, yuqori 5000, YaIMning %.

- AKT va tashkiliy modelni yaratish.

- Ko'ngilochar va media bozori.

2021 yilgi GIIda 19 ta iqtisod o'z rivojlanish darajasini hisobga olgan holda kutilganidan yaxshiroq natija ko'rsatdi. Bunday iqtisodiyotlar dinamik innovatorlar deb ataladi. Rivojlanishning ustuvor yo'nalishlarini belgilash va

maqsadlarni belgilashda O'zbekiston o'z oldiga mintaqaning dinamik innovatori bo'lish vazifasini qo'yishi kerak. Mamlakat faollashtirilishi kerak bo'lgan yetarli salohiyatga ega [7].

Shunday qilib, bugungi kunda mamlakatimizni innovatsion rivojlantirishning asosiy strategik yo'nalishlari quyidagilardan iborat:

- innovatsion infratuzilma sub'ektlari (innovatsion texnologiyalar parki, texnologiyalar transferi markazi, innovatsion klaster, venchur tashkilot, innovatsion markaz, startap akselerator, inkubator) tarmog'ini shakllantirish, shuningdek, yirik ishlab chiqarishni (kapital yaratish) tashkil etish orqali startap tashabbuslarini qo'llab-quvvatlash;

- innovatsion faoliyatni davlat tomonidan qo'llab-quvvatlashning institutsional mexanizmlarini takomillashtirish orqali innovatsion faol tashkilotlar ulushini oshirish;

- kichik biznes subyektlarining innovatsion faolligini oshirish orqali hududlarning jadal ijtimoiy-iqtisodiy o'sishini ta'minlash;

- mahsulotning yangi turlari va innovatsion texnologiyalarni yaratishning g'oyadan tortib to yakuniy iste'molchigacha bo'lgan kompleks tizimini ta'minlash orqali innovatsiyalarga bo'lgan talabni rag'batlantirish;

- ta'limning barcha bosqichlarida ijodkorlik ko'nikmalarini, innovatsion tadbirkorlik va innovatsiyalarni rivojlantirish orqali innovatsion faoliyatni boshqarishda inson kapitalini rivojlantirish.

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THE CONTENT AND ESSENCE OF ENTREPRENEURSHIP AND ITS CATEGORIZATION

Abstract. The changes which are occurring on a global scale is highly unpredictable, especially in economics. Because, thanks to current rapid changes in a large number of fields including entrepreneurship, some of previous materials can be irrelevant. In this situation, there is a demand for researchers to introduce new categories into a certain field they are conducting a research, for example, a few decades ago, people were not able to ponder over start-ups thoroughly. In this article, it has been made an attempt to give relevant information about the content and essence of entrepreneurship and its categorization.

Keywords: Entrepreneurship, Innovation, Business Venture, Start-up, Business Model, Market Opportunity, Risk Management, Value Creation, Economic Growth Entrepreneurial Ecosystem, Corporate Entrepreneurship, Social Entrepreneurship Technopreneurship, Intrapreneurship.

INTRODUCTION

Entrepreneurship and business play an important role for the development of every country. Without it, no country can develop, especially countries that have chosen the capitalist economic system as their main direction. Because entrepreneurship is a field of great importance in any country's economic development and ensuring the well-being of the population. In fast-growing countries like China, the share of business activity in GDP is 60% (www.oecd-ilibrary.org, n.d.). It can be seen from this that ensuring the economic growth of any country depends on the development of business activities in it. In 1991, Uzbekistan, which had just become independent, had a very sad state of business activity, but thanks to the right efforts, by 2019, business activity is 50% of the country's GDP (stat.uz, n.d.). In this article, an attempt was made to fully explain the main essence of entrepreneurship, its types, goals and tasks.

METHODS

In the Oxford Students' Dictionary, the word "*Business*" is the activity of producing, buying, selling and providing goods and services for the purpose of making money, and the word "*Entrepreneurship*" is the starting of a business that requires financial risk. and it is described as an activity of earning money by walking (www.dictionary.com, n.d.). In the economy, business includes activities common to everyone in the matter of buying and selling goods and services, while entrepreneurship is an activity aimed at creating new enterprises, making efforts for their development, and managing them (Ngo H. a., 2019).

According to Geoffrey S.M., Phd economist of Bloomington Indiana University, "*Entrepreneurship* is the process of creating new enterprises and businesses and determining the possibilities of its establishment." Business includes activities related to the production, distribution and sale of goods and services for the purpose of making a profit (Acs Z. &., 2007). Another feature of entrepreneurship is to pay more attention to the creation and innovative aspects of goods and services. *Business* is more focused on the aspects related to the operations and management of the existing enterprise. If *entrepreneurship* requires the ability to take risks and be flexible in any situation, then in business it is only necessary to improve the existing opportunities and manage them. thinking skills, and business requires more strategic planning and its implementation (DL).

"*Entrepreneurship*" is the process of putting innovative business ideas into practice and finding solutions to possible problems. When managing any business, it is necessary to pay attention to its type, and it is appropriate to divide business activities into the following types (Rosemaro, 2022):

1. Small business activity;
2. Entrepreneurship based on extended start-up projects;
3. Large company entrepreneurship;
4. Social entrepreneurship;
5. Research entrepreneurship;
6. Purchase business

RESULTS

Small business entrepreneurship is the process of establishing, managing and developing a small business enterprise, and this type of entrepreneurship can provide the local market mainly with scarce goods and services, including operating as a local enterprise for a limited segment of the market (Eunice, 2020).(Figure 1)

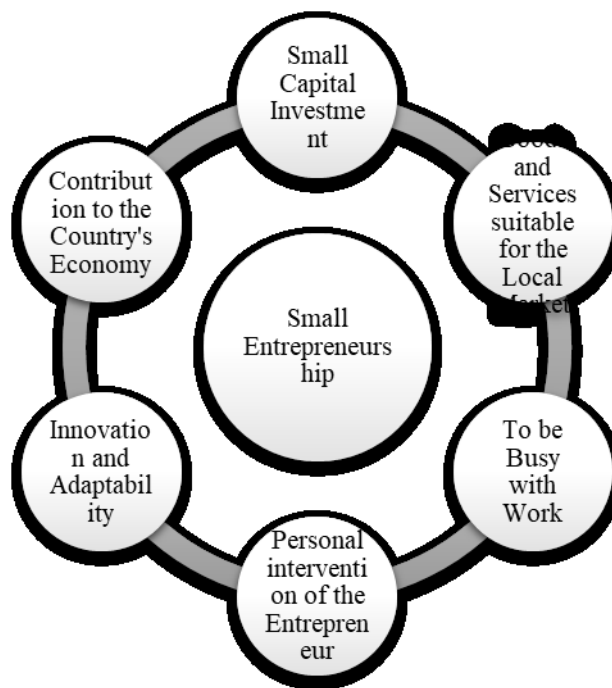


Figure 1

1. It is possible to start a small business using a *small amount of capital investment* - personal savings, family, friends and small business loans.

2. *Goods and services suitable for the local market* can be satisfied by small business activities of consumers that cannot be satisfied by certain large companies.

3. *Employment* means small business activities are important in creating jobs.

4. *Entrepreneur's personal involvement* means the entrepreneur's involvement in all day-to-day operations of the enterprise, from strategic planning to decision-making.

5. *Innovation and flexibility* - since small businesses may not have as many resources as large organizations, they can quickly adapt to changes in the market.

6. When it comes to *the contribution to the development of the country's economy*, small business activities play an important role in the country's economy by supporting the local economy, paying taxes, and using innovation (Rashid, Mohamad & Yusoff, Nurul & Kamarudin, Khairul., 2022).

Scalable Start-up Entrepreneurship is a type of entrepreneurship that starts with an innovative and profitable idea and adopts a profitable business model that can quickly turn into a highly profitable company (corporatefinanceinstitute.com, n.d.). We can cite Facebook, Instagram, Airbnb, Spotify, Uber as an example of entrepreneurship based on an extended startup project. According to the information provided by the Asian Development Bank in 2020, approximately 1,200 start-up projects have been launched in Uzbekistan (www.adb.org, n.d.), and one of the most profitable of them is

electronic shopping for customers throughout Uzbekistan, Uzum is a startup that allows you to develop your business, process payments and organize food delivery.

Large Company Entrepreneurship includes operations aimed at developing new enterprises, using innovations, and realizing company-wide growth within the framework of business (Nabila, 2013). One of the important advantages of large company entrepreneurship over other businesses is that it has financial resources to invest in research and development that allows the use of new technologies and ideas (Tseng, 2020). Secondly, in large companies, existing network partnerships will be established, which will allow resources, experience and evaluation of new markets (Wu, Bo & Wang, Yufen & Qin, Wenting. , 2010). The presence of a strong brand reputation and consumer base, which can provide a competitive advantage in large companies when entering new markets and launching new products, is the third advantage of large companies (Hayton, James & Hornsby, Jeff & BLOODGOOD, James., 2013). Globally, companies such as Google, Microsoft, Apple and Samsung can be included in the list of large companies (www.pfh.de, n.d.).

Social entrepreneurship consists of finding solutions to social problems and developing business principles and strategies that meet social requirements. The main goal of social entrepreneurship is to design, launch and manage an enterprise focused on social value rather than profit maximization. Social entrepreneurship activities can mainly be in the form of non-profit organizations aimed at solving the problems of poverty reduction, health care, education and environmental protection (Akbulaev, 2019). There are many social entrepreneurship organizations around the world, such as Tom's Shoes, State Bags, Warby Parker, Trinity Oaks, Ashoka and Mitscoots (www.consciousconnectionmagazine.com, n.d.).(Figure 2)

<i>Social entrepreneurship</i>	<i>Function</i>
<i>Tom's Shoes</i>	Providing shoes to a child who needs shoes;
<i>State Bags</i>	Helping American children in difficult situations;
<i>Warby Parker</i>	Distribution of glasses to those who need them;
<i>Trinity Oaks</i>	Tree planting;
<i>Ashoka</i>	Search for social entrepreneurs around the world and invest in them;
<i>Mitscoots</i>	Helping homeless people with food and clothing.

Figure 2

Research Entrepreneurship plays an important role in bridging the gap between academic research and the market by transforming innovative ideas and discoveries into commercial goods and services. Through this, in-depth research of researchers creates economic value and stimulates the development of society. PhD students and graduate students involved in research

entrepreneurship can develop platforms by applying their specialized knowledge of the practical world to launch startup projects and technologies. In order to realize entrepreneurship through research, it is important not only to have a strong academic potential, but also to think like a real entrepreneur and understand market dynamics (Sharples).

Buyer Entrepreneurship is an activity that involves acquiring a small business or company without investing in starting a new business (Rosemaro, 2022). For example, on April 14, 2022, Elon Musk bought Twitter and developed it further (en.wikipedia.org, n.d.).

CONCLUSION

As it is mentioned above, entrepreneurship is crucial in order to provide with the opportunities of facilitating a certain country where entrepreneurial activities are implemented in an appropriate way. Otherwise, entrepreneurial activities may be credited ineffective. First and foremost, a peculiar mode of entrepreneurship should be selected and then it should be implied with both in-depth knowledge and experience due to the fact that conducting an entrepreneurial activities with either of them is not viable.

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*Nazarov D.M.
Urganch davlat universiteti
Geografiya yo'nalishi I kurs talabasi*

SUG'ORILADIGAN OCH TUSLI BO'Z TUPROQLARGA EROZIYA JARAYONINING TA'SIRI

Annotasiya. Tuproq mexanik tarkibi uzoq muddatda o'zgarmaydigan fizik ko'rsatkich bo'lib, unda tuproq hosil bo'lish jarayoni davrida ham tuproqlarning barcha xossa-xususiyatlari, tartibotlari o'z ifodasini topadi. Shu sababli tuproqning kimyoviy tarkibi, ayniqsa, uning singdirish sig'imi, chirindi miqdori va boshqalar, albatta, mexanik tarkibga bog'liq holda o'zgarib turadi.

Kalit so'zlar: mexanik tarkib, eroziya, tuproq eroziyasi, agrotexnik tadbir, tipik bo'z tuproq, mikroagregatlik holati, fizik chang, fizik loy.

*Nazarov D.M.
first year geography student
Urganch State University*

EFFECT OF EROSION PROCESS ON IRRIGATED LIGHT COLOR GRAY SOILS

Abstract. The mechanical structure of the soil is a physical indicator that does not change in the long term, and all the properties and processes of the soil are expressed in it even during the soil formation process. Therefore, the chemical composition of the soil, especially its absorption capacity, the amount of humus, etc., necessarily changes depending on the mechanical composition.

Keywords: mechanical composition, erosion, soil erosion, agrotechnical measures, typical gray soil, microaggregate state, physical dust, physical clay.

KIRISH. Sug'oriladigan tuproqlarning xossalarini yaxshilash orqali unumdorligini oshirish, tuproqlarning mexanik tarkibini ifodalovchi xaritalar tuzish va shu asosida yangi agrotexnik chora-tadbirlarni eroziyaga uchragan tuproqlarda tabaqalashtirilib amalga oshirish muhim ahamiyat kasb etadi. Mexanik tarkib - tuproq eroziyasini keltirib chiqaruvchi omillardan biri bo'lib, undan xo'jaliklarda eroziya xaritalarini tuzishda, tuproq xillarini ajratishda hamda ajratilgan tuproq xillarini baholashda asos bo'lib xizmat qiladi. Mexanik tarkib tuproqdagi eroziya jarayonlarni boshqarishda ishtirok etadi, o'z navbatida tuproqdan foydalanish sohasida zarur bo'lgan butun tadbirlarni ishlab chiqishda asosiy ko'rsatkich bo'lib xizmat qiladi.

TADQIQOT NATIJALARI. Izlanish olib borilgan Chortoq tumanida 30-50 yil davomida eroziyaga uchragan tuproqlarning surilishi va yangi tuproq qatlamlarining shakllanishi davridagi tuproqlarni mexanik tarkibini o'rganish bo'yicha ilmiy tadqiqotlar olib borilmoqda. Olib borilgan tadqiqotlar izohidan malum bo'ldiki, tarqalgan tuproqlar yuza qismining mexanik tarkibi har xilligi bilan farq qiladi. Bizning olib borgan izlanishlarimiz natijalari va bizdan avvalgi davrlarda ishlagan olimlar bergan malumotlarga ko'ra tuproqlar kesma qatlamlari bo'yicha ham keskin farq qilmaydi. Chortoq tumani "Navoiy" hududida joylashgan tuproqlar mexanik tarkibining kesma bo'yicha o'zgarishi tuproq fizik xossalariga va oziqa tartibotiga kuchli ta'sir ko'rsatadi. Tuproqdagi turli kattalikdagi zarrachalar kesma bo'yicha keng miqyosda o'zgargan.

Chortoq tumani "Navoiy" massivi tipik bo'z tuproq mexanik tarkib jihatidan o'rta qumoqli bo'lib, kesmaning o'rta qismida biroz yengillashganini ko'rish mumkin. Tadqiqot natijalarida fizik loyning miqdori kesmaning yuza qismida va pastki qismlari bo'yicha 23,1-25,4% atrofida ekanligini ko'rish mumkin.

Chortoq tumani "Navoiy" massivida tarqalgan tipik bo'z tuproqlar 30-35 yil davomida asosan o'rta qumoqli bo'lgan, lekin fizik loyning miqdori kesmaning o'rta qismida 15,9 % ni tashkil etganini guvoh bo'ldik, bunga sabab yillar davomida yerlarning surilishi va suv eroziyasi jarayonlari ta'sirida kesmaning o'rta qismida yengil mexanik zarrachalarni yig'ilganini ko'rish mumkin. Tuproqlarning mexanik tarkibi tuproq unumdorligini belgilashda muhim o'rin tutadi. Ayniqsa, turli darajada eroziyaga uchragan va sug'oriladigan tuproqlarda agregatlarning hosil bo'lishi qishloq xo'jalik ekinlaridan mo'l hosil olishda muhim ahamiyatga ega, chunki sug'orish va uning natijasida sodir bo'ladigan eroziyalanish agregatlarni ma'lum darajada parchalanishiga olib keladi.

1-Jadval

Chortoq tumani och tusli bo'z tuproqlarining mexanik tarkibi

Kesma №	Kesma chuqur ligi, sm	Mexanik tarkibi							
		>0,25	0,25-0,1	0,1-0,05	0,05-0,01	0,01-0,005	0,005-0,001	<0,001	fizik loy
Oʻrtacha eroziyalangan tipik boʻz tuproq, 2022 y. O.Xakberdiyev, D.Igamberdiyeva.									
1	0-33	1,5	0,5	20,1	52,5	2,4	14,3	8,7	25,4
	30-52	2,0	1,5	20,2	52,5	1,6	14,3	8,0	23,9
	52-79	1,0	2,0	19,9	61,2	4,8	7,2	4,0	15,9
	79-105	1,0	0,5	23,0	52,5	2,4	13,5	7,2	23,1

Jadval O'zbekiston adir mintaqalari tuproqlari eroziyasi adabiyotidan olindi. [3]

Chortoq tumani “Navoiy” massivi sug‘oriladigan bo‘z tuproqlarining mikroagregatlar tarkibida yirik chang (0,05-0,01) zarrachalari ustunlik qiladi. Ularning miqdori kesma bo‘yicha 52,5 dan 61,2% gacha tebranadi. Bizning olgan ma’lumotlarimiz yuqorida qayd qilingan olimlar fikrlarini to‘liq tasdiqlashi bilan birgalikda sug‘orish hamda ishlov berish natijasida agregatlarni ma’lum darajada parchalangani kuzatildi. Hozirgi davrda ko‘pgina izlanishlarning natijasida katta daliliy ma’lumot to‘plangan bo‘lib, tuproq agregat tarkibini ifodalaydi, sug‘oriladigan tuproqlarda g‘o‘za-beda almashlab ekish, sideratlar, qo‘shimcha organik va struktura hosil qiluvchi moddalar qo‘llash orqali makrostruktura hosil qilish sabablari o‘rganilgan. O‘zbekistonning sug‘oriladigan tuproqlarida struktura tarkibiga dukkakli va boshqa ko‘p yillik o‘tlar ijobiy ta’sir etar ekan.

XULOSA. Olingan natijalardan shunday xulosaga kelish mumkinki, Chortoq tumanida tarqalgan tuproqlarining mexanik tarkibi birmuncha o‘rta qumoqli bo‘lib, mikroagregatlar miqdori esa birmuncha ko‘p, hamda parchalanish koeffitsienti suv eroziyasi natijasida nisbatan yuqoridir. Loyqa suvlar bilan sug‘orish va inson faoliyati natijasida qisqa vaqt ichida agroirrigatsion qatlam hosil bo‘lgan. Bu pastki qatlamlardan nafaqat kimyoviy xossalari bilan balki, fizikaviy xossalari bilan ham farq qiladi.

Ushbu mintaqa tuproqlaridagi eroziya oldini olish uchun quyidagi tadbirlarni amalga oshirish maqsadga muvofiq:

- Chortoq tumanida tarqalgan tuproqlarining melorativ holatini yaxshilash;

- Chortoq tumandagi sug‘oriladigan tuproqlarda ekinlarni almashlab ekish tadbirlarini izchil yo‘lga qo‘yish;

- sug‘oriladigan yerlarning surilishi va suv eroziyasi jarayonlari ta’sirida saqlash chora-tadbirlarini doimiy olib boorish;

- o‘z navbatida tuproqdan foydalanish sohasida zarur bo‘lgan butun tadbirlarni ishlab chiqish talab qilinadi.

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*Nazarov D.M.
Urganch davlat universiteti
Geografiya yo'nalishi I kurs talabasi*

O'ZBEKISTONDA TO'QIMACHILIK SOHASINING INNOVATSION RIVOJLANISH OMILLARI

Annotatsiya. Maqolada yillar davomida erishilgan natijalar muhokama qilinadi to'qimachilik sanoatidagi mustaqillik, shuningdek, eng muhim omillar sohaning eksport salohiyatini oshirishga xizmat qilmoqda.

Kalit so'zlar: To'qimachilik sanoati, innovatsion mahsulotlar, xorijiy investitsiyalar, eksportni oshirish.

*Nazarov D.M.
first year geography student
Urganch State University*

FACTORS OF INNOVATIVE DEVELOPMENT OF TEXTILE SECTOR IN UZBEKISTAN

Abstract. The article discusses the results achieved over the years Independence is also the most important factor in the textile industry serves to increase the export potential of the industry.

Key words: Textile industry, innovative products, foreign investments, export increase.

KIRISH. Innovatsion-texnologik iqtisodiyotni shakllantirish jarayonida va ishlab chiqarishning iqtisodiy samaradorligini oshirish maqsadida va sanoat sohasida tarkibiy o'zgarishlarni amalga oshirish muhim o'rin tutadi xorijiy investitsiyalarni jalb qilishni taqozo qilmoqda. Hozirgi bosqichda O'zbekistonning rivojlanishi, jahon iqtisodiy hamjamiyatiga integratsiyalashuvi tegishli investitsiya muhitini shakllantirmasdan turib mumkin emas va milliy iqtisodiyotga xorijiy investitsiyalarni faol jalb etish muhimdir. Chunki O'zbekiston iqtisodiyotining innovatsion rivojlanishi omillaridan biri hisoblanadi - modernizatsiya va texnika dasturini faol amalga oshirishda jalb qilish bilan chambarchas bog'liq bo'lgan eng muhim tarmoqlarni qayta jihozlash xorijiy kapital oqimini oshirish dolzarbdir.

ASOSIY QISM. Zamonaviy O'zbekiston yetakchi sanoat davlatidir rivojlanishini ta'minlashga katta hissa qo'shayotgan Markaziy Osiyo mintaqasi barqarorlik va butun mintaqaning iqtisodiy rivojlanishi bu yerdagi moddiy va innovatsion texnologiyalarga chambarchas bog'liq. O'zbekiston iqtisodiyoti xorijiy kompaniyalar uchun taklif etayotgan – siyosiy va makroiqtisodiy

barqarorlik, qulay tabiiy-iqlim sharoiti, mehmondo'st va mehnatkash xalqi va ko'plab boshqa sohalar, barcha imtiyozlar orasida biznes muvaffaqiyatining asosiy omili hisoblanadi.

O'zbekiston boy resurs bazasi, qulay geografik o'rin eng yirik mintaqaviy bozorlar markazida joylashgan, integratsiyalashgan transport-logistika tizimi, ko'p tarmoqli sanoat respublikaning bazaviy va ilmiy-intellektual, kadrlar salohiyati bilan ajralib turadi. O'zbekiston ulkan investitsion salohiyatga ega. Masalan, yillar davomida Mustaqillik sanoatning yangi rivojini dastlab avtomobil sanoati, qishloq xo'jaligi muhandisligi, biotexnologiya, farmatsevtika sanoati, axborot texnologiyalari.

O'zbekiston to'qimachilik va tikuv-trikotaj sanoati yetakchi va jadal rivojlanayotgan tarmoqlardan biri hisoblanadi. So'nggi yillarda sanoat ishlab chiqarish hajmining o'sishi taxminan 18% ni tashkil etdi, eksport esa 10 %. Bunda eksport juda ham muhim rol o'ynaydi davlatdagi iqtisodiy muammolarini hal etish va hayotiy manfaatlariga javob beradi. Sanoat hududlarning uyg'un rivojlanishiga hissa qo'shadi, aholi bandligini ta'minlash va uning farovonligini oshirishni ta'minlaydi kichik va xususiy tadbirkorlikni shakllantirish va rivojlantirishga ko'maklashadi. Eng muhimi ichki zaxira va imkoniyatlarning yo'nalishi bosqichma-bosqich rivojlantiradi.

Mahalliy xomashyoni qayta ishlash samaradorligini oshirish, shuningdek mahsulotlar hajmi va assortimentini yuqori darajada kengaytirish qo'shilgan qiymat solig'ini hisobga olishni taqozo qiladi. Agar 1991 yilda paxtani qayta ishlash hajmim O'zbekistonda tola 7 % dan oshmagan bo'lsa, hozir bu ko'rsatkich 40 %ga yetdi. Bugungi kunda sanoatda tayyor mahsulotlar ishlab chiqarilmoqda. Hozirgi kunda asosan 1063 dan ortiq korxona mahsulot eksport qilmoqda. Korxonalar tarmoqlari to'qimachilik mahsulotlarini dunyoning 72 dan ortiq mamlakatlariga eksport qilmoqda.

MUNOZARA. Hozirgi vaqtda o'zbek to'qimachilik mahsulotlarining asosiy iste'molchilari Belgiya (umumiy to'qimachilik eksportining 22,3 foizi), Koreya (14,9%), Rossiya (14,7%) va Ispaniya (12,5%). Hozirgi vaqtda asosiy O'zbekiston to'qimachilik mahsulotlari iste'molchilaridir. So'nggi yillarda Braziliya, Chili, Xorvatiyaga eksport qilinmoqda, shuningdek Afrikaning Nigeriya va boshqa mamlakatlariga ham eksport qilinmoqda.

Bugungi kunda Respublikada sohada 7 mingdan ortiq korxona faoliyat yuritmoqda. Uyushma korxonalari tomonidan keng assortimentdagi boshqa mahsulotlar ham ishlab chiqarilmoqda ma'lum bir profilning nomenklaturasi va assortimenti, shu jumladan tibbiy mahsulotlar, to'qilmagan buyumlar ishlab chiqarish, paxta mahsulotlari, maxsus ish kiyimlariga bo'lgan ehtiyojni qondirish, teri mahsulotlari, shuningdek, ishlab chiqish va joriy etishni ta'minlaydi yangi avlod mahsulotlarini ishlab chiqarish - yangi innovatsion texnologiyalar rivojlantirilmoqda.

Asosiy e'tibor tayyor mahsulotlar ishlab chiqarishni ko'paytirishga qaratildi yuqori qo'shimcha qiymatga ega bo'lgan mahsulotlar, ularning ulushi

umumiy sanoat mahsulotining 57 %idan oshdi. Ishlab chiqarish zanjirida qo'shilgan qiymatning eng katta o'sishi paxtadan to'qimachilik sanoati va tayyor trikotaj tikuvchilik sohasida mavjuddir. To'qimachilik sanoati jadal rivojlanishining muhim ko'rsatkichi chet el investitsiyalarining barqaror oqimidir.

Yangi jalb qilish samarali boshqaruv bilan birgalikda sarmoya, eng ko'p amalga oshirish zamonaviy texnika va texnologiyalar eng muhim omil hisoblanadi O'zbekiston to'qimachilik va tikuv-trikotaj sanoatini rivojlantirish va eksport salohiyatini oshirish. Mustaqillik yillarida yetakchi xorijiy investorlar ishtirokida 300 dan ortiq korxona tashkil etildi.

Germaniya, Shveytsariya, Italiya, Janubiy Koreya, Yaponiya, Turkiya, AQSH, Hindiston va boshqalar Katta xorijiy investorlar sanaladi, masalan, Daewoo International, Daishin Textile, Hyntex, Shindong Enercom (Koreya), Alkim Textile, Mert Iplik (Turkiya), Spentex Industries (Hindiston), Virex, Osborne Trading (Buyuk Britaniya) va boshqalar. So'nggi yillarda to'qimachilik sanoatida, Ichida 180 ta investitsiya loyihasini amalga oshirilishi, va 2,5 milliard dollardan ortiq mablag' jalb etildi. 2.8 mlrd AQSH dollari miqdorida Janubiy Koreya, Xitoy, Rossiya, Hindiston, Buyuk Britaniya, Germaniya. 80% dan ortig'i xorijiy jalb qilingan investitsiyalardir.

Janubiy Koreya, Shveytsariya, Singapur, Buyuk Britaniya, Germaniya, Hindiston va Turkiya. 2021-yilda ishlab chiqarish sanoati hajmi, ulushi to'qimachilik, tikuvchilik va charm mahsulotlari ishlab chiqarish korxonalari - 17,8 %ni tashkil etdi.

Yengil sanoatni rivojlantirish strategiyasini amalga oshirish Davlat dasturida O'zbekistonda 2022-2026 yillarga mo'ljallangan qator vazifalar belgilab olindi, ularning yechimi "O'zto'qimachilik sanoat" uyushmasiga yuklangan.

XULOSA. Xalqaro tajribani hisobga olgan holda, quyidagilar sanoatni rivojlantirish ustuvor yo'nalishlari deb e'tirof etilgan:

- resurslarni ko'p talab qiluvchi mahsulotlar (teri mahsulotlar, uy tekstili va boshqalar), trikotaj va kiyim-kechak ishlab chiqarish. Innovatsion yo'nalishlarni rivojlantirish - aralash va texnik ishlab chiqarish matolar;
- ishlab chiqarish xarajatlarini yanada optimallashtirish;
- investitsiya loyihalarini amalga oshirishda O'zbekistonning raqobatdosh ustunliklarini yuzaga chiqarish;
- korxonalarga bozorga kirishda, istiqbolli bozorlarni aniqlashda, logistika va kirish masalalarini hal qilish qulay savdo sharoitlarini yaratish.

"Uzbek textile" brendining xalqaro bozorda raqobat bardoshligini oshirish. Maqolaning oxirida shuni ta'kidlash kerakki, yuqoridagi loyiha va chora-tadbirlarni rag'batlantirish korxonalarining raqobatbardoshligiga xizmat qiladi. Bunda ko'zda tutilayotgan asosiy maqsad va vazifalar O'zbekiston iqtisodiyotining innovatsion salohiyatini rivojlantirishdan iboratdir.

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HO CHI MINH'S THOUGHT ON AGRICULTURAL AND RURAL ECONOMIC DEVELOPMENT - CONTENT AND CURRENT VALUES

Summary. Through theoretical research and practical demonstration, the article affirms the role of Ho Chi Minh's thought in the orientation and development of the current agricultural and rural economy in Vietnam. The value of this thought is demonstrated through promoting economic growth, improving the lives of farmers, protecting the ecological environment, and creating a foundation for sustainable development. That demonstrates the strategic vision and sustainable value of Ho Chi Minh's thought in building the agricultural and rural economy.

Keywords: Ho Chi Minh's thought, agricultural economy, rural areas.

Introduction: Agricultural and rural development has always played a key role in the socio-economic development of Vietnam. Ho Chi Minh's thought emphasizes that agriculture is a solid foundation for the sustainable development of the country, and farmers are the decisive factor in the success or failure of this process. In the current context, when the country is facing many challenges such as climate change and global economic integration, the development of agricultural and rural economy not only aims to improve people's lives but also ensures food security, protect the environment and promote social stability. This contributes to creating a sustainable economy and strengthening the comprehensive and harmonious development of the country.

1. Ho Chi Minh's thoughts on agricultural and rural economic development

Agricultural and rural economic development has always been one of the key tasks of Vietnam. Ho Chi Minh's thoughts have put forward core and highly practical principles, helping to orient sustainable agricultural development. These principles bring economic efficiency, at the same time, contribute to improving the material and spiritual life of farmers, creating a solid foundation for the comprehensive development of the country.

First, Ho Chi Minh always emphasized the central role of farmers in the agricultural development process. Farmers are not only producers but also decide the success or failure of this process. He affirmed: "The majority of our people are farmers. Everything must rely on farmers. Farmers must be enthusiastic and enlightened to quickly win the resistance war and quickly succeed in nation building" (Minh, 2011b). This shows respect and appreciation for the role of farmers in the process of building and developing the country. Ho Chi Minh considered farmers as the true masters of the revolution, both the main

production force and the preservers and developers of traditional national culture. The promotion of the role of farmers does not stop at their creating material wealth but also in their participation in the decision-making, management, and implementation of agricultural and rural development policies. This requires improving the knowledge and skills of farmers so that they can take on a proactive and creative role in production and economic management.

Second, Ho Chi Minh emphasized that production development must be closely linked to science and technology. He always encouraged the application of science and technology to agricultural production to improve productivity and product quality. He pointed out that farmers “must boldly advance in agricultural science and technology” (Minh, 2011f). This viewpoint demonstrates Ho Chi Minh's strategic vision on the role of science and technology in economic development. He emphasized the research and application of scientific and technological advances in production practices to solve challenges in productivity, quality, and economic efficiency. Ho Chi Minh also affirmed the importance of training and fostering human resources with high scientific and technical qualifications to serve the cause of agricultural development. He believed that to be a leader, one must “understand science and technology” (Minh, 2011e), and that only through science and technology can workers improve labor productivity, reduce manual labor, increase production efficiency, and improve people's lives.

Third, building cooperatives and other forms of production association is one of the core points in Ho Chi Minh's thought. He encouraged the building of cooperatives as a collective economic model to create solidarity and mutual support. According to Ho Chi Minh: Cooperatives are the path to socialism for farmers, because they not only bring practical benefits to the people but also “reduce the squeezing power of capitalists and imperialists” (Minh, 2011a). He emphasized: “We must gradually improve the lives of our fellow farmers. But if farmers continue to work individually, their lives cannot be improved” (Minh, 2011d). This viewpoint shows his belief in the strength of the collective and the solidarity of farmers in building and developing the economy. He believed that cooperatives help increase production efficiency and improve the material and spiritual life of farmers: “If we want to improve our lives, there is only one way: to organize farmers to work collectively, that is, to organize farmers into agricultural cooperatives” (Minh, 2011d). However, he paid close attention to the fact that cooperatives must be built on a voluntary basis, respecting the rights of members and ensuring democracy and transparency in management and operation. These are important principles to build a strong cooperative, develop sustainably and bring benefits to all members.

Fourth, Ho Chi Minh cared about the material and spiritual life of farmers. He pointed out: The Party and the Government must take care of the people's lives. If people are hungry, cold, ignorant, or sick, it is the fault of the Party and the Government. Ho Chi Minh's will also advised the Party and the

State to focus on restoring and expanding economic sectors, developing sanitation and healthcare, and reforming the education system. This shows his special concern for the people, especially farmers, not only stopping at increasing income but also providing the best healthcare, education, and cultural services. A good material and spiritual life will create conditions for farmers to feel secure in production and contribute to the development of the country. Ho Chi Minh emphasized that economic development must go hand in hand with improving the lives of the people, especially farmers. Only when people enjoy a good material and spiritual life can they fully develop their creativity and labor productivity. Caring for people's lives is the responsibility of the state and the whole society to build a fair, democratic, and civilized society.

Fifth, the principle of sustainable development is an important highlight in Ho Chi Minh's thought. He stated that development must ensure sustainability, social justice, self-reliance, and innovation. He required that "every cooperative must have a plan to plant forests and actively protect forests. If the forest is exhausted, there will be no more wood and if the water source is lost, the fields will lose their color, causing floods and droughts" (Minh, 2011f). This point of view shows that agricultural economic development cannot be separated from the protection of the environment and natural resources. The development process must be based on self-reliance, encouraging innovation to adapt to changes in circumstances and the environment. He believed that sustainable development must be built on the basis of a balance between economic, social, and environmental factors. Only when this balance is ensured can sustainable and long-term development be achieved.

Sixth, Ho Chi Minh considered agriculture to be the foundation for the country's industrialization and modernization. He pointed out: Vietnam is an agricultural country, therefore "to develop industry and the economy in general, we must take agricultural development as the root and main factor" (Minh, 2011c). This demonstrates Ho Chi Minh's strategic vision of the role of agriculture in the country's development process. Agriculture not only provides raw materials and food for industry but is also a market for industrial goods. Sustainable agricultural development will create a solid foundation for the industrialization and modernization process, while ensuring food security and sustainable socio-economic development. Ho Chi Minh clearly recognized that agriculture and industry have a mutual, supportive relationship. Only when agriculture develops strongly can it create favorable conditions for industrialization and modernization, thereby bringing the country onto the path of sustainable development and prosperity.

2. Practical value of Ho Chi Minh's thought in the development of agricultural and rural economy today

Ho Chi Minh's thought on agricultural and rural economic development has been applied extensively and comprehensively in practice, bringing about many encouraging results.

Firstly, the national target program on new rural construction is a symbol of success in creatively applying Ho Chi Minh's thought into practice. This program, with the goal of improving people's lives, improving infrastructure, and promoting agricultural production, has brought about many encouraging results. According to the report of the Ministry of Agriculture and Rural Development, by April 2022, the whole country had 6,009/8,211 communes (equivalent to 73.2% of the total number of communes) meeting new rural standards (Huong & Thanh, 2023). Policies to support rural development, such as the construction of roads, irrigation systems, schools, and medical stations, have significantly improved infrastructure in rural areas, creating a new look and improving the material and spiritual life of the people.

Secondly, policies to support the development of sustainable agricultural production have encouraged innovation and application of science and technology in agriculture, helping to improve productivity and product quality, protect the environment, and enhance the competitiveness of agricultural products in the international market. Effective agricultural economic models such as new-style cooperatives, value chain production linkages, high-tech applications, and organic production have been widely deployed, bringing about many positive results and making important contributions to rural economic development. Training and skill development for farmers are focused on, helping them access modern production techniques and methods, creating a qualified agricultural workforce to meet the requirements of a modern and sustainable agriculture.

Third, improving the material and spiritual life of farmers is a highlight in the practical value of Ho Chi Minh's thought. Community development and infrastructure improvement programs such as Program 135 have brought about significant changes in remote areas and ethnic minorities. Villages have electricity, clean water and roads, improving living conditions and opening up economic development opportunities. Socio-economic development projects such as building irrigation systems, supporting high-quality crop and livestock varieties and vocational training have helped people improve productivity and production efficiency. New economic models such as new-style cooperatives and value chain production linkages have created conditions for farmers to access larger and more stable consumer markets. This not only helps increase people's income but also significantly improves their quality of life, demonstrating the success in applying Ho Chi Minh's thought into practice.

Fourth, sustainable agricultural development and environmental protection are important values in Ho Chi Minh's ideology. Farming models such as rice-shrimp integration and mangrove planting have brought double benefits: increasing farmers' income and protecting the environment. Forest planting and protection policies have contributed to protecting the ecological environment, combating climate change and creating sustainable livelihoods for people living near forests. Education and propaganda programs have raised

awareness, changed behaviors and farming habits, helped protect the environment and improve the quality of agricultural products. These policies not only help improve production efficiency but also create a better, more sustainable living environment for people, while affirming the role of Ho Chi Minh's ideology in environmental protection and sustainable development.

Conclusion

Ho Chi Minh's ideology on agricultural and rural economic development has brought great practical values. The success of cooperative models, new rural development programs and sustainable development policies have demonstrated his strategic vision. From promoting economic growth, improving people's material and spiritual lives to protecting the environment, this ideology has laid a solid foundation for the country's sustainable development. Lessons from Ho Chi Minh's ideology continue to be the guiding principle for agricultural and rural economic development policies, contributing to building a prosperous and civilized Vietnam. This ideology not only provides development directions but also a solid theoretical foundation to help shape policies and strategies for sustainable agricultural development, while at the same time arousing patriotism, national pride and responsibility of each citizen in the process of building and developing the country.

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IMPORTANT ASPECTS OF THE FORMATION OF AXIOLOGICAL MECHANISMS IN THE PERIOD OF HUMANITARIAN SECURITY

Resume. This article is devoted to the socio-philosophical concept of the formation of axiological mechanisms in the period of humanitarian security and its methodological development. The methodological framework of the socio-philosophical concept of axiological mechanisms in the context of humanitarian security provides a comprehensive framework for analyzing and understanding the values and beliefs that shape the behavior and decisions of individuals in times of crisis. By studying these axiological mechanisms, more nuanced and effective strategies can be developed to ensure peace, security, and human well-being in a diverse and interconnected world.

Key words: national, humanitarian, security, value, culture, identity, axiology.

In recent years, there has been increasing attention to the importance of integrating security considerations into all aspects of humanitarian work, as well as the need for cooperation and coordination between humanitarian actors, governments and other stakeholders to enhance humanitarian security.

Humanitarian security refers to the protection of individuals or communities at risk of harm or violence in humanitarian settings. This includes protecting humanitarian aid workers, aid recipients and the wider population from physical, psychological and emotional harm. Some important aspects of humanitarian security include risk assessment, risk management, security planning, security training and implementation of security measures to mitigate threats. In the era of humanitarian security, the formation of axiological mechanisms means the development of values and principles that guide decision-making and behavior in the context of protecting human well-being and dignity. Axiology is a branch of philosophy dealing with values, ethics and aesthetics, which plays a decisive role in shaping the moral compass of individuals and societies.

Axiological laws, which are principles or values that guide human behavior and decision-making, are especially important in times of humanitarian uncertainty. In times of crisis and conflict, when lives are at stake and human rights are violated, it is essential to have a strong moral compass to guide actions and ensure that humanitarian principles are applied.

Axiological laws help establish a common set of values that can guide individuals, organizations, and governments in responding to humanitarian crises. These values often include the principles of human dignity, equality,

justice and compassion, which are important to meet the needs and protect the rights of vulnerable populations.

In the face of humanitarian uncertainty, axiological laws provide a framework for ethical decision-making and for prioritizing the welfare of those affected by the crisis. They are humanity of help principle and efficient to be shown, man rights and value respect to do and protection to do help will give.

Axiological to laws compliance to do through persons and organizations humanity safety against in the struggle respect, sympathy and solidarity culture development can This is humanitarianism help with engaged in different subjects in the middle trust and cooperation to strengthen help will give and in the end crises more efficient and stable solution to do contribution adds

Humanitarian safety with depends problems to learn when starting, always changed standing in the world people many from threats protection to do idea new that it is not remember get need [2]. For example, traditional liberalism from the circumstances strict Look, all people equal to and equal to respectively free that mean caught, therefore for human being himself understand will receive safe conditions Create need International relationships science and some safety studies human being safety safety issues national and military of approaches difference does

Indeed, humanity safety people and their rights protection to do when you say what means with organic depends. This attitude with humanity safety national from security differentiate necessary, his main purpose external threats opposite of the state territorial and political integrity protection is to do [12]. This to understand very important because past in the century foreign countries army by of those killed according to more people own of governments actions or citizens in wars death it has been. So so many governments human being safety threat put, national from security they use

Men's safety according to commission human being security "man of life the basics human being their freedoms expand and of them to use help giving way protection to do" defines [4]. Thus humanitarian safety of a person main their freedoms protection to do, people there is and potential from threats protection to do directed.

It is also worth noting that, man safety concept since 1994 then, Cold war ending to safety traditional approaches again seeing exit for conditions from creation after often to the language received This or another by the United Nations Development Program announcement made in 1994 "Man development report" Humanitarianism safety concept formation for very important being came out because this in the report exactly that's it term was "Humanitarian security" to circulation introduced later international relationships theorists and practices by apply started

To the report according to the person development human being for possible has been selection scope expand process as understood [11, 23]. human being safety and "people" own choices safe and free done increase possibility,

they today there is opportunities tomorrow there is to be relatively trust harvest in the context of what they do is determined [11, 24]. So in the report human being safety concept development point of view in terms of four main to the feature based on explained: universal application, early prevention get with guaranteed mutually dependence and main value as to people attention [3, 10].

Cold war from the end after of our time new problems and in the world instability eventually to safety traditional approaches again seeing to exit take came That's a lot in terms of international, public and accordingly respectively humanitarian safety concepts development with depend Above telling as above concepts attention not accepted interstate relations. From this except this in a sense humanity safety is an achievement because this approach within main object state or society not but is a person.

Man safety provide seven main the component own into received approach according to understood: economic, nutrition, health, ecological, personal, social and political safety. Also humanitarian security narrower in a sense description possible to understand need This point of view meaning, human safety two in terms of is understood. First, hunger, disease and repression such as from threats safety. Second, it's any in a place - at home, at work or in society happen to be possible has been in advance telling which cannot be risk and from difficulties protection to do means such any threats development level in the states there is to be possible [11, 23].

And so, different approaches point of view in terms of humanitarian safety how be understood determination to the goal is appropriate. So and humanity and national safety concepts supporters between opposition clearly However, humanitarian safety researchers between differently approaches there is. Man safety of the concept all followers this referent object in case person that agree to be despite, the main discussions directly protection to do need has been threats typology around becomes

Canada approach humanitarian security to understand narrow approach to represents [7, 41]. This approach humanity safety within main any problem from the state or another organized political from the participants come output possible has been to the individual against directed aggression that to understand based on [5, 124]. Humanitarianism of safety main principle interpretation do, therefore for people and people groups war and another aggression from the forms protection to do with depend This approach theorists from aggression protection of doing importance another threats aggression forms with strong dependence with they explain, that is of the government most of the time human being rights, poverty and social protection measures because of instability. That's it to emphasize it should be approach Also called Canadian because Canada human being safety concept external of politics paradigm as acceptance did, therefore for Canada external of politics main goals peace, security and international to cooperation in pursuit expressed. Canadian humanitarian of security interpretation basically human being rights, security or to life from

threats get rid of to be directed. So, we again “security” of fear interpret as “absence” to do we’ll be back, that’s it security of a narrow approach to understanding initial is the point [8].

United Nations Organization Development Program and Man safety according to commission at work applied human being safety wide approach is also necessary “not”, it is called while narrow approach to it, “fear with no” compares by the United Nations Development Program prepared above note done lecture human being safety is like that wide to understanding according to work developed Wide approach theorists humanitarian of security seven main component determine: economic security, food safety, health safety provide measures, ecological and personal security, humanity societies safety and political security [11, 22-25].

Humanitarian safety during axiological mechanisms work exit according to scientific studies take went some researchers the following own into takes:

1. Anwar King, Brookings Institute big scientific employee, he is a humanitarian safety measures moral values input importance about studies publication reached

2. United Nations Organization former Secretary- General Kofi Annan, humanitarian safety in providing values and of morality place about research take went

3. Maria Ivanova, Massachusetts university professor, humanities safety of operations moral aspects according to research take went

4. Australia National University professor Bina D’Costa, from conflicts injured in the regions humanitarian security in providing moral of values role learned

This researchers moral values and axiological mechanisms modern period humanitarian safety efforts how strengthen possible to understand big contribution added.

Humanitarian safety during axiological mechanisms work exit according to attention owner scientific from work one this security learning and of ethics intersection according to work with famous has been scientist, by Dr. J. Peter Burgess take went are studies. Burgess in his " Security moral subject: geopolitical reason and to Europe threat " in the book moral values and norms humanity interventions in the context of safety policy and practice in formation how solution doer role to play learns

to this field again one important contribution humanity safety intervention moral aspects wide learned doctor Rorden Wilkinson's work Wilkinson in his “International relationships and difference problem” in the book moral values, cultural beliefs and moral principles humanitarian crisis and in conflicts decision acceptance to do to the process how effect to do seeing comes out

From this besides, doctor Like Anthony Burke scientists human being rights according to of speech humanitarian safety practices in formation role seeing they came out Burke in his “Security”, Ethics and from violence except:

to another against in the book “war” moral considerations humanity of interventions efficiency and legality for central place claims that it occupies

Humanitarian safety in the context of axiological mechanisms concept according to wide comprehensive studies take went some philosophers the following own into takes:

1. Martha Nussbaum: Nussbaum is famous philosopher being morals, values and human being of rights intersection about a lot wrote His work often especially humanitarian crises in the context of all of individuals internal recognize the value and respect to do importance with depends [13].

2. Seila Benhabib: Benhabib human being rights and humanity intervention moral aspects learned political philosopher He is humanitarian safety speech and practice in formation values and of norms role seeing came out [14].

3. Judith Butler: Butler violence, vulnerability and human being of rights moral measurements about wrote philosopher and gender theorist. His work most of the time social norms and values humanity safety provide according to to efforts help to give and restriction methods seeing comes out [15].

4. Richard Rorty: Rorty moral solidarity and of solidarity importance believed philosopher was His It is said that in general values and common humanity feeling humanity crises conditions peace and justice provide for important important have

Above research works humanity safety provide and of the population weak layers protection to do in his actions axiological mechanisms or human being behavior and decisions acceptance to do forming main values and standards seeing exit importance emphasizes.

In Uzbekistan humanitarian safety in context axiological of mechanisms socio-philosophical of the concept methodological basics according to scientific the work take went and J. Tulenov, SO Shermammedov, S. Mamashokirov, Q. Nazarov, A. Ochildiev, ethnological problems A. Ashurov, history of modernity B. Kasimov, language and philosophy of Uzbek scientists in better revealing axiological issues in the history of the Uzbek people. The principles of interdependence were reflected in the researches of B. Karimov, the history of spiritual values by Sh. Kakhrova, and the study of the identification process by Sh. O. Madaeva. They are in Uzbekistan morals, values and humanitarian of issues different aspects according to studies take went famous philosopher and social is a scientist.

Many research and monographs humanity of safety moral aspects and of people crisis and to conflicts attitude in formation values and of beliefs role learner one how much article and books publication reached His work most of the time humanity safety in the context of mercy, justice and solidarity such as moral values to understand and promote to do importance emphasizes.

From this besides, philosophy, sociology and from psychology received to information relied on without humanitarian safety in the context of axiological

mechanisms of learning methodological the basics work to exit contribution added. His to research interdisciplinary approach in Uzbekistan and from him outside peace and security in providing values, beliefs and actions between complicated mutually dependence in lighting impressive it has been.

in Uzbekistan humanitarian safety in the context of axiological of mechanisms methodological basics according to studies take went again one series famous scientists to the line the following includes:

1. Professor Murad Ismailov - in Uzbekistan humanitarian sciences in the field famous specialist, professor Ismailov axiological mechanisms concept and their humanitarian security in provision role according to one how much published his research.

2. Gulnara Olimova - Social and political studies in the field experienced researcher, various research projects through in Uzbekistan axiological mechanisms and humanitarian safety between relationships by learning came out

4. Bahadir Umarov - International relationships and safety issues according to leader expert, B. Umarov in Uzbekistan humanitarian safety in the context of axiological of mechanisms political aspects according to research take went

Axiological of mechanisms socio-philosophical concept person and societies have has been values and beliefs, this values their behavior and decision acceptance to do processes how effect to do to learn means Humanitarian safety in the context of this axiological mechanisms to understand peace, stability and prosperity provide for efficient strategies work exit for very important

This of conception methodological basics sociology, philosophy, psychology and another social sciences concepts combined multidisciplinary the approach own into takes Researchers axiological mechanisms learning for different methods, including surveys, interviews, practical studies and experimental from studies they use

Main methodological of approaches one is this of individuals values and in their beliefs pattern and trends determination for quantitative and good quality information analysis from doing use To these researchers of people cultural come output, social and economic status and personal experience such as humanitarian to problems attitude forming main factors to understand help will give.

Another one important methodological basis humanity of safety moral and spiritual aspects is learning. Researchers persons and societies decision acceptance to do in processes who manages moral principles and this principles humanity crises and conflicts their to their answers how effect to do they learn From this besides, researchers most of the time social mutually effects and cultural norms through of individuals values and beliefs how structure and strengthened analysis to do for social to himself characteristic theory and social

constructivism such as theoretical from the basics they use To these researchers humanity safety relationship formation of individual values, social values and institutional practices between complicated mutually dependency to understand help will give.

Humanitarian safety in context axiological of mechanisms socio-philosophical of the concept methodical basics crisis period of individuals behavior and decisions forming values and beliefs analysis to do and to understand for wide comprehensive basis creates This axiological mechanisms learning through researchers different different and mutually depends in the world peace, security and human being well-being provide for more thin and efficient strategies work outputs can

In general when, this and another affairs humanitarian safety policy and practices formation and effect in doing axiological of mechanisms importance emphasizes today complicated and mutually depends in the world safety measures moral aspects about valuable concepts will give.

Humanitarian safety in the context of axiological mechanisms concept according to big in quantity studies take went Axiology of philosophy values, ethics and aesthetics with engaged in department is axiological mechanisms while persons and of societies own values and beliefs formation processes means

This in the field of research main from directions one values and humanity movement between is a dependency. Studies that's it showed compassion and sympathy and social justice such as values the first to the seat to put persons and societies humanity in his actions participation reach and to those in need help show efforts support can

Also humanitarian safety with depends axiological mechanisms in formation of education role according to studies take went Studies that's it showed that education through humanity values and ethics to the rules have to be in people empathy and social responsibility feeling to develop help gives, this while humanity efforts of support to increase take will come.

From this except, studies humanitarian safety in the context of axiological of mechanisms development cultural and social of factors effect by learning came out Studies that's it showed that cultural values and norms of people humanity to his actions has been to the relationship effect to do possible and social networks and public structures humanity safety with depends collective values and beliefs in formation solution doer role plays

Modern period human being of rights confession to be done and humanity of care importance increased going because of, man safety protection to do and to encourage priority importance giving axiological to the basics has been need increased is going Not only that violence and from conflicts physical security, perhaps human being of well-being wider aspects, for example, the main needs, health storage, education and from justice to use own into takes

Humanitarian safety in the context of axiological of mechanisms formation cultural, social, political and moral of factors complicated mutually effect own into takes It exists value and standards critical to learn, power and inequality dynamics understanding, justice, sympathy and human being value respect to do promote to do requires commitment.

Humanitarian safety during axiological mechanisms work on the way out main thoughts of the following consists of:

1. Universal human being recognition of rights: humanitarian safety in context axiological basics universal, inseparable and indispensable human being rights principles justification need This is life, freedom and safety the right, as well as food, water, shelter and health storage rights enters

2. Moral responsibility: Axiological mechanisms justice, equality and solidarity encourage for moral obligation reflection to continue need That's all of people mutually recognition of dependence and common interests loyalty own into takes

3. Cultural sensitivity: Axiological basics cultural values and of norms diversity account get, as well as a person value and of rights universal principles support need It's cultural dynamics deep to understand and different cultural prospects with respectable communication and to cooperation requires loyalty.

4. Accountability and Disclosure: Humanitarian safety during axiological mechanisms accountability, transparency and management principles justification need Of this monitoring, assessment for and reverse contact mechanisms, as well as infringement cases eliminate reach and fair judgment mechanisms necessary

Humanitarianism safety during axiological mechanisms work exit according to take went scientific affairs humanity problems has been relationship and actions in formation values, ethics and of empathy importance emphasized. This axiological of mechanisms formation and effect to do processes to understand through researchers and politicians humanitarian to safety relatively compassionate and moral the approach before push to act on the way can

In general in general, humanity safety during axiological of mechanisms formation moral and philosophical issues with deep to deal with, as well as justice, compassion and human being value respect to do values promote to do requiring commitment dynamic and constant is a process. Man safety the first to the seat to put strong axiological the basics work exit through we all for more fair, peaceful and stable the world to build to act on the way can

Summary by doing in other words, axiological laws humanity safety during moral behavior and decisions acceptance in doing solution doer role plays Man value and justice principles supported without, individuals and organizations of the population weak layers needs satisfy and crisis during their rights protection to do for together performance can.

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CHO‘LLASHISH MUAMMOSI VA UNGA ZAMONAVIY YECHIMLAR

Annotatsiya. Ushbu maqolada cho‘llashishga olib keladigan sabablar, mamlakatlar iqtisodiyotiga ta’siri xususida so‘z boradi. Shuningdek, cho‘llashish muammosini yumshatish bo‘yicha takliflar keltirilgan.

Kalit so‘zlar: Cho‘llashish, no-till dehqonchilik, ko‘p qavatli ekinlar, mintaqaviy daraxt o‘stirish, genetik modifikatsiya qilingan o‘simliklar, dron va sun‘iy yo‘ldosh texnologiyalari, barqaror qishloq xo‘jaligi amaliyotlari, tomchilatib sug‘orish.

Olimov V.M.
2nd stage student
UrDPI direction of the basics of
geography and economic knowledge

THE PROBLEM OF DESERTIFICATION AND MODERN SOLUTIONS TO IT

Annotation. This article will talk about the reasons that lead to desertification, the impact on the economy of countries. Proposals have also been made to mitigate the desertification problem.

Keywords: Desertification, no-till farming, multi-tiered cultivation, regional tree growing, genetically modified plants, drone and satellite technologies, sustainable agricultural practices, drip irrigation.

Cho‘llashish, ya’ni yerdan noto‘g‘ri foydalanish, tuproqning eroziyasi va ifloslanishi kabi masalalar zamonaviy dunyoda dolzarb muammo hisoblanadi. Bu muammo qishloq xo‘jaligi, shaharsozlik, sanoat va atrof-muhitga salbiy ta’sir ko‘rsatmoqda¹⁷.

Cho‘llashishning sabablari:

1. O‘rmonlarning kesilishi: O‘rmonlar tuproqni shamol va suv eroziyasidan himoya qiladi. Ularni kesish tuproq eroziyasiga olib keladi.

2. Noto‘g‘ri sug‘orish: Sug‘orish texnologiyalarining noto‘g‘ri qo‘llanilishi tuproqning sho‘rlanishiga olib keladi.

3. Yersiz qolish: O‘rmonzorlarning o‘rnida hosil bo‘lgan hududlar shudgor qilinib, ekin maydonlariga aylantiriladi, bu esa tuproqning tabiiy tarkibini buzadi.

¹⁷ <https://sfera.fm/articles/selskoe-khozyaistvo/opustynivanie-prichiny-i-puti-resheniya#i>

4. Iqlim o'zgarishi: Iqlim o'zgarishi natijasida yog'ingarchilik rejimi va tuproqning namlik balansi buziladi.

Cho'llashishning salbiy ta'sirlari:

- Ekologik zarar: Tuproqning degradatsiyasi natijasida hayvonot va o'simlik dunyosi zarar ko'radi.

- Qishloq xo'jaligi: Hosildorlikning kamayishi va tuproq unumdorligining pasayishi.

- Ijtimoiy-iqtisodiy oqibatlar: Cho'llashgan hududlarda yashovchi aholi qashshoqlik va oziq-ovqat xavfsizligi bilan bog'liq muammolar bilan to'qnashadi.

Cho'llashishni oldini olish choralari:

1. Barqaror qishloq xo'jaligi amaliyotlari: Ekin almashinuvi, organik o'g'itlar va yangi sug'orish texnologiyalarini joriy etish.

2. O'rmonlarni tiklash: Yangi o'rmonlarni ekish va mavjud o'rmonlarni himoya qilish.

3. Eroziyaga qarshi choralar: Yam-yashil hududlar barpo etish va suv eroziyasiga qarshi tizimlarni o'rnatish.

4. Atrof-muhitni himoya qilish: O'simliklar qoplamasini saqlab qolish va tabiiy resurslarni asrab-avaylash.

Cho'llashishga qarshi kurashish insoniyatning ekologik barqarorligini saqlash va kelajak avlodlar uchun sog'lom muhit yaratish uchun muhimdir. Cho'llashish – qurg'oqchil va yarim qurg'oqchil hududlarda yerlarning degradatsiyasi – iqtisodiyotga bir necha yo'llar orqali salbiy ta'sir ko'rsatadi:

1. Qishloq xo'jaligi ishlab chiqarishining pasayishi:

Cho'llashish tuproqning hosildorligini kamaytiradi, bu esa qishloq xo'jaligi mahsulotlarini yetishtirishni qiyinlashtiradi. Natijada, qishloq xo'jaligi bilan shug'ullanuvchi mintaqalarda oziq-ovqat xavfsizligi tahdid ostida qoladi va qishloq xo'jaligi mahsulotlari eksportidan keladigan daromadlar kamayadi.

2. Suv resurslarining kamayishi:

Cho'llashish suv manbalarining kamayishiga olib keladi, bu esa sug'orish imkoniyatlarini cheklaydi va sanoat uchun suv ta'minotini qiyinlashtiradi. Suv tanqisligi qishloq xo'jaligi va sanoat faoliyatiga jiddiy ta'sir ko'rsatadi.

3. Iqtisodiy yo'qotishlar:

Tuproq eroziyasi va degradatsiya natijasida hosildor yerlar yo'qotiladi, bu esa iqtisodiy yo'qotishlarga olib keladi. Odamlar yerlarini yo'qotib, boshqa hududlarga ko'chib ketishga majbur bo'lishlari mumkin, bu esa mintaqaviy iqtisodiyotga salbiy ta'sir ko'rsatadi.

4. Ijtimoiy va iqtisodiy muammolar:

Cho'llashish odamlarni migratsiyaga majbur qiladi, bu esa urbanizatsiya va infratuzilmaga bosim o'tkazadi. Shaharlar atrofidagi axborot tizimlari va

xizmatlar ko'rsatish tizimlari bu kabi ko'chishni ko'tara olmay, ijtimoiy va iqtisodiy muammolarni keltirib chiqarishi mumkin¹⁸.

5. Ekoturizmning kamayishi:

Cho'llashish mintaqadagi tabiiy go'zallik va biologik xilma-xillikka salbiy ta'sir ko'rsatadi. Bu turizm sektoriga zarar yetkazishi mumkin, chunki tabiiy landshaftlar va biologik xilma-xillik turizm uchun jozibadorlik omillaridir.

6. Ishsizlik va qashshoqlikning oshishi:

Qishloq xo'jaligi va turizmga bog'liq ish o'rinlari kamayadi, bu esa ishsizlik va qashshoqlik darajasining oshishiga olib keladi. Natijada, mintaqadagi odamlarning yashash sharoitlari yomonlashadi.

Umuman olganda, cho'llashishning iqtisodiyotga ta'siri keng qamrovli va chuqurdir, chunki u bir nechta sektorlarni bevosita va bilvosita ta'sir qiladi. Shu sababli, cho'llashishga qarshi kurash va oldini olish choralari iqtisodiy barqarorlikni saqlash uchun juda muhimdir.

Cho'llashish, yoki yerlarning cho'lga aylanishi, jiddiy ekologik muammo bo'lib, qishloq xo'jaligi, suv ta'minoti va biologik xilma-xillik uchun katta xavf tug'diradi. Ushbu muammoni hal qilish uchun bir qator zamonaviy yechimlar mavjud:

1. Barqaror qishloq xo'jaligi amaliyotlari:

- No-till dehqonchilik: Tuproqni minimal darajada qazish yoki umuman qazmaslik orqali tuproqning eroziyasini kamaytirish.

- Ko'p qavatli ekinlar: Turli darajadagi ekinlarni bir joyda o'stirish orqali tuproq unumdorligini saqlab qolish.

2. Yashil mintaqalar yaratish:

- Iqlimga mos o'simliklar ekish: Cho'lga chidamli o'simliklarni ekish orqali tuproq eroziyasini oldini olish va biologik xilma-xillikni saqlash.

- Mintaqaviy daraxt o'stirish loyihalari: Shu jumladan, "Yashil devor" loyihasi kabi keng ko'lamli loyihalar orqali cho'llashishga qarshi kurashish.

3. Suvni samarali boshqarish:

- Tomchilatib sug'orish: Suvdan samarali foydalanish va bug'lanishning oldini olish.

- Yomg'ir suvini yig'ish: Suv resurslarini to'plash va qayta ishlatish.

4. Tuproqni yaxshilash:

- Organik moddalardan foydalanish: Kompost va boshqa organik o'g'itlar bilan tuproq unumdorligini oshirish.

- Tuproq tuzilishini yaxshilash: Tuproqni qatlam qatlamiga ajratish orqali suvning tuproqqa singishi va tuproqning havo bilan to'yinganligini oshirish.

5. Texnologik yechimlar:

- Dron va sun'iy yo'ldosh texnologiyalari: Cho'llashish jarayonini kuzatish va nazorat qilish uchun zamonaviy texnologiyalardan foydalanish.

²<https://agtech.com/ru/desertification-technology/>

- Genetik modifikatsiya qilingan o'simliklar: Qiyin iqlim sharoitlariga chidamli ekinlar yaratish.

6. Ijtimoiy va siyosiy tashabbuslar:

- Ta'lim va ma'rifat: Mahalliy aholi va fermerlarni cho'llashish xavfi va uni oldini olish choralari o'ldirilgan bilimlar bilan ta'minlash.

- Hukumat siyosatlarini va xalqaro hamkorlik: Barqaror qishloq xo'jaligi va cho'llashishga qarshi kurashish uchun davlat siyosatlarini ishlab chiqish va xalqaro tashkilotlar bilan hamkorlik qilish.

Bu yechimlar ko'pchilik mamlakatlarda muvaffaqiyatli qo'llanilmoqda va cho'llashishga qarshi samarali kurash olib borishga yordam bermoqda. Mahalliy sharoitlarni hisobga olgan holda, mos keluvchi strategiyalarni tanlash muhim ahamiyatga ega.

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KORREKSION PEDAGOGIKA ASOSLARI. INKLYUZIV TA'LIM

Sarlavha: Korreksion pedagogika fani sog'ligida nuqsoni bor bolalarning ta'lim olish jarayonini o'z ichiga qamrab oluvchi fan hisoblanadi. Inklyuziv ta'lim esa sog'lom va sog'ligida nuqsoni bor bolalarning birgalikda o'qitilishidir.

Annatsiya. Ushbu maqaloda korreksion pedagogikaning fan sifatida shakllanishi hamda inklyuziv ta'lim haqida umumiy ma'lumotlar keltirilgan. Anomal bolalarga ta'lim tarbiya berishda qanday shart-sharoitlar zarur va inklyuziv ta'lim jarayonida sog'ligida nuqsoni bor bolalarning ruhiy holatini ijobiylashtirish va ularning rivojlanishiga yordam berish chora-tadbirlari haqida ma'lumotlar mavjud. Korreksion pedagogikaning rivojlanib borishi, anomal bolalarning ta'lim olish jarayonlari qanday tashkil etilayotganligi va har bir sog'ligida nuqsoni bor bolalar bilan shug'ullanuvchi mutahassislar hamda inklyuziv ta'lim jarayoning muhim ahamiyatli belgilari yoritilib berilgan.

Kalit so'zlar: korreksiya, anomal, inklyuziv, defektologiya, lagapediya, tiflopedagogika, surdopedagogika, oligafrenologiya.

Ollaberganova M.M.
student
Pedagogy department
Faculty of Pedagogy
UrDPI

FUNDAMENTALS OF CORRECTIONAL PEDAGOGY. INCLUSIVE EDUCATION

Abstract. This article provides general information about the formation of correctional pedagogy as a science and inclusive education. There is information about what conditions are necessary for the education of abnormal children and measures to improve the mental state of children with health defects and help their development in the process of inclusive education. The development of correctional pedagogy, how educational processes of anomalous children are organized, specialists dealing with children with each health defect, and important signs of the inclusive education process are highlighted.

Key words: correction, anomalous, inclusive, defectology, lagapedia, dyspedagogy, deaf pedagogy, oligophrenology.

Kirish: “Korreksiya” tushunchasi (yunoncha “correction”-tuzatish) korreksion pedagogika pedagogik uslub va tadbirlar yordamida anomal

bolalarga ta'lim berish va ularning kamchiliklarini tuzatish, aqliy rivojlantirish vazifalarini o'z ichiga oladi. Anomol bola qanday bo'ladi? Anomol so'zining manosi? Ruhiy va jismoniy kamchiliklari mavjud bo'lgan bolalar anomal bolalar deb yuritiladi. Anomol so'zi yunoncha anomalos so'zidan olingan bo'lib odatdan tashqari, noraso degan ma'nolarni bildiradi. Karreksion pedagogikaning asosiy maqsadi anomal bolalarning ta'lim olishiga zarur shart-sharoitlarni o'rganib chiqish va ularning kamchiliklarini iloji boricha tuzatish, bartaraf etish yoki sezilmaydigan holga keltirish usullarini tarbiyachilarga va o'qituvchilarga yoritib berishdan iborat. Korreksion pedagogikaning vazifasi anomaliyaning kelib chiqish sabablarini, turlarini, anomal bolalarning psixofiziologik rivojlanishdagi xususiyatlarini o'rganib chiqqan holda integratsiyalashgan, inklyuziv yoki differensial ta'limni tashkil qilish va ularning ta'lim-tarbiyasi bilan shug'ullanish hisoblanadi. Korreksion pedagogikaning fan sifatida vujudga kelishi. Korreksion pedagogika boshqa fanlarga nisbatan yangi fan sanaladi. Bu fan asosan 19-asrning o'rtalarida rivojlana boshladi. Bu fanning rivojlanishida buyuk psixolog professor L.S.Vigotskiyning hizmatlari katta hisoblanadi. 1925-yil Maskva shahrida Eksperimental defektalogiya instituti tashkil etildi. Bu institutni L.S.Vigotskiy boshqargan. L.S.Vigotskiy anomal bolalar rivojlanishidagi hususiyatlarni o'rganib chiqqan va nuqsonlarning murakkab tuzilishi haqida ham ta'limot ishlab chiqqan. U "Korreksion pedagogikaning asosiy muammolari" kitobida anomal bolalar bilan rivojlantiruvchi ta'lim olib borish kerakligini, korreksiya va kompensatsiya usullarini o'rganib chiqdi va ularni amalga oshirishning usullarini yoritib berdi. L.S.Vigotskiy anomal bolalarning "salbiy", "ijobiy" tomonlarini o'rganib chiqib ta'lim tarbiyani bolaning patensial qobiliyatini inobatga olgan holda tashkil qilish zarurligini uqtirdi. U defektalogiya sohasida kata nazariy meros qoldirgan va shu bilan birga defektalogiya fanining asoschisi hisoblanadi. O'zbekistonda korreksion pedagogikaning rivojlanishi 1967-yildan boshlab keskin o'sib bordi. Sabab shu yili Nizomiy nomli Toshkent davlat pedagogika institutining Pedagogika va Psixalogiya fakultetining qoshida oligafrenopedagogika bo'limi yaratildi. Bu bo'limga 1976-yil surdopedagogika bo'limi ham qo'shiladi. Mustaqil defektalogiya bo'limida 1984-yildan boshlab bir niche bo'limlarda ta'lim berila boshlanadi.

Korreksion pedagogikaning asosiy sohalari: Surdopedagogika (lotincha surdus- kar gung so'zidan olingan) – eshitishda nuqsoni bor bolalarning ta'lim tarbiyasi bilan shug'ullanadigan fan; Tiflopedagogika (yunoncha tiflos – so'qir, ko'r so'zidan olingan) – ko'zi ojiz bolalarning ta'lim tarbiyasi bilan shug'ullanadigan fan; Oligafrenalogiya (yunoncha oligos –kam, fren-aql)so'zidan olingan, aqliy tomondan zaif bolalarning ta'lim tarbiyasi bilan shug'ullanadigan fan;Logopediya (yunoncha logos _so'z, padeo- tarbiya so'zlaridan olingan)- og'ir nutq nuqsonlarini o'rganish, oldini olish, bartaraf etish yo'llarini o'rganuvchi fan.Surdopedagogika. Eshitish nuqsonlarining kelib chiqishi tug'ma va orttirilgan bo'lishi mumkin. Kar soqov bolalarning 25-30

foizida eshitish nuqsoni tug'ma hisoblanadi. Bu holat onaning homiladorligi davrida turli xil kasalliklar bilan kasallanishi va genetik faktorlar bilan bog'liq bo'ladi. Eshitishdagi orttitlagn nuqsonlar baxtsiz hodislar tufayli kelib chiqishi ham mumkin. Bolaning ilk yoshida meninggit, otit, poratit(tepki), qizamiq, qizilcha, meningoensefalit, gripp kasalliklari bilan kasallanishi ba'zi hollarda kar soqovlik yoki turli darajada zaif eshitishga olib kelishu mumkin. Kar-soqov bolalar ta'lim olishlari uchun ulaga maxsus alifbolar yaratilgan va bunday nuqsoni bor bolalar bilan surdopedagoglar shug'ullanadilar. Tiflopedagogika. 1784-yil Parijda ko'rlar uchun maxsus muassasa ochilgan. Ko'rishga aloqador nuqsonlar kelib chiqish sabablariga ko'ra tug'ma va orttirma bo'ladi. Tug'ma sabablar orasida irsiy kasalliklar kata ahamiyatga ega. Orttilgan turi esa tasodifan yuzaga kelgan kasalliklar yoki halokatlar natijasi bo'lishi mumkin. Ko'zi ojizlar uchun ham alohida alifbo yaratilgan bo'lib ularga maxsus bilimga ega bo'lgan tiflopedagoglar ta'lim beradilar. Lagapediya. Lagpediya korreksion pedagogika(defektalogiya)ning muhim sohalaridan biri sanalib bolaning so'zlashidagi nuqsonlarni iloji boricha bartaraf etish va oldini olish bilan shug'illanadi. Nutqiy buzilishning kelib chiquvchi sabablari orasida ekzagen(tashqi) va endagen(ichki) omillar asosiy ro'l o'ynaydi. Bunday nuqsoni bor bolalar ematsional barqaror emaslar, kayfiyati tez o'zgaradi, sejahl, agressiv va ko'p bezovta bo'ladilar. Nutqdagi nuqsonlarni lagapedlar maxsus massajlar bilan bartaraf qilishadi. Oligofrenologiya. Butun dunyo sog'liqni saqlash tashkilotlarining ma'limotlariga ko'ra butun aholining 3foizini aqli zaiflar tashkil qiladi. Bu foiz son jihatdan 10.000 dan ortiq kishini o'z ichiga qamrab oladi. Rivojlanishida nuqsoni bor bolalar ichida ham eng ko'p foizini aqli zaiflar tashkil qiladi. Chunki aqli zaiflikni keltrib chiqaruvchi sabablar juda ko'p. Aqliy zaiflikni belgilashda klinik, psixalagik va pedagogik mezonlarga bo'linadi. Oligafreniya 3darjada namoyon bo'ladi: debil, imbetsil, idiotiya. Debillik- aql pastlik oligafreniyaning eng yengil darajasi bo'lib, bunday bolalarni tashqi ko'rinishidan nuqsoni borligini bilib bo'lmaydi. Imbetsil va idiotiya bolalar ta'lim olish qurbiga ega bo'lmaydilar. Ular ijtimoiy ta'minot vazirligi qoshidagi bolalar internatlarida tarbiyalanadilar. Idion bolalar hattoki o'zining ota-onalarini ham taniy olmaydilar. Ular o'z- o'ziga hizmat qila olmaydilar, o'zgalar yordamiga muhtoj bo'ladilar. Imbetsil bolalar idiot bolalarga qaraganda nisbatan tuzukroq rivojlangan bo'lsa ham mustaqil hayot kechira olmaydilar. Ijtimoiy taminot vazirligi qoshidagi muassasalarda ularga sodda bilimlar, mehnatning ayrim sodda turlari o'rgatiladi.

“Inklyuziv ta'lim” atamasi ingilizcha “inclusive” so'zidan olingan bo'lib uyg'unlashtirmoq, qamrab olish degan ma'nolarni bildiradi. Inklyuziv ta'lim sog'ligida nuqsoni bor bolalar bilan sog'lom bolalarni birgalikda o'qitishga asoslangan ta'lim sanaladi. Inklyuziv ta'lim nuqsoni bor bolalarning o'z tengdoshlaridan va jamiyatdan ajralib qolishini oldini oladi. Ularga sog'lom bolalar bilan birgalikda ta'lim berishning asosiy ijobiy tomoni bolaning ruhiy holati cho'kib qolishining oldi olinadi ya'ni cheklangan holda yakka o'ziga

ta'lim berilmasdan o'z teng qurlari bilan ta'lim olishi taminlanadi va bolaning hayolidagi menning sog'ligimda nuqsonim bor, men ular kabi sog'lom emasman, ular kabi ta'lim olib bilmayman degan fikrlarini bartaraf qiladi. Bola o'zining tengdoshlari orasida bo'lishi unga ko'p imkoniyatlar yaratadi. Masalan fikrlar almasha oladi, tengdoshlarining fikrlarini eshitadi va o'zining fikrini bayon qila olib boshlaydi, o'zining bilim darajasini tengdoshlariniki bilan solishtirib ko'radi va raqobat asosida bilim oladi ya'ni bolalar bilim jihatdan bir biridan ustun bo'lishni istashadi va bellashuv asosida ilm olishadi, rivojlanib borishadi. Ruhiy va jismoniy sog'ligida nuqsoni bor bolalar sog'lom bolalar tomonidan chetlatiladi va bu holatni o'qituvchi bartaraf qilishi zarur. Agar o'qituvchi e'tibor bermasa bu holat anomal bolaning ruhiy holatiga salbiy ta'sir ko'rsatadi va bolaning o'qishga bo'lgan qiziqishi keskin pasayadi va tengdoshlari davrasida bo'lishni istamay boshlaydi, davradan uzulib qoladi va keyinchalik boshqa davralardan ham o'zini olib qocha boshlaydi, insonlar orasida o'zing fikrini bayon qilishdan qorqib qoladi. Inklyuziv ta'limning muhim vazifasi ham aynan sog'ligida nuqsoni bor bolalarning jamiyatdan uzilib qolishini oldini olishdir.

Mavzuga oid adabiyotlar tahlili: Defektologiya- bu pedagogik fan. Defektolog o'qituvchi faqat nazariy bilimlarni egallagan bo'libgina qolmas amaliy malaka va ko'nikmalarni ham egallagan bo'lishi zarur. Defektologning vazifasi pedagogik, psixologik, defektologik bilimlar asosida o'quvchilarga ilmiy bilim berish, malaka va ko'nikma bilan qurollantira bilish, tarbiyaviy ishlarni individual, guruh va keng ko'lamli mashg'ulotlarni rejalashtira bilish, o'quvchilarning jamoa, individual faoliyatlarini tashkil eta bilish, ularning jamoat ishlarini tashkil eta bilish, pedagogik rahbarlik, sinfdan va maktabdan tashqari ishlarni tashkil qila bilish va ularga rahbarlik qilish, ota-onalar va jamoatchilik o'rtasidagi ishlarni tashkil qilish, sport kuzatishlar, amaliy ishlar va boshqa tarbiyaviy ishlarni olib borishdan iboratdir. Har bir ota-ona o'z farzandini har tamonlama yetuk, bilimli va jamiyat rivojiga hissa qo'shadigan yoshlar qatorida bo'lishini istashadi. Sog'ligida nuqsoni bor bolalar bunday talablarga javob bera olmaydi degan fikr yo'q va bunday fikrning oldini olish uchun anomal bolalarga ta'lim-tarbiya beruvchi maxsus bilimlarga ega pedagoglar yetishtirilmoqda. Sog'ligida nuqsoni bo'la turib yaxshi ta'lim-tarbiya olgan va yaxshigina yutuqlarga erishgan yoshlarimiz ham bor albatta. Bularning barchasi yaratilayotgan shart-sharoitlar, imkoniyatlarning mahsuli hisoblanadi. Afsuski, dunyoning ko'lab mamlakatlarida bolalar hali ham huquqlaridan mahrum etilganlar, ya'ni ular sog'-salomat hamma qatori to'laqonli rivojlanishlari va jamiyat hayotida faol ishtirok etishlari uchun kerakli imkoniyatlar yaratilmagan. Butun jahon bolalariga xos bo'lgan bolalar huquqi haqidagi Konvensiya, O'zbekiston Respublikasi "Ta'lim to'g'risidagi Qonuni, "O'zbekistonda qadrlar tayyorlash milliy dasturi" kabi va boshqa me'yoriy hujjatlarda ko'rsatilishicha, barcha bolalar, shu jumladan, jismoniy va ruhiy rivojlanishida nuqsoni bor bolalar ham mehnat qilish, ta'lim olish, hayotda

o'z o'rnini topib ketish huquqlariga egadirlar. Bola huquqlari haqidagi Konvensiyaning 19-moddasiga ko'ra, "Bola ota-ona tomonidan va har qanday shaxs tomonidan haqoratlanishi, qo'pol muomalada bo'lishdan himoyalaniishi huquqiga ega ekanligini inobatga olib, ayrim mamlakatlarda ilgari ishlatiladigan atamalardan- "defektologiya", "anomal bolalar", "aqlan zaif" kabi va boshqalardan voz kechmoqdalar. 19-asrning 20-yillaridan beri defektologiya fani jismoniy yoki ruhiy rivojlanishida nuqsoni bor bolalar ta'lim-tarbiyasi bilan shug'ullanadigan fan sifatida o'rganilib kelmoqda. Hozirgi kunda bu fan "Korreksion pedagogika" deb ham yuritiladi.[5]

Tadqiqot metodologiyasi: Inklyuziv va korreksion ta'limda qo'llanuvchi interfaol usullar mavjud. Mavzuning qay darajada o'zlashtirilishi dars jarayonida qo'llanuvchi metodlarga bog'liq bo'ladi. Dars qay darajada qiziqarli metodlar orqali tashkil qilinsa o'quvchilarda fanga va o'qituvchiga nisbatan mehr va hurmat paydo bo'ladi. Bu esa fanning o'quvchilar tomonidan yaxshi o'zlashtirilishiga sabab bo'ladi. Interfaol metodlar bu o'rinda juda muhim. Interfaol ("Inter" – bu o'zaro, "Act" –Harakat qilmoq) O'zaro harakat qilish (yoki kim bilandir suhbatda, muloqotda bo'lish)ni anglatadi. Interfaol ta'limning mohiyati o'quvchilarning bir-birlaridan o'rganishlariga yo'naltirilgan ta'lim ekanligi. Interfaol ta'lim, interfaol usullar muloqotga asoslangan usullar tizimi bo'lib, o'quvchilarning hamkorlikdagi va faol ishtirokidagi ta'lim va usullar tizimi hisoblanadi. Hozirgi vaqtda ta'lim jarayonida o'qitishning zamonaviy metodlari keng qo'llanilinmoqda. O'qitishning zamonaviy metodlarini qo'llash o'qitish jarayonida yuqori samaradorlikka erishishga olib keladi. Bu metodlarni har bir darsning didaktik vazifasidan kelib chiqib tanlash maqsadga muvofiq. An'anaviy dars shaklini saqlab qolgan holda uni ta'lim oluvchilarning faoliyatini faollashtiradigan turli-tuman metodlar bilan boyitish ta'lim oluvchilarning o'zlashtirish darajasini o'sishiga olib keladi. O'qitishning interfaol usullarini tanlashda ta'lim maqsadi, ta'lim oluvchilarning soni va imkoniyatlari, o'quv muassasasining o'quv-moddiy sharoiti, ta'limning davomiyligi, o'qituvchining pedagogik mahorati va boshqalar e'tiborga olinadi. Dars metodologiyasi deganda ta'lim oluvchilarni faollashtiruvchi va mustaqil fikrlashga undovchi, ta'lim jarayonining markazida ta'lim oluvchi bo'lgan metodlar tushuniladi. Bu metodlar qo'llanilganda ta'lim beruvchi ta'lim oluvchini faol ishtirok etishga chorlaydi.

Tahlil va natijalar: Korreksion va inklyuziv ta'limning o'rni juda muhim hisoblanadi. Anomal bolalarning ta'lim va tarbiya olishi maxsus bilimga ega bo'lgan defektolog o'qituvchilarga topshirilgan va ushbu yo'nalishdagi o'qituvchi kadrlarni yetishtirishga ham kata e'tibor qaratilgan va imkoniyatlar yaratilgan. Jamiyatda har kim o'z o'rniga ega bo'lishi zarur. Inklyuziv hamda korreksion pedagogika ham shu fikrni oqlagan holda sog'ligida nuqsoni bor bolalarning jamiyatda o'z o'rnilarini topishga kata yordam beruvchi ta'lim shakllari sanaladi. Ruhiy yoki jismoniy sog'ligida nuqsoni bor bolalar bilan shug'ullanuvchi o'qituvchilar ularga ta'lim-tarbiya berish jarayonida iloji

boricha nuqsonlarni yo‘q qilish yokida bilinmaydigan holga keltirish, ruhiy holatini yaxshilash va kelajakda yaxshi hayot kechirishlariga umid uyg‘otish hamda shuning uchun harakat qilishga undash kabi vazifalarni bajaradilar.

Xulosa va takliflar: Anomal bolalarning jamiyatdan, o‘z tengdoshlaridan uzilib qolishini oldini olish har bir insonning vazifasi sanaladi. Ruhiy yoki jismoniy jihatdan sog‘lom bo‘lmagan bolalarni chetlash ularning ruhiy holatini yanada tushkun holatga tushirib qo‘yadi va u bolada kelajak hayot uchun qiziqish qolmaydi va bugungi kuni ham u uchun ahamiyatsiz bo‘lib qoladi, ko‘pchilik orasidan o‘zini olib qochadigan va boshqa insonlar bilan birga vaqt o‘tirishni xohlamaydigan bo‘lib qolishiga olib keladi. Bolaning o‘zgalar bilan muloqotda bolmasligining ko‘plab salbiy tomonlari mavjud. Masalan: o‘zgalar oldida fikrini bayon qila olmaslik, agressiv holatga tushib qolish, o‘zgalar bilan fikr almashish orqali yangi bilimlarga ega bo‘lish, quvnoq davralarda bo‘lmaslik, o‘zgalarga nafrat bilan qarash, hayotdan zavq ola bilmaslik va boshqalar. Anomal bolalarning ta‘lim olish jarayonini yaxshi tashkil qilish zarur, ularning o‘zgalar bilan muloqatini yaxshi yo‘lga qo‘yish ham muhim hisoblanadi. Inklyuziv ta‘lim jarayonida nuqsoni bor bolalarning sog‘lom bolalar tomonidan chetlatilishiga, masxara qilinishiga qarshi kurashish juda muhim va bu belgilarning oldini olish darkor. Bu vazifani bajarishda o‘qituvchining ro‘li muhim. Anomal bolalarning ruhiy holatini yanada yaxshilash uchun ularni ko‘plab quvnoq sahna ko‘rinishlarini tomosha qilishga, tabiat qo‘ynida sayr qilish uchun sayohatlarni tashkil etish lozim.

Foydalanilgan adabiyotlar ro‘yxati:

- 1 “KORREKSION PEDAGOGIKA VA LOGOPEDIYA” TOSHKENT “IQTISOD MOLIYA” -2007
- 2 ”PEDAGOGIKA NAZARIYASI VA TARIXI FANIDAN O‘QUV MASHG‘ULOTLARINI INTERFAOL METODLAR ASOSIDA TASHKIL QILISH” –Urganch – 2023
- 3 “INKLYUZIV TA’LIM: nazariya va amaliyot”- “ZEBO PRINT” TOSHKENT-2022
- 4 “INTERFAOL TA’LIM USULLARI “TAFAKKUR BO‘STONI” –Toshkent - 2012
- 5 “PEDAGOGIKA NAZARIYASI VA TARIXI” R.MOVLONOVA, N.VOXIDOVA, N. RAXMONQULOVATOSHKENT-2010

*Otaboyeva X.Sh.
Urganch davlat pedagogika instituti
Boshlang'ich ta'lim yo'nalishi 3-bosqich talabasi*

BOSHLANG'ICH SINFLAR O'QUVCHILARINING IJODIY FIKRLASHI VA TAFAKKURI RIVOJLANISHIDA O'QISH MOTIVLARINING AHAMIYATI

Annotatsiya. Boshlang'ich sinflar ijodiy fikrlashi va tafakkuri rivojlanishida o'qish motivlari, mutolaa bo'lgan qiziqishning ahamiyati kattadir. Ayniqsa, boshlang'ich sinf o'quvchilarida shu kabi motiv va shijoatning rivojlanib borishi kelajakda mutolaa madaniyatini shakllantirishda ahamiyatlidir. Ushbu maqolada boshlang'ich sinf o'quvchilarining o'qishga bo'lgan motivlari va bu boradagi natijalar haqida so'z yuritilgan.

Kalit so'zlar. Motiv, mutolaa, madaniyat, o'quvchilar, kitobxonlik, komponentlik, taraqqiyot, shaxs, ma'naviyat.

*Otaboyeva H.Sh.
student of the 3rd stage of primary education
Urganch State Pedagogical Institute*

THE IMPORTANCE OF READING MOTIVES IN THE DEVELOPMENT OF CREATIVE THINKING AND THINKING OF PRIMARY SCHOOL STUDENTS

Abstract. Reading motives and interest in reading are of great importance in the development of creative thinking and thinking of elementary school students. Especially, the development of such motivation and enthusiasm among elementary school students is important in the formation of reading culture in the future. This article talks about the motivations of elementary school students to study and the results in this regard.

Keywords. Motive, reading, culture, students, reading, component, development, personality, spirituality.

KIRISH

Dunyoda o'quvchilar o'rtasida individual, guruhiy hamda ommaviy kitobxonlikni tizimli ravishda tashkil etish va mutolaa madaniyatini tarbiyalash, o'quvchilarni kitobxonlikka qiziqtirishning, motiv va mezonlarini aniqlash, adabiy ta'limning badiiy tafakkurni rivojlantirishdagi o'rni va rolini oshirishga doir qator ilmiy izlanishlar amalga oshirilmoqda. Shu bilan birga, o'spirinlarning kitob o'qishga, badiiy adabiyotga aksiologik munosabatini shakllantirish, adabiy ta'lim jarayonida o'quvchilarda badiiy idrok etish qobiliyatini rivojlantirishning metodik asoslarini takomillashtirish katta

ahamiyat kasb etmoqda. Ayniqsa, sinfdan tashqari mashg'ulotlarda mustaqil o'qish malakalarini tarkib toptirish hamda adabiy ta'lim jarayonida o'quvchilarda kitobxonlik va mutolaa madaniyatini rivojlantirish metodikasini ishlab chiqishga alohida zarurat mavjud.

Respublikamizda kitobxonlik madaniyatini jadal rivojlantirish, aholi, xususan, yoshlarda kitob o'qish hamda kitobxonlikka bo'lgan ijobiy munosabatni qaror toptirish, kitob mutolaasini kundalik faoliyatga aylantirishga erishishga doir qator tizimli ishlar amalga oshirilmoqda. Jumladan, "Mumtoz adabiyot va kitobxonlik madaniyati" deb nomlangan madaniy ma'rifiy tadbir doirasida yoshlarni kitobning jamiyat taraqqiyoti va shaxs kamolot dagi o'rni, ahamiyatini anglash bilan birga, badiiy asarlarni tanlash, ularning asosiy g'oyasini tushunish imkoniyatiga ega bo'lishlariga alohida e'tibor qaratilmoqda. [1; 3-bet]

Bu holatda aynan kitob o'qishga ma'naviy ehtiyojni shakllantirish haqida gapirish mumkin. Mutolaaga ehtiyoj uni shakllantirish va rivojlantirishni harakatga keltiruvchi kuch – shaxsning motivasion sohasi bilan chambarchas bog'liq. Unda shaxsiy va ijtimoiy qiziqishlarning uyg'unligi, ideallarga intilish, adolatlilik, inson va boshqa jonzotlarga g'amxo'rlik bilan munosabatda bo'lish, ijtimoiy ahamiyatga ega sifatlar kabi axloqiy me'yorlarga ongli munosabat shakllanadi. Shaxsning axloqiy mo'ljallariga, hayotiy maqsadlari, o'zining majburiyatlariga munosabat, "boshqalar"ga ehtiyoj sezish – motivasion sohaning namoyon bo'lishidir. [1;78-bet]

Motivasiya – motivlarning harakatlanish jarayoni, insonni asosiy faoliyatga undovchi motivlar yig'indisi. Motiv esa fransuzchadan tarjima qilinganda, undovchi kuch, sabab degan ma'noni bildiradi [3]. Adabiyotlarda motiv tushunchasi tadqiqotchilar tomonidan turlicha talqin qilinadi.

MAVZUGA OID ADABIYOTLAR TAHLILI

Boshlang'ich adabiy ta'limda o'qish darslarida hikoyalarni o'qishda o'quvchilar tushunmaydigan so'z va iboralar ma'nosini tushuntirib berish ham muhim ish turlaridan biri sanaladi. Boshlang'ich ta'limning dastlabki bosqichida hikoyalar ustida ishlashda ularning mazmunini tahlil qilish asnosida o'quvchilar nutqini o'stirish markaziy o'rin egallaydi. Hikoya o'qib bo'lingach, o'quvchilar ularning mazmuni haqida o'ylashlari, taassurotlarini tiniqlashtirib olishlari, o'z mulohazalarini aytishga tayyorlanishlari uchun ma'lum vaqt berish taqozo etiladi. [2; 220-bet]. Shu yo'sinda o'qish tashkil etilsa, o'quvchilar matnni tezroq anglay oladilar va mustaqil fikri ham rivojlanadi. Hajman katta asarlarni ham o'qib o'zlashtirishlarida ham qiyinchilik tug'dirmaydi.

Dunyoning yetakchi davlatlarida ta'lim tizimiga "reader response" (kitobxon javobi), student-centered" (o'quvchi faol) kabi yondashuvlar joriy etilgan. Badiiy asarning yaxlit adabiy- estetik xodisa sifatidagi ma'no xosliklarini kashf qilish, o'quvchi faolligini oshirish, kreativlik, mantiqiy hamda tanqidiy mushohada yuritish kabi mutolaa san'atini egallashga doir strategiyalar ishlab chiqarilmoqda. Xalqaro miqyosda ta'limda pragmatizm, retseptiv estetika

va uning zamiridagi tranzaksiya nazariyasi (kitobxon va asar diologi)ni tatbiq etish orqali o'quvchilarning badiiy asarda tasvirlangan voqelik mohiyatini real hayotiy asoslari bilan qiyoslash, matnni emotsional idrok etish, obrazli va analitik fikrlash malakalarini shakllantirishga qaratilgan yo'nalishlarda tadqiqotlar olib borilmoqda. [4].

Ta'lim oluvchilarni bilim olish, kitob o'qishga qiziqtirish, intellektini rivojlantirishning tarixiy asoslari Sharq Uyg'onish davri mutafakkirlari, ma'rifatparvar shoirlar va jadid olimlarining mumtoz asarlari, darslik va o'quv qo'llanmalarida yoritib berilgan. [1; 4-bet]. Jumladan, yosh o'quvchilarning qalbida ham kitobga muhabbat hislari uyg'onib, ijodiy fikrlashi va tafakkuri ham rivojlanib boradi. Har gal bitta asarni o'qib boshlagach, qiziq joylarini qoldirmasdan, tezroq yakunida nima bo'lishiga qiziqishadi.

TADQIQOT METODOLOGIYASI

O'quvchi-yoshlarda kitobga mehr uyg'otish, mustaqil fikr va keng dunyoqarashni shakllantirish maqsadida "Ma'rifat karvoni" loyihasi doirasida badiiy, ma'rifiy, ijtimoiy mavzularda kitoblar chop etish, har bir shahar va tuman markazida bittadan namunali kitob do'koni tashkil etish, ko'chma kitob do'konlarini joylashtirish, "Bibliobus"larni yo'lga qo'yish kabi qator vazifalar amalga oshirildi. [1; 9-bet]. Shundan kelib chiqib aytadigan bo'lsak, bugungi kunning talabi ham o'quvchilarda kitobga bo'lgan mehr, mutolaaga qiziqishlarini shakllantirib borishdir. Ko'p kitob mutolaa qilgan o'quvchining so'z boyligi va fikrlash doirasi ham keng bo'ladi. Bu borada yangi loyihalarning amalga oshirilishi ham diqqatga sazovorlidir.

O'quvchilarda o'qish madaniyatini boshlang'ich sinfdan boshlab shakllantirib borish kerak. S.N.Plotnikov o'spirin yoshidagi bolalarda o'qish madaniyatini rivojlantirish uchun quyidagi mezonlarni belgilaydi:

- bolalarda kitobga qadriyatli munosabatni yaratish jarayoni;
- qiziqqan kitobini izlab topish va tanlash qobiliyati;
- o'qiganlariga hissiy munosabatda bo'lish qobiliyati;
- badiiy matnni estetik jihatdan his qilish imkoniyatlari;
- o'qigan asarlaridan qimmatli va ma'noli ma'lumotlarni topish;
- o'quvchilarda o'qish ehtiyojlarini shakllantirish [5; 46-58-bet]

TAHLIL VA NATIJALAR

O'qish madaniyatini o'zlashtirish natijasida "kitobxonlik madaniyati" shakllanadi. Kitobxonlik madaniyati o'qish madaniyatiga qaraganda keng ma'nodagi, ko'ptomonlama, katta hajmdagi tushunchadir. Kitobxonlik madaniyati bu adabiy asarlarni tushunish va estetik jihatdan baholashni biladigan kitobxon-o'quvchini shakllantirish jarayonidir.

Safo Matchon fikricha, "kitobxonlik – o'qilgan kitoblar soni bilan belgilanmaydi, balki u tushunib o'qish, ya'ni maqsadli o'qishdir". Atoqli yozuvchi X.To'xtaboev kitobxonlik haqida shunday deydi: "Kitobxonlik kitobni targ'ib qilishgina emas, balki kitob o'qishni, o'qiladigan kitobni tanlay olishni, mag'zini chaqishni, ya'ni kitob yordamida o'zini anglashni o'rgatish hamdir"

Olimlarning fikriga tayanib aytadigan bo'lsak, kitobxonlik madaniyati – bu 1) o'quvchining kitob bilan madaniy aloqasini rivojlantirishning ma'lum bir darajasi; 2) o'qilgan kitoblar mazmunini to'liq tushunish; 3) yoshiga hos bo'lgan adabiy bilimlarning mavjudligi. Kitobxonlik kompetentligi – intellektual qobiliyat va shaxsiy fazilatlar asosida shakllangan, o'quvchi va katta yoshli insonning umumiy shaxsiy sifati.[1; 13-bet]. Kitobxonlikning shu kabi o'ziga xos fazilatlar mavjud bo'lib, o'quvchilarda bu sifatlarni shakllantirish, yoshiga mos adabiyotlarni tanlab o'qitish juda muhimdir.

XULOSA VA TAKLIFLAR

Avvalo, o'quvchilar badiiy, ma'rifiy, ilmiy-ommabop, tarbiyaviy, intellektual salohiyatini oshirishga qaratilgan adabiyotlarni o'qishi, o'rganishi milliy hamda jahon adabiyoti namoyandalarning asarlarini mutolaa qilish lozim.

Kitob o'qish insonda kommunikativlik, tinglash, yozish hamda ijodkorlik qobiliyatlarini rivojlantiradi (Obafemi Avolau universiteti (AQSh) pedagoglari bolalarda ijodkorlik qobiliyatini rivojlantirishini aniqlashgan, darhaqiqat, ko'p kitob o'qigan shaxslarning aksariyati she'r, hikoya, esse yoki ilmiy maqolalarni yuqori saviyada yoza oladi; badiiy asarlarni, ayniqsa, she'rlarni ifodali o'qish, sahna asarlarini yuksak mahorat bilan ijro etish qobiliyatiga ega); ijtimoiy faollikni oshiradi; badiiy didni o'stiradi; xorijiy tillarni o'rganishni osonlashtiradi (boshqa tillarni o'rganishda yangi so'zlarni oson tushunishga va yodda saqlab qolishga yordam beradi); ko'p kitob o'qiydigan bolalar darslarni yaxshi o'zlashtirishadi; yaxshi hikoyanavisga aylanadi (qancha ko'p kitob o'qilsa, shaxsning hikoya qilish qobiliyati shunchalik oshadi), ota-onalar va farzandlarning o'zaro munosabatlari yaxshilanadi [1; 17-bet]. Shu kabi amaliyotlarni joriy qilib o'quvchilar uchun mutolaa madaniyatini shakllantirishda foydali usullardan biri bo'ladi. Ko'p kitob o'qiydigan o'quvchilar boshqa fanlarni ham o'zlashirishda qiyinchilikka uchramaydilar. Shu bilan birga, ijodiy fikrlash, yangiliklarni yaratish qobiliyatlariga ham ega bo'lib boradilar.

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*Otanazarova Sh.
Urganch davlat universiteti
O'zbek filologiyasi fakulteti
3-kurs talabasi*

“SADDI ISKANDARIY” DOSTONIDAGI HIKOYATLARDA BADIY KO‘CHIMLARNING LINGVISTIK TAHLILI

Annotatsiya. Ushbu maqolada badiiy adabiyotdagi og‘zaki she‘riy san’atlar ularning lisoniy nomlari bilan tahlil qilinadi va o‘rganiladi. “Trop” va “ko‘chim” atamasi o‘rtasidagi o‘xshashlik va farqlar ham tushuntiriladi.

Kalit so‘zlar: so‘zlar: metafora, trope, metafora, o‘xshatish, o‘xshatish, qarama-qarshilik, analogiya.

*Otanazarova Sh.
3rd year student
Faculty of Uzbek Philology
Urganch State University*

LINGUISTIC ANALYSIS OF ARTISTIC TRANSITIONS IN THE STORIES OF “SADDI ISKANDARIY” EPIC

Annotation. In this article, verbal poetic arts in fiction are analyzed and studied with their linguistic names. The similarities and differences between the term “trope” and migration are also explained.

Key words: metaphor, trope, metaphor, simile, simile, counterpoint, analogy.

O‘zbek tilshunosligida uning mazkur ko‘rinishlari alohida-alohida tadqiqotlarning manbayi bo‘lib, badiiy matnlar asosida atroflicha o‘rganilgan¹⁹.

Badiiy adabiyotimizda o‘rganiladigan metafora, metanimiya, istiora va shunga o‘xshash ko‘chimlar asosi tropga borib taqaladi.

Metafora. Narsa-buyum, voqea-hodisalar o‘rtasidagi o‘zaro o‘xshashlikka asoslangan ma’no ko‘chishiga metafora deyiladi. Metafora ko‘chma ma’no hosil qilishning eng keng tarqalgan usullaridan biri bo‘lib, mumtoz adabiyotshunosligimizda “istiora” deb yuritilgan. Masalan, Navoiyning quyidagi baytlarida istioradan mohirona foydalanilgan:

Sen labing so‘rgan soyi men qon yutarman, ey habib,

Sen may ichgilkim, manga xuni jigar bo‘lmish nasib²⁰.

Ushbu baytdagi “qon yutarman” iborasi ham o‘z ma’nosida qo‘llanmagan, balki “iztirob chekaman” ma’nosini anglatadi. Demak, u ham istiora bo‘la oladi.

O‘xshatish va metafora tushunchalari boshqa-boshqa tushunchalar. Mumtoz adabiyotimizda metafora “istiora” deb yuritiladi, o‘xshatish esa “tashbih”.

¹⁹ Ibodullayev M. Lingvistika va poetika. – Moskva, 1979. –B.83.

²⁰ Hojiahmedov A. Mumtoz badiiyat malohati. – T.: Sharq 1999. –B.45.

O'xshatish deb "ikki narsa yoki voqea-hodisa o'rtasidagi o'xshashlikka asoslanib, ularning biri orqali ikkinchisining belgisini, mohiyatini to'laroq, konketiroq, bo'rttiribroq ifodalash" ga aytiladi.

O'xshatishga tashbih san'ati asoslangan. "Tashbeh – Sharq adabiyotida keng tarqalgan san'atlardan biri bo'lib, "o'xshatish" ma'nosini ifodalaydi. Bu ikki narsa yoki tushunchani ular o'rtasidagi haqiqiy (real) yoki majoziy munosabatlarga ko'ra o'xshatish san'atidir"²¹.

Tashbeh san'atining bir necha turi mavjud bo'lib, ular tashbehi mutlaq, tashbehi kinoya, tashbehi mashrut, tashbehi tavsiya, tashbehi aks, tashbehi izmor va tashbehi tafzil nomlari bilan ataladi. "Saddi Iskandariy" dostonidagi hikoyatlarda bu san'atning "tashbehi mutlaq" turi tez-tez ko'zga tashlanadi. "Aniq o'xshatish" ma'nosini ifodalovchi bu xil san'at go'yo, singari, kabi, yanglig', -day, -dek, kabi so'z yoki qo'shimchalar vositasida hosil qilinadi. Masalan, "Iskandar bila ul gadolig' ixtiyor etgan podsho" hikoyatida shunday bayt keltiriladi:

Qolibmu ekin bir aningdek kishi –

Ki, qilsam ruju' anga mulk ishi?

Baytdan shunday bir kishi qolibdimi, unga saltanat ishlarini topshirsam degan ma'no anglashiladi va -dek qo'shimchasi mutlaq tashbehni yuzaga keltirgan.

"Bulbul" hikoyatidan olingan mana bu baytda:

Chu gul yo'qturur o'n bir oy bog' aro,

Erur ro'zg'orim seningdek qaro.

Baytda "ro'zg'orim" so'zi – mushabbih, "seningdek" so'zi – mushabbihun bih, "qaro" so'zi – vajhi shabih, seningdek so'zidagi "-dek" qo'shimchasi – vositayi tashbih.

She'riy ijodda tashbih qo'llanilarkan, ko'pincha o'xshatilayotgan narsa (mushabbih) nomi tushirib qoldiriladi-da, o'xshatilgan narsa (mushabbihun bih) nomigina saqlanadi. Ammo mushabbihni, ya'ni nima o'xshatilayotganini osongina aniqlash mumkin. Bu o'xshatishning nomi "**tashbihi kinoya**" deb nomlanadi.

Ushbu bayt bunga misol bo'la oladi:

Kulub dedi sohibdil: "Ey bulhavas,

Emasmu edi tajribang muncha bas?" (286)

Birinchi misradagi "bulhavas" so'zi aslida "har narsaga havas qiluvchi" deb tushuniladi. Ammo o'quvchi bu so'zda "har narsaga havas qiluvchi, beqaror yigit" ma'nosini anglaydi. So'zning bunday shaklda kelishi so'z ma'nosiga xalal bermagan, aksincha, uning ma'nosini yanada kuchaytirgan.

Metafora bilan **o'xshatish** konstruksiyasining farqi bor:

1. O'xshatishda so'zlar o'z ma'nosi bilan ishtirok etadi. Metaforada so'zlar doimo ko'chma shaklda bo'ladi.

²¹ Hojiahmedov A. Mumtoz badiiyat malohati. – T.: Sharq, 1999. –B.14.

2.O'xshatishda ikki komponentli – o'xshatiluvchi obyekt va o'xshovchi obraz qiyoslanadi. Metafora esa bir komponentli bo'ladi.

3.O'xshatishda kengayish imkoniyati ko'p, bir gap, hatto abzas darajasida ham kengayishi mumkin. Metaforalar esa so'z yoki so'z birikmasidan iborat bo'ladi.

4.O'xshatishda maxsus ko'rsatkichlar bo'ladi:-dek, -day, -simon,-larcha, singari va hokazo. Metaforalarda bunday ko'rsatkichlar bo'lmaydi.

Ayrim manbalarda metaforalarning mazmuniy jihatdan uch turi mavjudligi aytiladi: odatiy, jonlantirish va sinestetik metaforalar.

Jonlantirish badiiy nutqqa obrzlilik baxsh etuvchi muhim vositalardan biridir. "Badiiy san'atlar" kitobi mualliflari bu haqda shunday yozadilar:

"Jonlantirish – istioraning bir ko'rinishi bo'lib, odamlarga xos bo'lgan xislatlarni jonsiz predmetlarga ko'chirilishidir".

Mumtoz adabiyotimizda jonlantirishning ikki turi mavjud:

1.**Tashxis** – shaxslantirish, jonsiz narsalarni insonlarday qilib tasvirlash. She'riyatda jonlantirishdan voqelikni obrazli tasvirlash maqsadida foydalaniladi.

Jumladan, ushbu asarda ("Saddi Iskandariy" dostonida) tabiat tasvirlari ushbu she'riy san'at orqali ifodalangan:

Uyg'otur subhi bahor elni fig'on birla sahab,
Kim, sabuhiy chog'lar – mast bo'lsang, ey as'hob.
Barq har doim choqilib ishnagach, o'q tiyra bo'lur,
Ya'ni o'sh mundin oling umr charog'iga hisob.

2.**Intoq** – nutq sohibi sifatida tasvirlash, insonlardek gapirtirish. Yevropa adabiyotshunoslik ilmida *allergoriya* deb ataladigan ko'chim ham "gapirtirish" usuliga asoslanadi.

Buki har hindu qoshingda shohdur,
Der bu so'zni hashv kim ogohdur.

Mubolag'a yo'li bilan komik effekt yaratishning yana bir usuli **grotesk** deyiladi. U so'z fransuzcha so'z bo'lib, kulguli, g'ayritabiiy degan ma'noni bildiradi. Grotesk haqiqatni inkor etmaydi, balki haqiqatni fantaziya bilan qo'shib tasvirlaydi.

Ul pari hajrinda men devona cheksam o'tlug' oh,
Ey malak, gar bo'lmasang, qanotim chirkanur.

Xulosa qilib aytganda, she'riy san'atlarning ma'lum bir qismi tilshunosligimda ko'chimlar asosida tahlil qilinadi.

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USING GAME EDUCATION TECHNIQUES TO IMPROVE LANGUAGE LEARNING READING SKILLS

Abstract. Gamification has gained attention in education for its potential to increase engagement and motivation. This article explores the integration of gamification strategies to enhance reading skills in language learning. By leveraging game elements such as points, badges, leaderboards, and narrative contexts, educators can create immersive and interactive reading experiences. This paper examines the theoretical foundations of gamification, its benefits for reading skills development, and practical strategies for implementing gamification in language instruction. Through comprehensive analysis and case studies, we demonstrate how gamification can significantly improve learners' reading abilities and overall language proficiency.

Keywords: Gamification, reading skills, language learning, educational technology, engagement, motivation, game-based learning, language proficiency.

Introduction

Reading skills are fundamental in language learning, essential for comprehension, vocabulary acquisition, and critical thinking. Traditional methods of teaching reading often struggle to maintain learners' engagement and motivation. Gamification offers a solution by integrating game elements into educational contexts to enhance motivation and learning outcomes. By incorporating game mechanics such as points, levels, challenges, and rewards, educators can transform reading activities into engaging and interactive experiences.

This article explores the integration of gamification strategies to enhance reading skills in language learning. It examines the theoretical foundations of gamification, the benefits of gamified approaches for reading instruction, and practical strategies for implementing gamification in language teaching. Additionally, it discusses potential challenges and considerations in using gamification to develop reading skills, providing a comprehensive view of its application and efficacy.

Theoretical Foundations of Gamification

1. Motivation Theory

- Gamification aligns with motivation theory by offering extrinsic rewards and incentives that motivate learners to engage in reading activities.

2. Flow Theory

- Gamification facilitates flow experiences by providing clear goals, immediate feedback, and challenges that match learners' skill levels during reading tasks.

3. Self-Determination Theory

- Gamification supports autonomy, competence, and relatedness by giving learners control over their learning paths and fostering collaboration through game-based activities.

4. Cognitive Load Theory

- Gamification helps manage cognitive load by breaking down complex reading tasks into manageable steps and providing scaffolding through game mechanics.

Benefits of Gamification in Enhancing Reading Skills

1. Increased Engagement and Motivation

- Gamification makes reading activities more engaging and motivating by integrating elements such as points, badges, and leaderboards that appeal to learners' competitive spirit and desire for achievement.

2. Personalized Learning Pathways

- Gamified reading platforms can adapt to individual learners' preferences and proficiency levels, offering personalized challenges and activities that cater to their learning needs.

3. Immediate Feedback and Progress Tracking

- Gamification provides immediate feedback on reading performance, allowing learners to track their progress, identify areas for improvement, and adjust their learning strategies accordingly.

4. Enhanced Retention and Comprehension

- By immersing learners in narrative contexts and interactive challenges, gamification promotes deeper engagement with reading materials, leading to improved retention and comprehension.

5. Collaborative Learning Opportunities

- Gamified reading activities encourage collaboration and peer interaction through cooperative challenges, discussion forums, and shared achievements, fostering a supportive learning community.

Practical Strategies for Implementing Gamification in Reading Instruction

1. Gamified Reading Apps

- Utilize gamified reading apps such as Epic! and Reading Eggs that offer interactive stories, comprehension quizzes, and progress tracking features.

2. Quest-Based Learning Modules

- Design quest-based learning modules where learners embark on reading quests, complete challenges, and earn rewards for achieving reading milestones.

3. Badge and Achievement Systems

- Implement badge and achievement systems to recognize learners' progress and accomplishments in reading, motivating them to strive for mastery.

4. Leaderboards and Competition

- Introduce leaderboards and friendly competition among learners to foster engagement and encourage reading fluency and speed.

5. Storytelling and Narrative Contexts

- Incorporate storytelling and narrative contexts into reading activities, immersing learners in compelling narratives that enhance their comprehension and critical thinking skills.

Challenges and Considerations

1. Balancing Intrinsic and Extrinsic Motivation

- Ensure that gamification enhances intrinsic motivation for reading without overly relying on extrinsic rewards, maintaining a focus on fostering a genuine love for reading.

2. Designing Meaningful Game Mechanics

- Develop game mechanics that align with learning objectives and promote meaningful engagement with reading materials, avoiding superficial gamification strategies.

3. Accessibility and Equity

- Address accessibility issues to ensure that all learners, regardless of background or ability, can participate fully in gamified reading activities.

4. Teacher Training and Support

- Provide training and support for educators to effectively integrate gamification into reading instruction, including strategies for managing classroom dynamics and facilitating meaningful discussions.

5. Assessment and Evaluation

- Develop assessment strategies that measure both reading proficiency and engagement with gamified reading activities, using data to inform instructional decisions and improve learning outcomes.

Conclusion

Gamification offers a promising approach to enhancing reading skills in language learning by transforming reading activities into engaging and interactive experiences. The theoretical foundations of gamification support its potential to increase motivation, engagement, and learning outcomes through game-based incentives and challenges. By integrating gamification strategies into reading instruction, educators can create dynamic learning environments that foster a love for reading and improve overall language proficiency. However, successful implementation requires careful consideration of design principles, accessibility, teacher training, and assessment practices. By leveraging gamification effectively, educators can significantly enhance learners' reading abilities and support their lifelong learning journey.

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Qobilova M.S.
Termiz davlat pedagogika instituti
Boshlang'ich ta'lim yo'nalishi talabasi

SINF RAHBARNING TARBIYAVIY FAOLLIIGI SAMARADORLIGINI OSHIRISH USULLARI

Annotatsiya. Ushbu maqolada o'quvchilarning ta'lim-tarbiya jarayonini boshqarishda maktab va sinf rahbarining o'рни haqida ma'lumot berilgan. Sinf rahbarining tarbiyaviy faolligi samaradorligini oshirish turlari haqida ma'lumot berilgan. O'quvchilarni psixologiyasini o'rganish, xulqi, fanlarni o'zlashtirishi sinf rahbarining vazifasiga yuklatilgan. O'quvchilarni o'rganish natijalari bilan barcha o'qituvchilarni tanishtirib borish zarur.

Kalit so'zlar: sinf rahbari, ta'lim-tarbiya, faollik, tashkilotchilik, monitoring, kundali.com, xulq, qobiliyat, psixologik rivojlanish.

Kabilova M.S.
student of primary education
Termiz State Pedagogical Institute

METHODS OF INCREASING THE EFFECTIVENESS OF THE CLASS HEAD'S EDUCATIONAL ACTIVITY

Annotation. This article provides information about the role of the school and class leader in managing the educational process of students. Information is provided on ways to improve the effectiveness of the class leader's educational activity. It is the task of the head of the class to study the psychology, behavior, and learning of the students. It is necessary to acquaint all teachers with the results of student learning.

Key words: class leader, education, activity, organization, monitoring, kundali.com, behavior, ability, psychological development.

Maktab hayotida, ta'lim-tarbiya jarayonini boshqarishda sinf rahbarining boshqalar bilan almashtirib bo'lmaydigan o'ziga xos o'рни bor. U maktabda juda muhim va mas'uliyatli qiyofadir. Sinf rahbari faoliyatining aksariyat qismi tarbiyaviy jarayon bilan bog'liqdir. Shu jihatdan olib qaralganda, uni sinfnig bosh tarbiyachisi, murabbiysi deyish mumkin. U o'z sinf jamoasini tashkil qiladi, uyushtiradi va tarbiyalaydi, o'qituvchilar, bolalar tashkilotlari, ota-onalar hamda keng jamoatchilik bilan yaqindan aloqa bog'lab, sinfdagi umumiy tarbiyaviy jarayonga rahbarlik qiladi. Sinf rahbarining tarbiyaviy faoliyati samaradorligini oshirishda quyidagi ishlarni bajarishi shart: 1. O'z sinf o'quvchilarini umumiy o'rganish. 2. Sinf o'quvchilari jamoasini tuzish va jamoa orqali bolalarni tarbiyalash. 3. O'quvchilar jamoat tashkilotlariga amaliy

pedagogik yordam berish, faoliyatini tashkil etish va o'rganish. 4. Tarbiyasi og'ir bolalarni chuqur o'rganish va ular bilan alohida tarbiya olib borish. 5. Sinfda iqtidorli bolalarni aniqlash va ular bilan maxsus ishlarni uyushtirish. 6. O'quvchilar ota-onalari va keng jamoatchilik (mahalla qo'mitasi) hamkorligida ishlarni tashkil etish va hokazolar.

Sinf rahbari ishining mazmuni tomoni tarbiyaning umumiy vazifalari bilan belgilanadi. U jamoatchilik tashkilotlari hamkorligida tarbiyalanuvchilar ilmiy dunyoqarashi, faol hayotiy nuqtai nazarni shakllantiradi; o'quvchilarda bilimga, mehnatga havas uyg'otadi, ularni ongli ravishda o'z taqdirini o'zi belgilashga o'rgatadi; o'quvchilarda o'qishga mas'uliyat bilan yondashish va mustaqil o'qish qobiliyatini tarbiyalaydi; bolalarning estetik qiziqishlari va badiiy didini o'stiradi. Jumladan, tadbirlar, mushoiralar, har xil kechalar, uchrashuvlar, tanlovlar va boshqa o'yinlar orqali o'quvchilarga ta'lim-tarbiya beriladi. Sinf rahbari maktab ma'muriyati bilan birgalikda va mahalla jamoasi, ota-onalar bilan hamkorlikda tarbiyaviy ishlarni olib boradi. Maktab ma'muriyati sinf rahbari va uning olib borayotgan ishlarini doimo qo'llab-quvvatlashlari lozim. Chunki sinf rahbari o'z o'quvchilarini yaxshi biladi va ularni tarbiyalash uchun nimalar kerakligini hisobga olib ish yuritadi. Sinf rahbari ishini ma'naviyat va ma'rifat ishlari bo'yicha, ya'ni tashkilotchi, direktor o'rinbosari boshqarib turadi. Ma'lumki, tarbiya ijtimoiy jihatdan aniqlangan jarayonlarga taalluqlidir. Tarbiya jarayonini tashkil etishning maqsadlari, tamoyillari, mazmuni va usullarini tanlash davlat va jamiyat rivojlanishidagi siyosiy, iqtisodiy, ijtimoiy-madaniy vaziyatga sezilarli ta'sir ko'rsatadi. O'zbekistondagi davlat va ijtimoiy hayotdagi o'zgarishlar bolalarni tarbiyalash amaliyotida o'zgarishlarga ta'sir qiladi. So'nggi yillar ichida va sinf rahbarlarining tarbiyaviy faoliyati sezilarli darajada yangilandi. Sinf rahbari faoliyati birinchi navbatda o'z sinfidagi o'quvchilar bilan ishlashga qaratilgan. Sinf rahbari ishining eng muhim vazifalaridan biri sinf jamoasi bilan tizimli ishlashdir. Uning ishi individuallikni, sinf jamoasining "yuzini" shakllantirish va namoyish etishga qaratilgan. Shu bilan birga, sinf rahbari maktab jamoasida sinfning o'rnini haqida g'amxo'rlik qiladi, bu esa o'zaro muloqotni rag'batlantiradi. O'z faoliyati davomida sinf rahbari birinchi navbatda fan o'qituvchilari bilan hamkorlik qiladi: maktab maqsadlari asosida ta'lim va tarbiya faoliyatida bolalarga umumiy pedagogik talablar va yondashuvlarni birgalikda ishlab chiqishadi. Psixolog-psixolog bilan birgalikda sinf rahbari o'quvchilarning individualligini, ularni adaptatsiyasi va mikro va makro muhimda integratsiyalashuvini o'rganadi. Sinf rahbari o'qituvchi-psixologning ota-onalar bilan aloqalarini, ularning maslahat yordamini muvofiqlashtiradi. O'qituvchi-psixologning yordami bilan sinf rahbari sinf jamoasining rivojlanishini tahlil qiladi, o'quvchilarning bilim, ijodkorlik va imkoniyatlarini aniqlaydi. Sinf rahbari faoliyatida maktabdan tashqari muassasalar bilan hamkorlik qilish katta ahamiyatga ega. Ular bilan o'zaro aloqalar bolalarning ijodiy salohiyatini kengaytirish uchun qo'shimcha tarbiya tizimining barcha

turlaridan foydalanishga yordam beradi. Sinf rahbari maktab o'quvchilarini maktabda va bolalarning qo'shimcha ta'lim muassasalarida faoliyat yuritadigan turli xil ijodiy uyushmalarga a'zo bo'lishga yordam beradi. Sinf jamoasining darsdan tashqari, maktabdan tashqari ishlarini, dam olish va ta'til vaqtidagi tadbirlarini tashkil etishda sinf rahbari tashkilotchi o'qituvchi bilan faol hamkorlik qiladi. Sinf rahbari o'qituvchi-tashkilotchining yordami bilan madaniyat, sport, jamoatchilik vakillarini bilan tadbirlarini tashkil etishga jalb qiladi. Sinf rahbari bolaning shaxsini va barcha ijtimoiy institutlar o'rtasida o'quvchilarning shaxsiy inqirozlarini hal qilishda vositachilik qilish uchun mo'ljallangan ijtimoiy o'qituvchi bilan yaqindan hamkorlik qilishi kerak. Maktablarda keng tarqalgan turli xil bolalar jamoat birlashmalari mavjud bo'lib, ular bolalarni yangi ijtimoiy munosabatlarga jalb qilishga yordam beradi. Sinf rahbari kutubxonachi (axborot-resurs markaz) bilan hamkorlik qilib, o'quvchilarni o'qish doirasini kengaytiradi, ularda o'qish madaniyatini, axloqiy g'oyalarga, axloqiy me'yorlarga bo'lgan munosabatni shakllantirishga yordam beradi. O'z ishlarida sinf rahbari maktab tibbiy xodimlaridan olingan ma'lumotlardan foydalanib, o'z o'quvchilarining salomatligi haqida doimo g'amxo'rlik qiladi. Oila eng muhim ijtimoiy institutlardan biridir. Sinf rahbarining ota-onalar bilan ishlash olib borishi bolaning manfaati uchun oila bilan hamkorlik qilishga qaratilgan. Sinf rahbari ota-onalarni maktabda tarbiya jarayonida ishtirok etishga jalb qiladi, bu oilada qulay tarbiyaviy muhit yaratishga, maktabda va undan tashqarida bolaning psixologik va emotsional qulayligiga yordam beradi. Sinf rahbari shuningdek, ota-ona uchrashuvlari, birgalikdagi faoliyat orqali ota-onalarning pedagogik va psixologik madaniyatini oshirish ishlarini tashkil etadi. Sinf rahbari faoliyatida sinf tarbiya tizimini modellashtirish va amalga oshirish alohida o'rin egallaydi. Sinfning tarbiya tizimi nima? Sinfning tarbiya tizimi o'zaro ta'sir qiluvchi tarkibiy qismlar majmuasi bo'lib, ularning o'zaro aloqasi va integratsiyasi sinfda bo'ladi.

O'quvchilarni o'rganish o'qituvchining, ayniqsa sinf rahbarining vazifasidir. U o'quvchilarni faqat darsdagina emas, balki sinfdan tashqi vaqtdan ularga tarbiya berish vaqtida ham, o'quvchilar uylariga borganda ham, har xil ekskursiyalar vaqtida ham o'rganadi. Sinf rahbari sinfni qabul qilib olgandan keyin, uning birinchi ishi, odatda, o'quvchilarni o'rganishi bilan bog'liq bo'ladi. Bu ish uning o'ziga berkitilgan sinfdagi butun ish faoliyati mobaynida davom etadi va uning tarbiyaviy ish sistemasida muhim bir tomonni tashkil etadi.

O'quvchilarning o'ziga xos xususiyatlari ularning xulqi muhim ahamiyatga ega. Ular olgan tarbiya darajasini bilgan holda, ma'lum maqsadga qaratilgan va ta'sirchan reja tuzish oson bo'ladi. Ma'lumki, o'quvchi shaxsining tarkib topishi va rivojlanishi bir tekis bormaydi. Sinf rahbarining mazkur o'quvchi to'g'risida bilganlari bugunga kelib yetarli bo'lmay qolishi mumkin. To'g'ri, o'quvchilarni o'rganish ko'p vaqt va ko'p kuch talab etadi. Ammo keyinchalik bular hammasi katta natijalar beradi. Sinf rahbari o'quvchilarni, ularning xususiyatlarini bilgan holda, ular bu jarayonini muvaffaqiyatli tarzda

yo'lga solib, yutuqlarga erishish mumkin bo'ladi. O'quvchilarni o'rganishga boshqa o'quvchilar, yetakchilar va ota-onalar jalb etiladi.

Bunda o'qituvchilar hamda sinf rahbarlari ishidagi o'zaro munosabat qoidalariga rioya qilish juda muhimdir. O'quvchilarni o'rganish natijalari bilan barcha o'qituvchilarni tanishtirib borish zarur. Shu bilan birga ularning har qaysi o'quvchi to'g'risida bilganlarini ham hisobga olish lozim. Bular o'quvchilarga tarbiya berish jarayonida ularga bir xilda talablar qo'yish va ularga bir xil muomala qilishga erishishga yordam beradi. O'quvchilarni o'rganish ularga individual yondashishni zarur shartidir. O'quvchilarni ularga ta'lim va tarbiya berish jarayonida har qaysi o'quvchiga individual yondashishga erishish maqsadida o'rganmoq lozim. O'quvchilar o'z xarakteriga qiziqishi va mayliga ko'ra bir xil emas.

Ulardan psixologik rivojlanishiga binoan sustkash yoki faol va uquvsiz, jasur va shijoatkor, boshqa birlari esa uyalish hissi yuqori, tortinchoq bo'lishadi. Ba'zi bir o'quvchilar o'z tashkilotchiligi va qat'iyligi bilan ajralib tursa, boshqa birlarida esa bu xususiyatlar mavjud emas. Izlanishlardan kelib chiqqan xolda shular ma'lum bo'ldiki, sinf bir biriga o'xshamagan, turli xususiyatdagi bolalardan tashkil topgan bir guruhdir. Sinfda tashqi ko'rinish jihatidan bir-biriga o'xshash bolalar bo'lmagan singari, o'z ichki xususiyatlari jihatidan bir biriga o'xshaydigan bolalar ham bo'lmaydi. Ularning xarakteri, qiziqishlari, kayfiyatlari va xohishlari, ularning xulq-atvorlari sabablari, ko'nikma va malakalari, odatda, turlicha bo'ladi. har qaysi o'quvchi o'ziga xos, boshqalarga o'xshamaydigan xususiyatga ega bo'ladi.

U alohida shaxs sifatida kamol topib boradi. Odatda sinf rahbari sinfdagi barcha o'quvchilarga nisbatan yagona tarbiyaviy vazifalar qo'yadi va hal etadi. Masalan, u o'zining barcha o'quvchilarni mehnatsevarlikka, bir jon, bir tan bo'lishiga, haqqoniylikka o'rgatishga harakat qiladi. Ammo bu vazifalarning hal etish yo'llari, vosita va metodlari o'quvchilarning individual xususiyatlariga qarab turlicha bo'lishi mumkin. Ularning ba'zilarini o'z vaqtida rag'batlantirish, ba'zilariga buyurish xulq-atvor qoidalarini buzgan o'quvchilarni jazolash darkor. Binobarin, o'quvchilarga to'g'ri tarbiya bermoq uchun tarbiya jarayonida ularga individual yondashishni amalga oshirmoq kerak. Buning uchun esa ularni chuqur va har tomonlama o'rganmoq zarur. Tarbiyachi o'quvchilar jamoasini tarbiyalar ekan, hech qaysi o'quvchini nazardan chetda qoldirmasligi darkor.

Xulosa o'rnida shuni aytishimiz mumkinki, sinf rahbari o'quvchilardan doim xabardor bo'lib turishi kerak, o'quvchining o'zlashtirishi yomon bo'lsa, uni yaxshilash uchun sinf rahbari birinchi o'rinda doim ota onasi bilan individual suhbat qilib, muammoni bartaraf qilish chorasini zudlik bilan hal qilish kerak. Sinf rahbar, ota-onalarga Kundalik.com saytidan doim aloqada bo'lishlarini va xabardor bo'lib turishlarini ta'kidlab turishi kerak. Ota-onalar doimiy ravishda farzandlarini nazorat qilib turgan xolda Kundalik.comdan va Monitoringdan xabardor bo'lgan xolda farzandlarini o'z nazoratiga olib turishligi kerak.

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Qodirov V.A.
professor
“Kokand university” Andijon filiali
Razzakov N.A.
dotsent
“Kokand university” Andijon filiali
Axmadjonov Q.M.
assistant
“Kokand university” Andijon filiali

OTM LARDA TIBBIY BIOLOGIYA FANINI O’QITISHNING DOLZARB MUAMMOLARI

Annotatsiya. Ushbu maqolada biologiya fanini o’qitishning turli metodik usullar bilan o’tib talabalarning bilim va ko’nikmalarini yuqori saviyada oshirishga qaratilgan pedagogic uslublar haqida ma’lumotlar berilgan. Bundan tashqari, tibbiy biologiyani o’qitishda yuzaga kelgan dolzarb muammolar va ularni bartaraf etishda yangicha metodik usullardan foydalanish haqida ma’lumotlar keltirilgan.

Kalit so’zlar: metodika, tadqiqot, integratsiya, COVID-19, STEM, innovatsiya.

Kadyrov V.A.
professor
"Kokand University"
Andijan branch
Razzakov N.A.
associate professor
"Kokand University"
Andijan branch
Akhmadjonov Q.M.
assistant
"Kokand University"
Andijan branch

DOLZARB PROBLEMS OF TEACHING THE SCIENCE OF MEDICAL BIOLOGY IN HEIS

Abstract. This article provides information on pedagogical methods aimed at improving students' knowledge and skills at a high level by using various methodical methods of teaching biology. In addition, information is provided on current problems in the teaching of medical biology and the use of new methodological methods to overcome them.

Keywords: methodology, research, integration, COVID-19, STEM, innovation.

Kirish. Prezidentimiz Shavkat Mirziyoyev tantanali marosimdagi nutqida: “Hammamizga ayonki, taraqqiyotning tamal toshi ham, mamlakatni qudratli, millatni buyuk qiladigan kuch ham bu – ilm-fan, ta’lim va tarbiyadir. Ertangi kunimiz, Vatanimizning yorug‘ istiqboli, birinchi navbatda, ta’lim tizimi va farzandlarimizga berayotgan tarbiyamiz bilan chambarchas bog‘liq [1].

Biologiya fanini o‘qitishda o‘quvchilarning bilish faoliyatini faollashtirish maqsadida darslarda turli o‘yinlardan foydalanish muhim ahamiyat kasb etadi. Didaktik usullar vositasida darslarni tashkil etish o‘quvchilar biologik qonuniyatlar, hodisalar va hayotiy jarayonlarni o‘rganish faoliyatini rivojlantiruvchi usullardan biridir. Dars jarayoniga turli xil yondashuv talabalarni erkin fikrlash, mustaqil xulosa chiqarish, muammoli vaziyatlardan chiqqa olish qobiliyatini oshiradi, tez javob topish ko‘nikmasini rivojlantiradi, ziyrakligini orttiradi. Didaktik usullar yordamida olib borilgan darslarining asosiy maqsadi o‘quvchilarning o‘quv jarayoniga qiziqishlarini orttirish va bu bilan o‘qish samaradorligini oshirishdir [2]. Bu esa ta’lim jarayonida darslarni tashkil etishga qaratilgan bo‘lib asosiy e’tibor didaktik va boshqa interfaol usullarga qaratilgan.

Samarali o‘qitish strategiyalarini qo‘llash va dinamik o‘quv muhitini qo‘llab-quvvatlash orqali talabalarimizni o‘zlarining ilmiy va professional harakatlarida muvaffaqiyat qozonishlari uchun kuch berishimiz mumkin [3].

Mustaqil Respublikamizda “Ta’lim to‘g‘risida”, “Respublikada milliy kadrlar tayyorlash” to‘g‘risidagi qonunlarga asosan, endilikda yoshlarga ta’lim berishning yangi, samarali yo‘llari, vositalaridan, yangi pedagogik texnologiyalardan foydalanishga o‘tish vazifalari ko‘rsatilgan. Bu ulkan vazifalarni bajarishda umumta’lim, maxsus o‘rta va oliy maktablar jamoalari oldida ta’lim berishning yangi, samarali yo‘llari, vositalarini ishlab chiqish, uni amaliyotga kiritishdek dolzarb vazifalar turibdi. Undan tashqari, yoshlarimizga faqat fan asoslaridan bilimlar berish bilan cheklanmasdan ularni har tomonlama yetuk, ma’naviy barkamol qilib tarbiyalash zarur [4].

Tabiiy fanlar tizimida ta’lim texnologiyalarini qo‘llashning muhim talablardan biri ortiqcha ruhiy va jismoniy kuch sarf etmay, qisqa vaqt ichida yuksak natijalarga erishishdir. Qisqa vaqt orasida muayyan nazariy bilimlarni tahsil oluvchilarga yetkazib berish, ularda ma’lum faoliyat yuzasidan ko‘nikma va malakalarni hosil qilish, shuningdek, tahsil oluvchilar faoliyatini nazorat qilish, ular tomonidan egallangan bilim, ko‘nikma hamda malakalar darajasini baholash biologiya fani o‘qituvchilaridan yuksak pedagogik mahorat hamda ta’lim jarayoniga nisbatan yangicha yondashuvni talab etadi [5].

Metodologiyai. Tadqiqotni yoritishda quyidagi adabiyotlar asosiy manba bo‘lib hizmat qildi. A.A.Gorelovning “Konsepsii sovremennogo yestestvoznaniya” va B.D. Komissarovlarning “Metodologicheskie problemi

shkolnogo biologicheskogo obrazovaniya.” Asarlarida tadqiqot mavzusi yuzasidan muhim ma’lumotlarni uchratish mumkin. Bundan tashqari, B.L.Farbermanning “Progressivnie pedagogicheskie texnologii” N.S.Sayidaxmedovning “Yangi pedagogik texnologiyalar”, A.Hayitov, N.Boymurodovlarning “Ta’limda noan’anaviy darslar va interfaol usullardan foydalanish”, N.N. Azizxo’jaevaning “Pedagogik texnologiyalar va pedagogik mahorat”, O.M.Mavlonov, S.Najimovaning “Zoologiyaning o’qitish metodlari va texnologiyalari, J.O.Tolipovaning “Biologiya ta’limi texnologiyalari” kabi asarlari ham tadqiqotni yoritishda asosiy manba bo’lib hizmat qildi.

Muhokama. Tibbiy biologiya fani o’qituvchilari oldida turgan ba’zi dolzarb muammolarga quyidagilar kiradi: Texnologiyalar integratsiyasi: Texnologiya simulyatsiyalar, virtual laboratoriyalar va onlayn resurslar orqali biologiya ta’limini yaxshilash uchun ulkan imkoniyatlarni taqdim etsa-da, bu vositalarni o’quv dasturiga samarali integratsiya qilish ba’zi o’qituvchilar uchun qiyin bo’lmoqda.

Tez rivojlanayotgan tadqiqotlarni davom ettirish: Biologiya dinamik soha bo’lib, doimiy ravishda yangi tadqiqot natijalari paydo bo’ladi. O’qituvchilar so’nggi o’zgarishlardan xabardor bo’lish va ularni o’qitishga kiritish uchun kurashishlari zarur.

Fanlararo aloqalarni birlashtirish: biologiya, kimyo, fizika va atrof-muhit fanlari kabi boshqa sohalar bilan o’zaro bog’liqdir. Talabalarga ushbu aloqalarni tushunishga yordam berish ularning o’quv tajribasini boyitishga qaratilgan amaliy dars jarayonlarida mavzuga doir ekspeditsiya va tajribalar o’tkazishni tashkil qilish [6]. Xilma-xillikni rivojlantirish: biologiya ta’limining turli metodik usullar yordamida bo’lishini ta’minlash va turli xil salohiyatga ega bo’lgan talabalar uchun ochiq bo’lishiga zamin yaratadi. STEM sohalarida tenglik va mukammallikni rag’batlantirish uchun juda muhimdir. Bu o’quv dasturiga turli nuqtai nazarlarni kiritish va barcha talabalar uchun qulay o’quv muhitini yaratishni o’z ichiga olishi kerak.

Ta’lim sohasidagi o’zgarishlarga moslashish: COVID-19 pandemiyasi onlayn va gibril ta’lim modellarini qabul qilishni tezlashtirdi. Biologiya o’qituvchilari ta’lim sifatini saqlab qolgan holda talabalarni ushbu yangi muhitga samarali jalb qilish uchun o’zlarining o’qitish strategiyalarini moslashtirishlari kerak. Jozibador o’qitish usullari: Talabalarni qiziqtirish uchun turli xil o’qitish strategiyalaridan foydalanish zarur. Ma’ruzalar, guruh muhokamalari, amaliy tadqiqotlar, laboratoriya mashg’ulotlari va multimedia taqdimotlari o’rganishni kuchaytirishga qaratilgan. Tibbiy biologiyaning sog’liqni saqlash amaliyotiga aloqadorligini ko’rsatish uchun haqiqiy hayotdagi klinik misollarni qo’shish zarur.

Tadqiqotlarni qo’shish: Tibbiy biologiya sohasidagi joriy tadqiqot natijalari va yutuqlarini o’qitishingizga integratsiya qilish. Dalillarga asoslangan amaliyotning muhimligini ta’kidlab, talabalarni ilmiy adabiyotlarni tanqidiy baholashga undash.

Tadqiqotlarni qo'shish: Tibbiy biologiya sohasidagi joriy tadqiqot natijalari va yutuqlarini o'qitishga integratsiya qilish. Dalillarga asoslangan amaliyotning muhimligini ta'kidlab, talabalarni ilmiy adabiyotlarni tanqidiy baholashga undash.

Axloqiy mulohazalar: tibbiy biologiya bilan bog'liq axloqiy masalalarni muhokama qiling, masalan: bemorning maxfiyligi, xabardor roziligi va tadqiqotning mas'uliyatli o'tkazilishi. Talabalar orasida kasbiy mas'uliyat hissi va axloqiy ongni tarbiyalash.

Xulosa: Xulosa o'rnida shu ta'kidlash joizki Tabiiy fanlar tizimida ta'lim texnologiyalarini qo'llashning muhim talablardan biri ortiqcha ruhiy va jismoniy kuch sarf etmay, qisqa vaqt ichida yuksak natijalarga erishishdir. Qisqa vaqt orasida muayyan nazariy bilimlarni tahsil oluvchilarga yetkazib berish, ularda ma'lum faoliyat yuzasidan ko'nikma va malakalarni hosil qilish, shuningdek, tahsil oluvchilar faoliyatini nazorat qilish, ular tomonidan egallangan bilim, ko'nikma hamda malakalar darajasini baholash biologiya fani o'qituvchilaridan yuksak pedagogik mahorat hamda ta'lim jarayoniga nisbatan yangicha yondashuvni talab etadi.

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*Quvvatova M.H., doctor of philosophy (PhD) in pedagogical sciences
Termez State Pedagogical Institute
Abdusalomova R.A.
2nd year student
Faculty of preschool education
Termez State Pedagogical instituti*

PSYCHOLOGICAL CHARACTERISTICS OF PRESCHOOL CHILDREN REGARDING AGE AND THEIR IMPORTANCE IN THE HEALTHY DEVELOPMENT OF THE CHILD

Annotation. In this article we can find out the psychological characteristics of preschool children regarding age and their importance in the healthy development of the child.

Keyword: child, independent activity, preschool children, psychology, healthy.

The preschool age of a child from 3 to 7 years old is a large part of the childhood period. Basically, it is from this period that the child's independent activities develop, and his personal individual characteristics (personal qualities) begin to be composed. From Russian educators P.F. Lesgaft believes that the period of a person's preschool age is such a period during which it is determined what character traits will appear in the future, and the foundations of his moral qualities will arise. On the importance of preschool age in the development of a person's education P.F. This opinion of Lesgaft was expressed by the Russian pedagogue A.S. Fully corresponds to the following opinion of Makarenko. A.S. Makarenko spoke about the need to raise children from a very small period, and the most important foundations of upbringing are laid during the period when the child is under five years old. It was said that the entire upbringing, which was done during this period, accounted for 90% of the upbringing process. Indeed, the period of the child's preschool age is such a meaningful and active period that this period will definitely be reflected in the future growth of the child. Therefore, the period in preschool age is extremely responsible in terms of the power of influence.

When a child passes from the first to the preschool period, serious changes occur in his entire living conditions. First, when the child reaches kindergarten age, his sphere of activity is greatly expanded, and his independence increases even more. His games, his behavior also begin to have a different content. Secondly, the role of speech in the entire activity of the child goes to the Midwest. Thirdly, after preschool age, the child begins to be brought up by a special educator under a certain program. These changes that have arisen in the living conditions of a preschool child will not affect his physical and psychically growing maturation. The physical development of a preschool child

as we have already said, the period when a child grows physically fastest falls on the age of one or two years.

After the child turns three years old to preschool age, his physical growth slows down somewhat. Unevenness in the child's physical growth will continue to occur during this period. For example, we can see the increase in height from birth to one year of age in the table below. Indicators of physical development in preschool age: age 0-1 1-2 2-3 3-4 4-5 5-6 6-7 height (cm) 25 40 84 67 78 10 due to the lengthening of the child's body, in particular, legs, the general proportionality in the torso changes. In preschool age, the child's legs grow relatively more. But even so, the bones of a child under 6-7 years old are not yet well hardened, that is, they are in a cartilage state.

The tendons and muscles of preschool children become very mobile, despite the fact that they are not yet strong. When the child reaches the age of 7, there is a certain degree of Flexion in the neck part of the spine towards the front, and in the chest part towards the back. Later, the child's spine is preserved in this form. Of great importance is the fact that the spine is preserved in such a case when the child is straight from Kaddi-Basti. The skull of a child of kindergarten age also grows rapidly. After the child is three years old, the back and top sides of the skull grow rapidly. At preschool age, serious changes also occur in the internal organs of the child. For example, in terms of volume, the child's heart is 4-5 times larger than the baby's heart, but his muscles will not yet be sufficiently strengthened. That is why the heart of a child of kindergarten age cannot squeeze enough blood for the body in one contraction. This is also the reason why a child's heart beats faster than the hearts of older people. Chunonchi, if a child's heart at 1-year-old squeezes 10.2 cubic/cm of blood in one contraction, a child's heart at 7 years old will squeeze blood from 23 cubic/cm in one contraction. And the heart of an adult person squeezes more than 60 cubes/ CM of blood in one contraction. Due to the relatively rapid functioning of the heart in preschool age, the child's blood pressure is slightly stronger than in older people.

Children cannot breathe deeply until their lungs are large enough in size. As a result, children are satisfied with rapid breathing instead of deep breathing. In the period of the child's kindergarten age, the growth of the chest, like other organs, slows down a little. But the expansion of the chest circle continues much faster during this period. The circle of the child's chest expands from 1-2 cm per year, and when he reaches the age of 13-14, he approaches the chest of large people in terms of its shape and size. The amount of breathing of a child in the period from 3 to 7 years old practically does not change. But since during this period the child is overly mobile, his organism requires a huge amount of oxygen. Therefore, the child should be outdoors as much as possible. From these above, we can conclude that by preschool age, the working capacity of his body increases significantly. Therefore, it is necessary to constantly take into account the features of the child's physical development when drawing up educational

and educational work in the kindergarten and family, as well as the regime of the child's activity. The growth of the nervous system of preschool children a huge role in the development of the psyche of preschool children is played by the changes that occur in their nervous systems. The strongest progressing period of the children's nervous systems falls on the period under 1 year of age. The average weight of the brain of a newborn child comes 380-400 g. Until the child reaches kindergarten age, his brain develops incredibly quickly and increases almost three times.

Hence, the weight of the brain of children who have reached kindergarten age reaches 1100-1200 g. During the further improvement of the nervous system of preschool children, nerve fibers that connect the Centers in the cerebral cortex with each other also begin to be covered with myelin sheaths. The lining of nerve fibers in the brain with myelin sheaths is of great importance for the process of reflection, that is, for psychic processes and their development. When nerve fibers are myelinated, firstly, the rapid passage of excitations through the nerve fibers is ensured, and secondly, it ensures that excitation only goes to the corresponding Center. This results in a relatively rapid formation of conditioned reflexes (temporal bonds), which occur due to the action of various pathogens that affect the body from the external environment. In addition, the precise course of each excitation to the respective center ensures that kindergarten-age children can handle their movements with agility.

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INNOVATIVE APPROACHES IN MANAGING THE SUSTAINABLE DEVELOPMENT OF ENTERPRISES IN THE DIGITAL ECONOMY

Abstract. In the digital economy, enterprises face the dual challenge of driving innovation and ensuring sustainable development. This paper explores how digital technologies, such as AI, IoT, and blockchain, are transforming business operations to enhance efficiency, transparency, and sustainability. Key strategies include optimizing supply chains, adopting circular economy models, and fostering eco-friendly product and service innovation. The findings highlight the critical role of digital tools in achieving environmental, social, and governance (ESG) goals, ultimately positioning enterprises for long-term success in a rapidly evolving marketplace.

Keywords: Digital economy, sustainable development, digital transformation, circular economy, supply chain optimization, blockchain.

In the era of rapid technological advancement and digital transformation, the landscape of enterprise management is undergoing a profound evolution. The digital economy, characterized by the pervasive use of digital technologies and data-driven processes, is reshaping traditional business models, operational strategies, and competitive dynamics. Within this context, the sustainable development of enterprises has emerged as a critical objective, necessitating innovative approaches to ensure long-term viability, environmental stewardship, and social responsibility. This article explores the intersection of digital innovation and sustainable development, highlighting the strategies and practices that enterprises can adopt to thrive in the digital economy while contributing to broader sustainability goals. The digital economy encompasses a wide range of activities driven by the internet, mobile technologies, artificial intelligence, big data, and other digital innovations. It has transformed how businesses operate, interact with customers, and compete in the marketplace. Companies are increasingly leveraging digital tools to enhance efficiency, reduce costs, and create new value propositions. However, the digital economy also presents unique challenges, including cybersecurity risks, data privacy concerns, and the need for continuous technological adaptation.

One of the most significant impacts of the digital economy is the acceleration of business processes and the ability to scale operations rapidly. Digital platforms enable enterprises to reach global markets, collaborate across borders, and tap into diverse talent pools. This connectivity fosters innovation and facilitates the exchange of ideas and best practices, which are essential for sustainable development. Sustainable development, as defined by the United

Nations, involves meeting the needs of the present without compromising the ability of future generations to meet their own needs. For enterprises, this means integrating environmental, social, and governance (ESG) considerations into their core strategies and operations. The shift towards sustainability is driven by increasing regulatory pressures, stakeholder expectations, and the recognition that sustainable practices can lead to long-term competitive advantages.

In the context of the digital economy, sustainable development takes on new dimensions. Digital technologies can both contribute to and mitigate environmental impacts. For example, the energy consumption of data centers and the electronic waste generated by rapid technological obsolescence are significant concerns. Conversely, digital solutions such as smart grids, IoT-enabled resource management, and AI-driven optimization can enhance resource efficiency and reduce carbon footprints. Enterprises are leveraging digital technologies to transform their operations and enhance sustainability. Automation, data analytics, and artificial intelligence (AI) are being used to optimize supply chains, reduce waste, and improve energy efficiency. For instance, predictive analytics can anticipate maintenance needs and prevent equipment failures, thereby reducing downtime and resource consumption. Moreover, digital platforms enable remote work and virtual collaboration, which can lower carbon emissions associated with commuting and business travel. The circular economy model, which emphasizes the reuse, recycling, and regeneration of materials, is gaining traction as a sustainable alternative to the traditional linear economy. Digital technologies play a crucial role in enabling circular practices. For example, blockchain can enhance supply chain transparency and traceability, ensuring that materials are sourced responsibly and recycled appropriately.

Digital Transformation for Efficiency and Resilience. The digital transformation of enterprises is a cornerstone of modern business strategy, particularly in the context of sustainable development. Digital technologies such as artificial intelligence (AI), machine learning, the Internet of Things (IoT), and big data analytics offer powerful tools for enhancing efficiency and resilience in business operations. By leveraging these technologies, companies can streamline processes, reduce waste, and optimize resource utilization, all of which contribute to sustainability. Supply chains are critical components of any enterprise, and their optimization can lead to significant sustainability gains. Digital tools enable real-time monitoring and management of supply chains, allowing for more efficient logistics and reduced environmental impact. For example, IoT sensors can track the condition and location of goods throughout the supply chain, ensuring optimal storage conditions and minimizing spoilage. AI algorithms can analyze supply chain data to identify inefficiencies and recommend improvements, such as consolidating shipments to reduce transportation emissions. Energy consumption is a major concern for enterprises, both in terms of cost and environmental impact. Digital technologies

offer numerous ways to reduce energy usage. Smart building systems, powered by IoT and AI, can monitor and control lighting, heating, and cooling systems to ensure they operate only when needed, thereby reducing energy waste. Data analytics can identify patterns in energy usage and suggest more efficient practices. Additionally, companies can use digital twins—virtual models of physical assets—to simulate and optimize energy consumption across their operations. The transition from a linear economy, where products are made, used, and disposed of, to a circular economy, where materials are continuously reused and recycled, is essential for sustainable development. Digital technologies play a pivotal role in facilitating this shift.

Enhancing Supply Chain Transparency with Blockchain. Blockchain technology, known for its secure and transparent ledger system, can enhance the traceability of materials and products throughout the supply chain. This transparency ensures that raw materials are sourced responsibly, products are manufactured sustainably, and end-of-life products are recycled appropriately. For instance, a blockchain-based system can track the journey of a product from the raw material stage to its final disposal, providing valuable data for sustainability reporting and compliance. Digital platforms can create marketplaces for secondary materials, promoting the reuse and recycling of resources. These platforms connect businesses that have excess materials or waste products with those that can use them, facilitating a circular economy. By digitizing the exchange of materials, enterprises can reduce waste, lower procurement costs, and contribute to a more sustainable industrial ecosystem. Innovation is at the heart of sustainable development, and digital technologies are driving new approaches to product and service design that prioritize sustainability. Digital tools enable companies to incorporate sustainability criteria into their product design processes. Computer-aided design (CAD) software can simulate the environmental impact of different materials and manufacturing processes, helping designers choose the most sustainable options. Lifecycle assessment (LCA) tools evaluate the environmental impact of a product throughout its life cycle, from raw material extraction to disposal. By using these tools, companies can design products that are not only eco-friendly but also durable and recyclable.

Smart Services and the Sharing Economy. Digital platforms are also enabling new service models that promote sustainability. The sharing economy, exemplified by companies like Airbnb and Uber, maximizes the utilization of existing resources by allowing people to share assets like homes and cars. This reduces the need for new products and minimizes waste. Similarly, digital platforms for renting, leasing, or sharing goods such as tools, equipment, and clothing extend the lifespan of products and reduce the environmental impact of production and disposal. Effective stakeholder engagement and transparency are critical for building trust and achieving sustainable development goals. Digital technologies facilitate better communication and reporting, enhancing

accountability and stakeholder relationships. Social media, mobile apps, and online platforms enable enterprises to engage with stakeholders in real time. Companies can use these tools to share updates on their sustainability initiatives, gather feedback, and respond to concerns. For example, a company might use a social media campaign to highlight its efforts to reduce carbon emissions, or an app to provide customers with information about the sustainability of their products.

In conclusion, the integration of digital technologies into sustainable enterprise management offers unprecedented opportunities for innovation, efficiency, and resilience. By adopting digital tools and strategies, enterprises can enhance their sustainability performance, meet regulatory and stakeholder expectations, and gain a competitive edge in the digital economy. As the business landscape continues to evolve, the commitment to sustainable development through digital innovation will be essential for long-term success and global prosperity.

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Raxmatov A.F.
Fargʻona davlat universiteti Geografiya
kafedrasi doktorandi
Oʻzbekiston, Fargʻona

SURXONDARYO VILOYAT YER FONDINING TABIIY LANSHAFT JIXATIDAN TABAQALANISHI

Annotatsiya: Surxondaryo viloyati tabiiy geografik jihatlari xamda u fakat janub tomonga "ochik", xolos; qolgan uch tomondan togʻlar bilan oʻralganligi. Orografik vaziyat mintaqa iqlimining shakllanishiga katta taʼsir koʻrsatishi va mintaqa iqlimi va oʻziga xos agroiqilimiy avzalliklari. Surxondaryo botigʻi geosistemalarini paragenetik prinsip hamda geoekologik rayonlarga ajratish va geoekologik vaziyatni optimallashtirish boʻyicha ilmiy asoslar. Okruga ajratishda xissa qoʻshgan olimlar va mutaxassislar Surxondaryo togʻlari va tekisliklari hamda uning avzalliklari haqid soʻz yuritiladi.

Kalit soʻzlar: provinsiyalar, okruglar, tabiiy geografik rayon, Surxondaryo botigʻi landshaft hududi rayonlashtirish, gersin, tetis, yirik gavgdali hayvonot vakillari, Neogen va antropogen, toʻrtlamchi davr yotqiziqlari, morfologik tip, Sherobod choʻli, suglinkali qatlam.

Rakhmatov A.F.
doctoral student
Department of Geography
Fergana State University
Uzbekistan, Fergana

NATURAL LANDSCAPE CLASSIFICATION OF SURKHONDARYO REGIONAL LAND FUND

Abstract. The natural geographical features of Surkhandarya region include the fact that it is "open" only to the south, surrounded by mountains on the other three sides. The orographic situation has a great influence on the formation of the region's climate and the region's climate and specific agro-climatic advantages. Paragenetic principle and scientific basis for the division of the geosystems of the Surkhandarya basin into geoecological regions and the optimization of the geoecological situation. The scientists and specialists who contributed to the division of the region are discussed about the mountains and plains of Surkhandarya and its basins.

Key words: provinces, districts, natural geographical region, zoning of the landscape area of the Surkhandarya Basin, Hercynian, Tethys, representatives of large-bodied animals, Neogene and anthropogenic, Quaternary deposits, morphological type, Sherabad desert, lichen layer.

Surxondaryo viloyati tabiiy geografik jihatidan ancha mukammal o'rganilgan. Jumladan Surxondaryo xududiniig taxminan 70 foiz maydoni togliklardap iborat (Hisor, eng baland nuktasi 4643 m; Kuxitang va o.). Tabiiy geografik jihatdan u fakat janub tomonga "ochik", xolos; qolgan uch tomondan tog'lar bilan o'ralgan. Bunday tuzilishi, orografik vaziyat mintaqa iqlimining shakllanishiga katta ta'sir ko'rsatadi. Iqlimi - quruk, issik, yog'in-sochin miqdori o'rtacha 130-180 mm, tog' yon bag'irlarida 600 mm gacha yetadi. Harorat respublika bo'yicha eng yqkori, vegetatsiya davri uzoq. Agroiqlimiy sharoitlar sug'orma dexqonchilik uchun qulayliklarni keltiradi. Mamlakatimizning boshqa xududlaridan farqi - bu yerda subtropik xo'jalik yaxshi rivojlangan. [1; 284-b]

Surxondaryo botig'i geosistemalarini paragenetik prinsip asosida geoeologik rayonlarga ajratish va geoeologik vaziyatni optimallashtirish bo'yicha ilmiy asoslarini ishlab chiqdi (Y.Arashev Q). Surxondaryo botigining tabiiy sharoiti va landshaft kompleksining rang-barangligi kupchilik geograf-tadkikotchilarning e'tiborini uziga jalb etgan. Uning xududini va unga yondosh bulgan regonlarning tabiiy geografik rayonlashtirish masalasi bilan E.M.Murzaev, V.M.CHetirkin, L.N.Babushkin, N.A.Kogay, SH.Ergashov, P.Baratov, A.A.Abdulkosimov, va boshalar shug'ullanganlar. Eng birinchilardan bo'lib Yuqori Surxondaryo regional kompleksi va Quyi Surxondaryo regional kompleksiga bo'lgan olim (V.M.CHetirkin) hisoblanadi.

O'zbekistan Respublikasi xududini tabiiy geografik rayonlashtirishda Surxondaryo xavzasini mustakil okrug sifatida ajratgan. Bu okrugni kuyi regional birliklarga bulishda uning tabiiy sharoitini ichki tafovutlariga va landshaft strukturasining tuzilish xarakteriga asoslangan (L.N.Babushkin va N.A.Kogay). Ana shu nuktai nazardan Surxondaryo xavzasini uchta tabiiy geografik rayonga bulgan: Quyi Surxon, O'rta Surxon va Yuqori Surxon. Surxondaryo viloyatini landshaft tipologik karta asosida rayonlashtirish (SH.Ergashov) tomonidan amalga oshirilgan.P.Baratov [2; 214-b.]

Surxondaryo botigini okrug sifatida ajratib, uni ikkita tabiiy geografik rayonga buladi: 1)Termiz-Denov tabiiy geografik rayoni; 2)SHerobod tabiiy geografik rayoni. Mazkur rayonlarning tarkibiy tuzilishida bir nechta landshaftlar ishtirok etadi. P. Baratovning [2; 214-b.]

Surxondaryo botig'ini tabiiy geografik rayonlashtirish sxemasi boshqa mualliflarning rayonlashtirish sxemasidan ancha fark kiladi. Jumladan, P.Baratov tomonidan ajratilgan Termiz-Denov tabiiy geografik rayoni bo'zqa mualliflarning Quyi Surxon, O'rta Surxon va Yuqori Surxon rayonlarining deyarli xamma qismini o'z ichiga oladi. Vaxolanki, mazkur tabiiy geografik rayonlar Surxondaryo xududida tabiiy geografik sharoitning janubdan shimolga karab uzgarib borishi, zonal farqlarning mavjudligi va geografik komponentlarning shu yo'nalishda farklanib borishi kabi omillar e'tiborga olingan xolda ajratilgan.

O'rta Osiyo tog' oralig'i botikdarini, jumladan Surxondaryo botig'ini xam landshaft-tipologik kartalashtirish va tabiiy geografik rayonlashtirish muammosi

bilan shug'ullanib, ularning xar birini O'rta Osiyo tog'li tabiiy geografik ulkasi doirasida karab mustakil provinsiya deb ajratgan. Provinsiyalar dastlab okruglarga, okruglar esa tabiiy geografik rayonlarga bulingan A.A.Abdulkrsimov [3; 3-126 b.].

Surxondaryo botig'ini geoeologik rayonlashtirish bilan shug'ullanib, dastlab uning landshaft-ekologik kartasini tuzgan va shu asosda quyidagi 4 ta geoeologik rayonlarni ajratgan olim Yarashov Q.S. hisoblanadi ular quydaglar; 1) kuchsiz ifloslangan va degradatsiyalashgan Termiz-Amudaryo vodiya geoeologik rayoni; 2) deflyasiya va sho'rlanish tufayli kuchli degradatsiyalashgan Quyi Surxon voxa-cho'l geoeologik rayoni; 3) kimyoviy birikmalar bilan ifloslangan O'rta Surxon voxa-chala cho'l geoeologik rayoni; 4) metallogen changlar bilan ifloslangan Yuqori Surxon voxa-dasht geoeologik rayonlaaridir. Quyida ajratilgan rayonlarning xar biriga sifat va mikdor kursatkichlariga, vujudga kelgan geoeologik vaziyatlarning keskinlik darajasiga asoslangan xolda landshaft-ekologik nukta nazardan tavsifi mavjut [4; 91- b.].

Surxondaryo viloyati landshaft hududi rayonlashtirish massalari bilan 1970 yilda (SH.Ergashov) tatqiqotlar amalga oshirilgan. Unda 4 ta rayonga bo'lib o'rganilgan.

- 1.Surxon-Amudaryo allyuvial tekisliklar
- 2.Kuxitang-Boysun tog'oldi tekisligi
- 3.Tuyuntau-Babatog' tayyor tekisligi
- 4.Kuxitang-Boysun tog'ili rayoni

Surxondaryo viloyatining asl zamini o'ta qadimiy bo'lib, u murakkab geologik rivojlanishni boshidan kechirgan. Gersindan keyingi platformaning o'stida joylashgan qadimda, (paleozoy erasigacha) bu joy Markaziy Osiyo o'rnidagi serharakat geosinklinal dengiz havzasidan iborat bo'lgan. Qadimgi dengiz («Tetis» nomi bilan atalgan okean) yotqiziqlarining tuplana borishi bilan birga tektonik harakatlar jonlanib turgan, paleozoy erasining ikkinchi yarmida ruy bergan qudratli gersin burmalanishi (tog' hosil qilish jarayoni) nisbatan osoyishta bo'lgan tektonik vaziyatni, tubdan o'zgartirib yuboradi. Natijada tektonik yoriqlar magmaning kirib kelishi tufayli kutarilish (va cho'kish)lar yuz beradi. Dengiz va quruqlik cho'kindilarining to'planishi uzoq vaqt davom etadi. So'ngra O'zbekiston hududining barcha qismida uzoq yil davrlar mobaynida tog'lar yemiriladi, tekislikka aylanadi, platforma hosil bo'ladi.

Bu esa Surxondaryoda mavjud bo'lgan neft, gaz, ko'mir konlarining zaminini yaratgan. SHu davrda iqlim iliq va nam bo'lgan. Dengiz bo'yida va quruqlikda keng bargli va doimiy yashil o'simlik (paparotniq qirqbug'in va b.)lar o'rmonzorlarni hosil qilgan. Yirik gavdali hayvonot vakillari yashagan. Ushby davr bilan viloyat hududida mavjud bo'lgan ko'mirli qatlamlar, neft, gaz, tuz konlariniig shakllanishi uzviy bog'liqdir. Shuningdek sayoz dengiz sharoitida ohaktosh, dolomit, gips, granit, marmar kabi ma'danlarning paydo bo'lishi uchun ob'ektiv shart-sharoit yaratilgan.

So'nggi tog' hosil qilish jarayoni (Alp burmalanishi davri)ga kelib butun O'zbekistonning tekislik (platforma) qismida qudratli neotektonik harakatlar yuz bergan va oqibatda ikkita morfostruktura (tog'li va platformali tekislik) qismlar ajralib chiqqan (hosil bo'lgan). Neogen va antropogen davirning qalin alivial va proalivial yotqiziqlari bilan to'lgan. Bu botiqda hozir ham neotektonik jarayonlar davom etmoqda, okrug atrofidagi tog'lar ko'tarilib, botiq cho'kib bormoqda. [Baratov 209-b]

Shunday qilib viloyatdagi tabiiy-geografik vaziyatning hozirgi zamini yaratilgan. Keyinchalik (va ayniqsa kaynazay erasining to'rtlamchi davrida) ham shiddatli va kuchli ko'tarilish (va cho'kish)lar yuz berib turgan. Natijada viloyatning sercho'qqili tog'lari ko'p emirilishlarni boshdan kechirgan.

To'rtlamchi davr yotqiziqlarini viloyatning barcha geografik nuqtalarida kurishimiz mumkin. Ayniqsa uning g'arbiy, shimoli-g'arbiy va shimoliy qismidagi tog'lari va tog' etaklarida shu davr yotqiziqlari keng tarkalgan. Bu yotqiziqlarning g'oyat katta qismi allyuvial, prolyuvial va quruq toshli qatlamlar bilan qoplangandir. Shunday qilib Surxondaryoning reliefi va uning hozirgi holati yaqin geologik o'tmishda shakllangan. U barcha morfologik tip (tekislik daryo va soy vodiylari, adirliq tog' yon bag'ri, tog'lik va baland tog'lar)dan tashkil topgan. Viloyat hududining aksariyat qismini ishhol qilgan ushbu geografik oblastlar endilikda ishlab chiqaruvchi kuchlarning tig'iz rivojlanishida sabab bo'lgan zonasidir.

Viloyatning tekislik qismi uning o'rtalig'idir. U «Surhon - Sherobod vodiysi», «Surhon vodiysi» va goho «Sherobod vodiysi» deb ham yuritiladi. Ushbu tekislikning dengiz sathidan balandligi har hil: janubiy qismida 300 metr atrofida, o'rtaligida 400-450 m. shimoliy va shimoli-g'arbiy qismida 700 m gacha etadi, ya'ni u janubdan-shimolga borgan sari balandlashib boradi. Qiziriqdara cho'li Kattaqo'm massivi, Haudagtog' suvayiririchi va Bandihon massividagi o'nlarча tepalik va jarliklar viloyatning yahlit tekislik zonasida bo'lib uning bir hil tabiiy yuzasini buzib turadi.

Viloyatning tekislik qismidagi keng maydoni ishg'ol qilgan Haudagtog' Qiziriqdara platosi va SHerobod cho'lini Surhon vodiysidan ajratib turuvchi suvayirig'ichdir. Haudagtog' uchlamchi davrning qalin qatlami (qizg'ish, sariq, to'zli qo'moq jinslari)dan hosil bo'lgan. Afg'on shamolining ta'sirida Haudagtog' juda emirilgan va yassilanib ketgan. Uning yuza qismidan hozir ham shimoli-sharqiy yunalish buyicha qo'm kuchishi o'zluksiz kechiriladi.

Sherobod cho'li tekislik zonasining o'rta va quyi qismini ishg'ol qiladi: Uning geografik ko'rinishi uchburchakni eslatadi. Cho'lning reliefi birmuncha tekis, tuprogi serunum. Cho'lning davomi esa Poshhurt chukmasiga borib taqaladi. Bu chukma esa Kuhitang tog'i bilan Kelif-Sherobod tog' balandligi (gryadasi) oralig'ida joylashgan. O. Y. Poslavskayaning yozishiga qaraganda Poshhurt chukmasi o'z atrofidagi tog'lardan bir vaqtlar oqib o'tgan daryolarning qalin allyuvial-prolyuvial yotqiziqlari bilan qoplangan.

Viloyat tekislik kismining o'rta va yuqori zonasi Surxon chukmasi deb yuritiladi. U asosan Surxondaryoning o'ng terrasalarini, Karatog', To'polang, Sangarda Ho'jaipok daryolarini kesib o'tgan va vodiylar hosil qilgan hududlarini o'z ichiga oladi. Shuning uchun ham bu hududning yuza qismi zikr qilingan daryolar va ko'pgina soy suvlari oqizib kelgan «yotqiziq» allyuvial tuproq bilan qoplangan. Daryo yotqiziklarining qalinligini 5 metrdan 10 metrgacha boradi. Mazkur hudud tuprog'ining geomorfologik jihatdan kelib chiqishi lyossimon **suglinkali** qatlamda va daryolarning prolyuvial terrasalari o'stida hosil bo'lgan. Umuman viloyat tekislik kismining dehqonchilik uchun o'zlashtirilgan hududining tuprog'i geologik jihatdan to'rtlamchi davr yotqiziqlari: turli genetik tipdagi lyossimon konglomerat jinslar eolovoy (shamol ta'sirida) allyuvial qo'mlar, qo'mtuproqlar, galechniklar, kamdan kam bo'lsa ham solonchaklar o'stida hosil bo'lgan.

Viloyatning tekislikka nisbatan 3-4 marta katta qismini tog' va baland tog' zonasi egallagan. Viloyat xududining 70 % ni tog'lar egallaydi. [Soliev A]

Uni shimoldan, g'arbdan va sharqdan urab olgan tog'lar va tog' tizmalarining barchasi Pomirga tutashgan Hisor tog'larining janubiy yunalish olgan tizmalaridir. Bular g'arbda Surxontog', Keraga tog', Boysuntog' va uning tizmalari: Kuhitang, Ketmonchopti, Sarimas, Suvsiztog', Kulbatog'dir.

Viloyatning g'arbiy qismida joylashgan va yuqorida zikr qyilingan qator tog' chuqqilari va tizmalarini birlashtirgan Boysuntog' geologik jihatdan yahshi o'rganilgan. U janubda (Turkmaniston davlatining hududi bilan tutash zona) da Kuhitangtog'ga borib taqaladi. Boysuntog'ning quyi qismi qadimiy paleozoy yotqiziqlari: ohaktoshlar, slanetslar, granitlardan iborat. Uning viloyat hududidagi eng baland chuqqisi 3700 m ga teng. Dehqonobod dovonidan keyin (janubda) taxminan 40 km dan so'ng Boysuntog'dan Kuhitangtog' ajralib chiqadi. SHimoldan janub (toki Amudaryo o'zani)gacha cho'zilgan ser chuqqili Kuhitang tog'ining o'rtacha balandligi 2500 m, eng baland chuqqisi esa 3139 m ga teng.

Viloyatning g'arbiy va shimoli-g'arbiy qismini ishg'ol qiluvchi tog'lar eng muhim iqlim hosil qiluvchi omil bo'lib, Surxondaryoning mamlakatimizda yagona subtropik region bo'lib shakllanishiga asosiy sababchidir. Bu tog'larning baland chuqqilari ko'pincha oppoq qopga burkangan bo'ladi va shuning uchun ham ular viloyat tabiatiga betakror husn berib turadi. Hisor tizmasiga mansub bo'lgan bu tog'lardan yuzlarcha soylar, unlab daryolar suv oladi. Tog' yonbag'irlari esa archazor o'rmonlaridan, yong'oq va pista, bodom va jiya zorlardan iborat.

Viloyatning sharqiy qismida keng maydonni isshol qilgan Bobotog' joylashgan. Bu tog'ning shimoliy qismi Tojikiston hududidagi «Dunyo osmoni» Pomirga borib taqaladi. So'nggi (alp) burlanishida hosil bo'lgan Bobotog' ancha yemirilgan bo'lib, u qirlar va adirlar, to'lqinsimon past-balandliklardan iborat. Tog'ning eng baland chuqqisi (Zarkosa) 2286 m. Uncha baland bo'lmagan cho'qqi va tizmalarga ega bo'lgan Bobotog'ning shimoliy va markaziy

qismlarida yovvoyi holda o'suvchi va qo'lda ekilgan pistazorlar keng maydonni ishhol qiladi. **Bu yerlarda tashkil qilingan ixtisoslashgan ho'jaliklar har yili davlatga tonna-tonnalab pista yalpi hosili topshiradi. Bobotog'ning janubiy va qisman markaziy qismlarida esa ming-minglab qorako'l quylari boqiladi.**

Surxondaryoning murakkab orografik xususiyatlari: moviy tekisliklari va pasttekisliklari, daryo vodiylari va soy buylari, tepaliklari va qirlari, adirlari va to'lqinsimon g'or massivlari, balandliklari va tog' yon bag'rilari, tog'liklari va baland tog'lari hamda ularning bir-birlari bilan almashinishi viloyat tabiatining rangbarang va husnkor bo'lishiga olib kelgan. Ayniqsa viloyat hududining orografik to'zilishidagi bu murakkablik uning tuproq va o'simliklar hamda hayvonot olamining vertikal va gorizontal zonalikka hos mintaqalanishi (farqlanishi) ni keltirib chiqargan. Ayni bir paytda bu hil farqlanish regionning relef formalardan foydalanishni tabaqalab olib borishni ham taqozo qilgan. Bunday turfa xususiyatga ega bo'lgan viloyat lanshaftidan qishloq xo'jaligi maqsadida to'g'ri va tartibli foydalanish ham katta ahamiyat kasb etadi.

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Raxmatov A.F.
Farg'ona davlat univversiteti Geografiya
kafedrasi doktorandi
O'zbekiston, Farg'ona

QISHLOQ XO'JALIGI YERLARINI XARITALASHTIRISHDA GIS TEXNALOGIYALARINING AHAMIYATI

Annotatsiya: Mamlakat qishloq xo'jaligini jadal rivojlanishi mazkur sohadagi mavjud barcha yerlardan oqilona foydalanishni taqozo etmoqda. Bugungi kunda yerlardan oqilona va samarali foydalanishni tashkil etish, yer munosabatlarini tartibga solish, shuningdek sohaga zamonaviy texnologiyalarni hamda yer resurslarini hisobga olishning yangi uslublarini joriy etish va yerlardan foydalanish samaradorligini oshirish muammolarini aniqlash, ularning echimini topish, ushbu yo'nalishdagi mavjud imkoniyatlar va istiqbollarni belgilab olish bugungi kunning dolzarb vazifalardan biri bo'lib qolmoqda.

Kalit so'zlar: Elektron xaritalar, geoaxborot tizimi, Ayero èki kosmo surat, qishloq xo'jaligi yerlari, landshaft kartalari, foydali qazilmalarni qidiri, geokimyoviy kartalarini, sintetik metod, topoelementlar, Kamyeral ishlar, shartli belgilar.

Rakhmatov A.F.
doctoral student
Department of Geography
Fyergana State Univversity
Uzbekistan, Fergana

THE IMPORTANCE OF GIS TECHNOLOGIES IN MAPPING AGRICULTURAL LAND

Abstract. The rapid development of the country's agriculture requires the rational use of all available land in this area. Today, the organization of rational and efficient use of land, the regulation of land relations, as well as the introduction of modyern technologies and new methods of accounting for land resources in the field, and the identification of problems of increasing the efficiency of land use, finding their solutions, detyermining the available opportunities and prospects in this direction remains one of the urgent tasks of today.

Key words: Electronic maps, geoinformation system, ayerial and space photography, agricultural land, landscape maps, prospecting for minyerals, geochemical maps, synthetic method, topoelements, camyera work, conventional signs.

Qishloq xo'jaligi yerlaridan oqilona foydalanish va ularni monitoring qilishda elektron xaritalarning ahamiyati katta. SHu boisdan, elektron xaritalarni yaratish va ularni yangilash bo'yicha sohaga kirib kelaётgan yangicha ilg'or texnologiyalar, jumladan yuqori aniqlikka ega bo'lgan kosmosuratlar, elektron raqamli xaritalarni yaratish bo'yicha zamonaviy dasturiy ta'minotlarga asoslangan holda elektron raqamli xaritalarni yaratish va yangilash ishlari olib borilmoqda. Buning huquqiy asosi sifatida

Hozirgi kunda geoaxborot tizimi (GAT) texnologiyalari jadal sur'atlar bilan rivojlanib borishi natijasida u nafaqat texnik sohalarda, balki haётimizning turli sohalarida ham qo'llanib kelinmoqda. Ayniqsa, qishloq xo'jaligi yerlarining elektron xaritalarini yangilashda zamonaviy GAT texnologiyalaridan foydalanish bugungi kunning muhim vazifalaridan biridir. [1].

Elektron xaritalarni yangilashdan maqsad yerdan foydalanuvchilar tomonidan foydalanilaётgan yerlarning hozirgi kundagi (zamonaviy) holatini aks ettiruvchi yangilangan elektron raqamli xaritalar va yer maydonlarini yer turlari bo'yicha hisoblash qaydnomalaridan davlat yer kadastrini yuritish, yer munosabatlarini tartibga solish, yer tuzishning hududiy xo'jaliklararo va ichki loyihalarini tuzish, tabiiy landshaftlarni yaxshilash, topografo-geodezik, kartografiya, tuproq agrokimyosi, geobotanika, qishloq xo'jaligi ekinlarining monitoringi, yer tanlash va ajratish hujjatlarini rasmiylashtirish, irrigatsiya va melioratsiya, tarixiy-madaniy va boshqa yo'nalishlarda tekshirishlar va izlanishlar ishlarini olib borishda foydalaniladi. Elektron xaritani yangilash jaraénida avvalgi yillarda yaratilgan elektron xaritani oxirgi marta suratga olingan ayero yoki kosmo suratdagi holatga solishtirib, avvalgi elektron xaritada aks etmagan barcha o'zgarishlar yangilanaётgan elektron xaritada aks ettiriladi. Ayero yoki kosmo suratda aks etmagan holatlar dala sharoitida ko'rib chiqilib, qo'shimcha ravishda yangilanaётgan elektron xaritaga kiritiladi. Elektron xaritani yangilash ishlari barcha yer turlarida, tashkilot, o'quv, shirkat, yordamchi, dexqon va fermer xo'jaliklarida, davlat yer zaxirasida, o'rmon va suv fondi, barcha yerdan foydalanuvchilar, tuman, viloyat hududlarida bajariladi.

Yangilangan elektron xaritadagi holat dala sharoitida ko'rib chiqiladi, ayerosuratda aks etmagan biroq joyida mavjud bo'lgan, ma'lumotlar aniqlanib, joylardagi konturlarni tegishli shartli belgilar asosida o'zgartirish kiritiladi. Yuqoridagilardan kelib chiqib shuni aytish mumkinki respublikamiz hududida qishloq xo'jaligi yerlaridan foydalanish va ularni elektron xaritalarini yaratish va yangilash ishlarini olib borish, yerlardan samarali va maqsadli foydalanishni tashkil etish hamda ma'lumotlar bazasini to'liq shakllantirishida zamonaviy GAT texnologiyalarini qo'llash samarali natija byeradi. [5; 291-b]

Yer egalari va yerdan foydalanuvchilar chegaralarini to'g'ri aniqlash elektron xaritani yangilashning eng asosiy elementlaridan biridir. Kameral ishlarni boshlashdan oldin ishlash ob'ekti (shirkat xo'jaligi) hududidagi (fermer xo'jaliklarining chegarasidan tashqari) barcha yer uchastkalari chegaralari

elektron tarxga tushirildi. Shu bilan birga, tegishli yer tuzish hujjatlari bilan faqat yuridik xuquqi rasmiy tasdiqlangan, texnik jihatdan to'g'ri rasmiylashtirilgan hujjatlardan olingan chegaralar tarxi asosida tushirib olinadi. [2].

Elektron xaritani yangilash davrida chegara belgilari va chegarani chiziqli shakllari oldindan tarxiiy hujjatlarda aks ettirilgan tabiiy topoelementlar bilan solishtirib tekshiriladi. Agarda, xo'jalik chegarasida topoelementlar bo'lsa, ular ayni tabiiy holi bo'yicha elektron xaritaga tushiriladi. Yangilanaётgan elektron xaritalar dala sharoitida quyidagi tartibda ko'rib chiqiladi va o'zgartirish kiritiladi:

- ishni bajaruvchi tashkilot vakili tomonidan yangilangan elektron xaritani dala sharoitida ko'rib chiqib, elektron xarita hamda ayero yoki kosmo suratda aks etmagan xolatlar tushirib olinadi hamda elektron xaritada aks ettiriladi.

Yangilangan va dala sharoitida solishtirish yo'li bilan tekshirib olingan elektron xarita yer maydonlarini hisoblash qaydnomalarini yaratishga asos bo'ladi. Yuqoridagi elektron xaritalarda joyning avvalgi xolati va xozirgi kundagi yangilanishi talab etilaётgan xolat aks ettirilgan. Xususan Xorazm viloyatining dehqonchilik tarmoqlarini kartaga olish orqali yerlardan oqilona foydalanish va tarmoqlarni to'g'ri joylashtirishga yordam byerish kabi muammolarni o'rgangan [4; 2-b]

Yer resurslari xaritalari ko'pchilik qishloq xo'jaligi xaritalari uchun asosiy manba bo'lib, qishloq xo'jaligi ekinlarini joylashtirishda, yerdan foydalanishda, chorvachilikda yaylovlarni tasvirlashda asos bo'lib xizmat qiladi. [2]. Yuqoridagilardan kelib chiqib shuni aytish mumkinki respublikamiz hududida qishloq xo'jaligi yerlaridan foydalanish va ularni elektron xaritalarini yaratish va yangilash ishlarini olib borish, yerlardan samarali va maqsadli foydalanishni tashkil etish hamda ma'lumotlar bazasini to'liq shakllantirilishida zamonaviy GAT texnologiyalarini qo'llash samarali natija beradi. Bu o'z navbatida foydalanuvchilarga ma'lumotlarni tezkor va sifatli holda etkazish imkonini byeradi. So'ngi yillarda landshaft kartalaridan qishloq xo'jalik tarmoqlarida amaliy foydalanishning birqancha yangidan-yangi metodlari mavjud. Bu kabi metodlardan biri - foydali qazilmalarni qidirishda landshaft kartalaridan foydalanish hisoblanadi. Bunday holatda landshaft kartalari aynan landshaft – geokimyoviy kartalarini tuzishda asos bo'lib xizmat qiladi. Shuningdek, ularning asosiy mazmunini ayrim geokimyoviy ko'rsatkichlar bilan to'ldirilgan turli landshaft tiplarining konturlari tashkil etadi. M.A.Glazovskaya [3; 3-162 b.] Bu esa o'z navbatida qishloq xo'jlighi yerlarining kimyoviy xolatini o'zgarishini baholashga imkoniyat yaratadi. Surxodaryo viloyatining qishloq xo'jaligi yerlari GIS texnologiyalari yordamidan foydalanib xaritalashtirish ishlari amalga oshirish jarayonini tatqiq etar ekanmiz. Qishloq xo'jaligi landshaftlarining komplekslarini tadqiq etishda va kartalashtirishda bir qancha GIS metodlardan foydalaniladi. Eng asosiylari: analitik va sintetik metodlardir. Birinchi metodimizda, landshaft kompleksining xususiyatlari bir vaqtning o'zida uning

alohida komponentlari – tuprog‘i, suv, relefi, o‘simligi va boshqalarini bitta kartada tasvirlash yo‘li orqali ochib byeriladi. Ikkinchi sintetik metodda esa landshaft kompleksi (qishloq xo‘jaligining malum bir turi) va uning tipologik o‘xshashligi tasvirlanadi.

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*Razzakov N.A.
dotsent
Qo'qon universiteti Andijon filiali
Aliyev L.M.
katta o'qituvchi
Qo'qon universiteti Andijon filiali
Ortikov M.M.
assistant
Qo'qon universiteti Andijon filiali*

EFIR MOYLARI VA ULARNI ANFLERAJ USULIDA AJRATIB OLIISH

Annotasiya: Maqolada efir moylari haqida qisqacha ma'lumot berilib, o'simliklar tarkibidagi efir moylarini uy sharoitida anfleraj usuli bilan qattiq yog'larga yuttirish yo'li bilan ajratib olish usuli haqida so'z boradi. Bundan tashqari, EM dan tibbiyotda qo'llash o'rinlari hamda davolovchi massajlarda ushbu moddalardan kompozitsiya tayyorlash namunalari berilgan.

Kalit so'zlar: Efir moylari, biologik faol qo'shilma, nevrosteniya, bakteriosid, ruhiy holat, aromaterapiya, davolovchi massaj.

*Razzakov N.A.
associate professor
Andijan branch of Kokan University
Aliyev L.M.
head teacher
Andijan branch of Kokan University
Ortikov M.M.
assistant
Andijan branch of Kokan University*

ESSENTIAL OILS AND THEIR SEPARATION BY ANFLERAGE METHOD

Abstract. The article gives brief information about essential oils and talks about the method of extracting essential oils from plants in home conditions by digesting them into solid oils using the anflaring method. In addition, examples of the use of EM in medicine and the preparation of compositions from these substances in therapeutic massages are given.

Key words: essential oils, biologically active compound, neurosthenia, bacteriocide, mental state, aromatherapy, therapeutic massage.

Kirish. Ma'lumki, insonlar bir necha ming yillar mobaynida tabiatdagi o'simlik va hayvon mahsulotlaridan tayyorlangan shifobaxsh vositalardan

oqilona foydalanish uslublari bilan o'zlari va boshqalarni salomatligini saqlab kelganlar [1]. Hozirda xalq tabobatining minglab yillik tajribalari bilan zamonaviy tibbiyotning ilmiy asosga ko'ra isbotlangan bilimlarni jamlashga ehtiyoj paydo bo'ldi. Chunki, har ikkisining ham asl maqsadi va vazifalari bir ya'ni, jamiyatning salomatligini profilaktika qilish hamda davolashdan iboratdir.

Inson doim kasallikka qarshi kurashib kelgan, u birinchi bor dorivor vositani tabiat deb atalmish dorixonadan: o'simlik (bargi, ildizi, meva va boshqa organlari), hayvon va minerallardan olgan [2]. Dorivor o'simliklar tabiiy dorivor resurslar ichida xalq tabobati, zamonaviy tibbiyot uchun yana biologik faol qo'shilmalar (BFQ), zamonaviy preparatlar ishlab chiqarish uchun xom-ashyo sifatida asosiy biologik resurs hisoblanadi [3].

Kundalik xayotimizda insonlar orasida turli xil voqea va xodisilar, dipressiyalar, turli xayajonli xolatlar yuz berib turadi. Insonlarning oilaviy muhiti, ishlash jarayonlarida asab tizimining buzilishi, stresslar bu - nevro'z kassalligiga olib keladi.

Anashunday biologik faol moddalar qatorida efir moylari muhim o'rinni egallaydi. Efir moylari to'g'risidagi dastlabki tasavvurlar XVIII asrlarda paydo bo'lsada, ularning xossalari to'g'risidagi tushunchalar XIX asrning oxiri va XX asrning boshlarida paydo bo'ldi. O'simliklar dunyosida efir moylari juda keng tarqalgan bo'lib, aniqlanishicha, 2500 dan ortiq tur o'simliklarda ushbu moddalar bo'ladi. Ayniqsa, yasnotkadoshlar – Lamiaceae oilasi, labguldoshlar – Labiatae, selderdoshlar – Apiaceae, soyabonguldoshlar – Umbelliferae, murakkabguldoshlar – Compositae, sho'radoshlar – Chenapodiaceae, mirtadoshlar – Myrtaceae, rutadoshlar – Rutaceae, ra'noguldoshlar – Rosaceae va boshqa oilalarning vakillari efir moylariga boydir [4].

Ma'lumki, efir moylari deb – o'simliklar tarkibidan suv bug'lari orqali haydash yo'li bilan olinadigan, o'ziga hos hidaga hamda ta'mga ega bo'lgan uchuvchan organik moddalar aralashmasiga aytiladi. O'simliklarning deyarli barcha organlarida efir moylari bo'ladi, asosan yer ustki qismlarida (gul, meva kebi) to'planadi. Olimlarning olib borgan tadqiqotlari natijalariga ko'ra efir moylari (EM) ga boy o'simliklar orasida shimol hududlarida o'suvchi vakillariga nisbatan janubiy zonalarda uchrovchi vakillari boyroq bo'lar ekan. Ushbu moddalar o'simliklar tarkibida asosan ikki hil tarzda: erkin holda hamda glikozidlar tarkibi ko'rinishida uchraydi.

EM o'simlik hayotida qanday rol o'ynashi va qanday muhim biologik vazifani o'tashi to'g'risida olimlarning farazlari mavjud. Asosan, dorivor o'simliklar o'sish va rivojlanish davrlarida turli hil noqulay sharoitlarga duch keladi, shu vaziyatlarda EMni o'simlikning yashash uchun kurashga yordam beruvchi moddalar qatoriga kirgizishadi. Bundan tashqari ularning ikkinchi foydasi deb, bu moddalar hushbo'y hidga ega bo'lganligi sababli, o'simlik gullash davrida changlanishi uchun hashoratlarni jalb qilish ahamiyati ham bor deb e'tirof etiladi.

Efir moylari tarkibida bir qator ko'p komponentli organik birikmalar mavjud. Bular yuqori organik kislotalar, efirlar, bir va ko'p atomli spirtlar, aldegidlar, ketonlar, terpenlar va fenollar bo'lib, ularning soni 120 dan 500 gacha o'zgarib turadi. Asosiy guruh izopren tuzilishga ega bo'lgan moddalardan iborat [5].

Metodologiya. Odatda EM ni bu usulda ajratib olishda yuqori organoleptik (qizdirilganda parchalanib ketuvchi) hususiyatli, yuqori sifatli namunalarini yuttirib olishga asoslanadi. O'simlik gullari salqin sharoitda yig'ib olinadi, gullar yog'larga bir necha kun davomida yutilib o'tishi orqali ajratib olingani sababli usulni anfleraj (yuttirish) usuli deb nomlanadi.

Buning uchun 50 X 50 sm hajmdagi qalin oynani olib, uni qalinligi 5 sm bo'lgan ramkaga o'rnatiladi. So'ngra, ramkaning ikki tomoniga yuqori sifatli yog'lar aralashmasi yupqa tarzda surtiladi. Yog'lar o'rnida mol yog'i va qo'y yog'lari

(3: 2) nisbatda olish mumkin. Surtilgan yog' qatlamga o'simlikning gullari yoki tojbarklari joylanadi. Quyida ushbu jarayonning atirgul tojbarglari misolida ko'rinishi berilgan:



1- Rasm. Efir moylarini anfleraj usulida ajratib olish

Ramka mahsus tahtaga o'rnatiladi, EM ning yog'larga yutilishi jarayoni tabiiy sharoitda kechadi. O'simlik organlari 1 – 2 kun tirgandan so'ng, gullar (tojbarklar) yangilanadi. Shu jarayon qayta – qayta takrorlanadi va yog'lar ajratib olinadi. Shunday qilib, uchuvchan, haroratga chidamsiz bo'lgan namunalarini shunday olish mumkin.

Efir moylari "aromaterapiya" ko'rinishida inson tanasiga ta'siri uzoq vaqtdan beri keng qo'llanilib kelinmoqda. Ularning aromaterapiya qo'llanilishining sababi, efir moylarining xushbo'y hidlari inson tanasining jismoniy va psixologik holatiga ta'sir qilishidir. Bundan tashqari EM bakteriosid xossaga ham ega bo'lib, shu o'rinda qo'llanilib kelinmoqda. Bundan tashqari EM boy dorivor o'simliklardan endilikda, asab tizimi kasalliklarida aniqrog'i, nevrosteniya kabi kasalliklarda tinchlantiruvchi tabiiy vosita sifatida ham keng ishlatilmoqda. Misol uchun, lavandaning EM eng yaxshi tabiiy antiseptiklaridan biridir, shu bilan birga ayni paytda sedativ ta'sirga ham ega, kayfiyatni yaxshilaydi, charchoqni, depressiyani, bosh og'rig'ini qoldiradi [6].

Xulosa. Demak, EM boy dorivor o'simliklar tarkibidan uy sharoitida ham Anfleraj (yuttirish) usuli bilan ushbu biologik faol moddalarni ajratib olish mumkin. Olinfan termolabil EM ni parfimeriya maqsadlarida, terini sillig'lash, uni yoshartirish maqsadlarida qo'llash mumkin [7-8]. Tibbiyot maqsadlarida uning hush bo'y hidi orqali asab tizimimizni tinchlantirishimiz mumkin. Aromaterapiya va massaj o'rinlarida qo'llash uchun tavsiya: 15-20 tomchi efir moyini 50 ml uy ro'zg'ordagi moy bilan yaxshilab aralashtiriladi, bolalar uchun 5-7 tomchi etarli, chaqaloqlar uchun esa - bitta tomchi kifoya qiladi, tayyorlab olingan aralashmani tananing massaj qilinadigan o'rniga surtish bilan davom ettiriladi.

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Sabirova M.A.
O'zbekiston Respublikasi
Ichki Ishlar Vazirligi
Ekspert-kriminalistika bosh markazi, katta eksperti

JINOYAT ISHLARIDA ELEKTRON HUJJATLARDAN FOYDALANISH: MUAMMOLAR VA YECHIMLAR

Annotatsiya. Jinoiy odil sudlov sohasida elektron hujjatlardan foydalanish huquqshunoslarning jinoyat ishlari bo'yicha ma'lumotlar bilan ishlash va boshqarish usullarini inqilob qildi. An'anaviy qog'ozli hujjatlardan elektron hujjatlar formatlariga o'tish ish bilan bog'liq ma'lumotlarning samaradorligi, foydalanish imkoniyati va xavfsizligida sezilarli yutuqlarga olib keldi. Raqamli hujjatlarga o'tish nafaqat jarayonlarni soddalashtirdi, balki jinoiy adliya tizimining hamkorlik, shaffoflik va umumiy samaradorligini oshirdi. Ushbu maqolada biz jinoiy ishlarda elektron hujjatlardan foydalanishning turli jihatlarini ko'rib chiqamiz, ushbu raqamli transformatsiyaning huquqiy afzalliklari, muammolari va oqibatlarini o'rganamiz.

Kalit so'zlar: jinoiy ishlar, jinoyat, raqamli texnologiyalar, elektron hujjatlar, prokurorlar, advokatlar.

Sabirova M.A.
Ministry of Internal Affairs of the Republic of Uzbekistan
Main forensic center
Senior expert of the Main Expert Forensic Center

USE OF ELECTRONIC DOCUMENTS IN CRIMINAL CASES: PROBLEMS AND SOLUTIONS

Annotation. The use of electronic documents in criminal justice has revolutionized the way lawyers work with and manage criminal information. The transition from traditional paper documents to electronic document formats has led to significant improvements in the efficiency, accessibility and security of work information. The transition to digital records has not only streamlined processes, but has also increased collaboration, transparency, and overall efficiency of the criminal justice system. In this article, we will look at various aspects of the use of electronic documents in criminal cases, exploring the legal benefits, challenges and consequences of this digital transformation.

Key words: criminal cases, crime, digital technologies, electronic documents, prosecutors, lawyers.

Jinoiy ishlarda elektron hujjatlardan foydalanishning asosiy afzalliklaridan biri bu samaradorlik va foydalanishning sezilarli darajada yaxshilanishidir. Ish fayllari, dalillar, sud hujjatlari va boshqa huquqiy materiallarni raqamlashtirish orqali yuridik mutaxassislar bir necha marta bosish orqali ma'lumotlarga osongina kirishlari va olishlari mumkin. Ushbu soddalashtirilgan jarayon hujjatlarni qo'lda ishlash, topshirish va saqlash uchun an'anaviy ravishda talab qilinadigan vaqt va resurslarni qisqartiradi. Bundan tashqari, elektron hujjatlar prokurorlar, advokatlar, sudyalari va huquqni muhofaza qilish idoralari kabi tegishli tomonlar o'rtasida xavfsiz va bir zumda almashish mumkin, bu esa sud jarayoni davomida uzluksiz aloqa va hamkorlikni osonlashtiradi. Elektron hujjatlar jinoiy ishlarda maxfiy ma'lumotlarni himoya qilish uchun kengaytirilgan ma'lumotlar xavfsizligi choralari taklif qiladi. Shifrlash, parol bilan himoyalash va bulutli saqlashning xavfsiz yechimlari muhim huquqiy hujjatlarga ruxsatsiz kirish, buzish yoki yo'qotishning oldini olishga yordam beradi. Raqamli imzolar va audit yo'llari elektron hujjatlarning yaxlitligi va haqiqiylikni yanada ta'minlab, isbot materiallarini ishonchli saqlash zanjirini ta'minlaydi. Ushbu xavfsizlik xususiyatlari huquqiy ma'lumotlarning maxfiyligi va ishonchliligini ta'minlashga, jinoyat protsessida ishtirok etuvchi barcha tomonlarning huquqlarini himoya qilishga yordam beradi. [6]

Jinoiy ishlarda elektron hujjatlardan foydalanish huquqshunoslar uchun ishlarni boshqarish va tashkil etishni yaxshilashga yordam beradi. Huquqiy hujjatlarni boshqarish uchun mo'ljallangan raqamli platformalar va dasturiy ta'minot ilovalari foydalanuvchilarga keng qamrovli ish fayllari ichida aniq ma'lumotlarni tezda topishga imkon beruvchi samarali indeksatsiya, toifalash va qidiruv funktsiyalarini ta'minlaydi. Avtomatlashtirilgan eslatmalar, bildirishnomalar va topshiriqlarni kuzatish xususiyatlari advokatlarga sud muddatlari, tinglovlar va arizalar bilan tartibli va jadval bo'yicha qolishga yordam beradi. Bundan tashqari, elektron hujjatlar audioyozuvlar, videolar va fotosuratlar kabi multimedia elementlarini birlashtirishni qo'llab-quvvatlaydi, sudda dalillarni taqdim etish va tahlil qilishni yaxshilaydi. Elektron hujjatlar huquqiy axborot va sud jarayoniga ochiq kirishni ta'minlash orqali jinoyat ishlari bo'yicha oshkoralik va javobgarlikni oshirishga xizmat qilmoqda. Onlayn sud portallari, elektron hujjatlarni topshirish tizimlari va virtual sud zallari jamoatchilikka ish hujjatlari, sud qarorlari va sud majlislari jadvallaridan foydalanish imkonini beradi, bu esa odil sudlovni amalga oshirishda shaffoflikni ta'minlaydi. Haqiqiy vaqtda yangilanishlar va elektron xabarnomalar manfaatdor tomonlarni ishlarning rivojlanishi va qarorlar haqida xabardor qiladi, huquqiy jarayonlarda javobgarlikni ta'minlaydi. [4]

Bundan tashqari, sud hujjatlari va stenogrammalarini raqamli arxivlash kelgusida ma'lumot olish va ko'rib chiqish uchun jinoiy ish yuritishning to'liq va aniq yozuvini saqlab qoladi. Elektron hujjatlardan foydalanish jinoiy ishlarda ko'plab afzalliklarni taqdim etishi bilan birga, hal qilinishi kerak bo'lgan

muammolar va mulohazalarni ham keltirib chiqaradi. Ma'lumotlarning maxfiyligi, kiberxavfsizlik, elektron kashfiyotlar, raqamli formatlarning mosligi va yuridik mutaxassislar uchun tegishli tayyorgarlik va texnik yordamga muhtojlik bilan bog'liq muammolar paydo bo'lishi mumkin. Huquqiy tizimlar uchun elektron hujjatlarni samarali boshqarish va jinoiy ishlarda ulardan foydalanish bilan bog'liq potentsial xavflarni yumshatish uchun mustahkam siyosat, protseduralar va infratuzilmani amalga oshirish juda muhimdir.[5]

Jinoyat ishlarida elektron hujjatlardan foydalanish sud jarayonining samaradorligi, shaffofligi va samaradorligini oshiradigan ko'plab afzalliklarni beradi. Jinoiy ishlarda elektron hujjatlardan foydalanishning asosiy afzalliklari qatoriga quyidagilar kiradi:

Elektron hujjatlarga raqamli ravishda kirish va almashish mumkin, bu sudyalar, advokatlar, huquqni muhofaza qilish organlari va sud xodimlari kabi manfaatdor tomonlarga ma'lumotlarni tez va qulay tarzda olish va ko'rib chiqish imkonini beradi. Ushbu qulaylik jinoiy ishda ishtirok etayotgan tegishli tomonlar o'rtasida hamkorlik, aloqa va ma'lumot almashishni osonlashtiradi. Elektron hujjatlar qo'lda ish yuritish, chop etish va jismoniy saqlashga bo'lgan ehtiyojni yo'qotib, hujjatlarni boshqarish jarayonlarini soddalashtiradi. Raqamli hujjatlarni osongina tartibga solish, qidirish va indekslash mumkin, bu aniq ma'lumot yoki dalillarni topish uchun vaqt va kuchni kamaytiradi. Bu samaradorlik jinoiyat protsessida ishni tayyorlash, ko'rib chiqish va qaror qabul qilishni tezlashtiradi. Jinoiy ishlar bo'yicha elektron hujjatlarga o'tish qog'oz, chop etish, saqlash va ma'muriy xarajatlar bilan bog'liq xarajatlarni tejashga olib kelishi mumkin. Hujjatlarni raqamlashtirish va elektron hujjat aylanish tizimlarini joriy etish orqali huquqiy tizimlar operatsion xarajatlarni kamaytirishi, resurslarni taqsimlashni yaxshilashi va ish jarayoni samaradorligini optimallashtirishi mumkin. Elektron hujjatlar ma'lumotlarning yaxlitligini ta'minlash hamda ruxsatsiz buzib kirish yoki o'zgartirishlar oldini olish uchun shifrlash, raqamli imzolar va kirishni boshqarish vositalari bilan himoyalaniishi mumkin. Elektron hujjatlarni oson qidirish va izlash uchun indekslash, yorliqlash va toifalarga bo'lish mumkin, bu esa foydalanuvchilarga aniq ma'lumot yoki dalillarni samarali tarzda topish imkonini beradi. Kengaytirilgan qidiruv funksiyalari va metadata teglari tegishli hujjatlarga tezkor kirish imkonini beradi va hujjatlarni qo'lda qidirishga sarflangan vaqtni kamaytiradi. Elektron hujjatlarga internetga ulangan istalgan joydan masofadan turib kirish mumkin, bu esa yuridik mutaxassislarga turli qurilmalardan moslashuvchan va xavfsiz ishlash imkonini beradi. [1]

Jinoiy ishlarda elektron hujjatlarning afzalliklaridan foydalangan holda, huquqiy tizimlar jinoiy sudlov jarayoni davomida operatsion samaradorlikni, ma'lumotlar xavfsizligini, hamkorlikni va axborotni boshqarishni oshirishi mumkin. Raqamli transformatsiyani qo'llash va elektron hujjat aylanishi bo'yicha yechimlarni qabul qilish jinoiy protsessda ishtirok etayotgan manfaatdor tomonlar uchun katta foyda keltirishi va pirovardida huquqiy

tizimning umumiy samaradorligi va shaffofligini oshirishi mumkin. Jinoiy ishlarda elektron hujjatlardan foydalanish ko'plab afzalliklarni taqdim etadi, ammo u raqamli ma'lumotlarning samarali va xavfsiz ishlashini ta'minlash uchun huquqiy tizimlar hal qilishi kerak bo'lgan muammolar va qiyinchiliklarni ham keltirib chiqaradi. Jinoiy ishlarda elektron hujjatlardan foydalanishda yuzaga kelishi mumkin bo'lgan ba'zi qiyinchiliklarga quyidagilar kiradi:

Elektron hujjatlar ruxsatsiz kirish, xakerlik yoki ma'lumotlar buzilishidan himoyalaniishi kerak bo'lgan nozik va maxfiy ma'lumotlarni o'z ichiga olishi mumkin. Ma'lumotlar maxfiyligini ta'minlash va elektron hujjatlarni himoya qilish uchun mustahkam xavfsizlik choralarini qo'llash maxfiylikning mumkin bo'lgan buzilishining oldini olish uchun juda muhimdir. Elektron hujjatlar bilan bog'liq jinoiy ishlar zararli dasturlar, fishing hujumlari, to'lov dasturlari va ma'lumotlarni o'g'irlash kabi kiberxavfsizlik tahdidlariga moyil. Huquqiy tizimlar kiberhujumlar va ma'lumotlar yo'qolishi xavfini kamaytirish uchun kiberxavfsizlik protokollari, shifrlash texnikasi va xavfsiz saqlash yechimlarini joriy qilishi kerak. Turli elektron platformalar va tizimlar o'rtasida uzluksiz integratsiya va aloqani ta'minlash ma'lumotlarning parchalanishi va aloqa buzilishining oldini olish uchun muhim ahamiyatga ega. Texnik nosozliklar, dasturiy ta'minotdagi nosozliklar, tizimdagi nosozliklar va apparatdagi nosozliklar jinoiy ishlar bo'yicha elektron hujjatlardan foydalanish imkoniyati va ishonchliligini buzishi mumkin. Huquqiy tizimlar texnik muammolarni zudlik bilan hal qilish va hal qilish uchun favqulodda vaziyatlar rejalari, zaxira tartib-qoidalari va texnik yordamga ega bo'lishi kerak.[2]

Yuridik mutaxassislar, jumladan, sudyalalar, advokatlar, sud xodimlari va huquqni muhofaza qilish organlari xodimlari jinoyat ishlarida elektron hujjatlar va raqamli texnologiyalardan foydalanish bo'yicha o'qitish va o'qitishni talab qilishi mumkin. Manfaatdor tomonlarning elektron hujjat aylanishi tizimlari va vositalaridan foydalanish bo'yicha malakali bo'lishini ta'minlash samarali joriy etish va qabul qilish uchun muhim ahamiyatga ega. Elektron dalillar uchun hibsga olishning xavfsiz zanjirini saqlash sudda raqamli ma'lumotlarning haqiqiyliги va qabul qilinishini aniqlash uchun juda muhimdir. Butun sud jarayoni davomida elektron hujjatlarning yaxlitligi va ishonchliligini ta'minlash uchun tegishli hujjatlarni rasmiylashtirish, nazorat qilish va saqlash zanjirini tekshirish kerak. Jinoiy ishlarda elektron hujjatlardan foydalanish bilan bog'liq ushbu qiyinchilik va muammolarni bartaraf etish ma'lumotlar xavfsizligini, kiberxavfsizlik choralarini, o'qitish va ta'limni, texnik yordamni, o'zaro hamkorlik standartlarini hamda qonunchilik va me'yoriy-huquqiy bazaga rioya qilishni o'z ichiga olgan kompleks yondashuvni talab qiladi. Huquqiy tizimlar ushbu muammolarni faol hal qilish orqali elektron hujjatlarning afzalliklaridan foydalanishi mumkin, shu bilan birga potentsial xavflarni kamaytiradi va jinoiy protsessda raqamli ma'lumotlarning yaxlitligi va ishonchliligini ta'minlaydi. [3]

Xulosa:

Xulosa o'rnida aytish mumkinki, jinoyat ishlari bo'yicha elektron hujjatlarning integratsiyalashuvi zamonaviy huquqiy amaliyotda sezilarli yutuq bo'lib, odil sudlovni amalga oshirishda samaradorlik, oshkoralik va ochiqlikni amalga oshirmoqdalar. Hujjatlarni boshqarish bo'yicha raqamli texnologiyalardan foydalanish va innovatsion yechimlarni qo'llash orqali advokatlar murakkab jinoiy sud jarayonlarini yanada samarali boshqarishi, qonun ustuvorligini ta'minlashi va barcha ishtirokchilar uchun adolatli va xolis natijalarni ta'minlashi mumkin.

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*Saidova M.M.
Buxoro davlat universiteti tayanch doktoranti*

O'QUVCHILARNING KOREYS TILIDAN NUTQ VA AKADEMIK YOZUV KO'NIKMALARINI INTEGRATIV YONDASHUV ASOSIDA RIVOJLANTIRISH BOSQICHLARI VA TAMOILLARI

Annotatsiya: Ushbu maqola koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda integrativ yondashuvning samaradorligini o'rganishga bag'ishlangan. Tadqiqot Mamlakatimizdagi 60 nafar 9-sinf o'quvchilari ishtirokida o'tkazildi. Eksperimental guruh integrativ yondashuv asosida, nazorat guruhi esa an'anaviy usullar asosida o'qitildi. Natijalar eksperimental guruhda nutq va yozuv ko'nikmalarining sezilarli darajada oshganligini ko'rsatdi. Integrativ yondashuv task-based language learning, corpus texnologiyasi va zamonaviy texnologiyalardan foydalanishni o'z ichiga olib, o'quvchilarning til o'rganishga bo'lgan motivatsiyasini oshirishda ham samarali ekanligini tasdiqladi. Maqola integrativ yondashuvning koreys tilini o'qitishdagi afzalliklarini tahlil qiladi.

Kalit so'zlar: Integrativ yondashuv, koreys tili, nutq ko'nikmalari, yozuv ko'nikmalari, task-based language learning, corpus texnologiyasi, zamonaviy texnologiyalar, til o'rganish motivatsiyasi.

*Saidova M.M.
basic doctoral student
Bukhara State University*

STEPS AND PRINCIPLES OF DEVELOPING STUDENTS' SPEAKING AND ACADEMIC WRITING SKILLS IN THE KOREAN LANGUAGE BASED ON AN INTEGRATIVE APPROACH

Abstract. This article examines the effectiveness of an integrative approach in developing Korean speaking and academic writing skills. The research was conducted with the participation of 60 students 9th graders in our country. The experimental group was trained based on an integrative approach, and the control group was trained based on traditional methods. The results showed a significant increase in speaking and writing skills in the experimental group. The integrative approach, including task-based language learning, corpus technology, and the use of modern technologies, confirmed that it is effective in increasing students' motivation to learn a language. The article analyzes the advantages of the integrative approach in teaching Korean.

Key words: integrative approach, Korean language, speaking skills, writing skills, task-based language learning, corpus technology, modern technologies, language learning motivation.

KIRISH

Koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirish hozirgi davrda dolzarb masalalardan biridir. Integrativ yondashuv, ya'ni bir necha metodlarni birlashtirgan holda o'quvchilarni o'qitish, til o'rganish jarayonini samaraliroq va qiziqarliroq qilish imkonini beradi. Zamonaviy ta'lim tizimida o'quvchilarning til o'rganish motivatsiyasini oshirish, ularning kommunikativ ko'nikmalarini rivojlantirish uchun yangi usullarni joriy etish muhim ahamiyatga ega (Olimjonovna, 2024). Shu nuqtayi nazardan, koreys tilini o'qitishda ham nutq va yozuv ko'nikmalarini integrativ yondashuv asosida rivojlantirish kerak bo'ladi.

Integrativ yondashuv o'quvchilarning nafaqat til ko'nikmalarini, balki ularning madaniyat va ijtimoiy bilimlarini ham kengaytiradi. Bu yondashuv orqali o'quvchilar tilni nafaqat grammatik qoidalar asosida, balki amaliy jihatdan ham qo'llashni o'rganadilar. Bu esa ularning umumiy bilim va ko'nikmalarini mustahkamlashga yordam beradi (Masharibova, 2024).

Mazkur maqola koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda integrativ yondashuvning afzalliklari, tamoyillari va bosqichlarini tahlil qilishga bag'ishlangan. Shuningdek, maqolada o'quvchilarning koreys tilini o'rganish jarayonida duch keladigan qiyinchiliklar va ularni bartaraf etish yo'llari haqida ham fikr yuritiladi.

ADABIYOTLAR TAHLILI

Integrativ yondashuv til o'qitish metodikalarida keng qo'llanilayotgan usullardan biridir. Pyun (2013) tomonidan olib borilgan tadqiqotlar natijalari shuni ko'rsatadiki, integrativ yondashuv asosida o'quvchilar til o'rganish jarayonida yuqori natijalarga erishishlari mumkin. Pyunning tadqiqotida talabalarning task-based language learningga bo'lgan munosabati o'rganilgan va bu usulning samaradorligi yuqori ekanligi aniqlangan. Bu esa integrativ yondashuvning afzalliklarini tasdiqlaydi.²² Olimjonovna (2024) o'z maqolasida koreys tilini o'qitishda zamonaviy texnologiyalar va metodlardan foydalanishning ahamiyati haqida so'z yuritadi. Zamonaviy texnologiyalar yordamida o'quvchilarning til o'rganish jarayonini yanada qiziqarli va samarali qilish mumkin. Bu maqola integrativ yondashuvning zamonaviy texnologiyalar bilan uyg'unlashgan holda qo'llanilishi haqida qimmatli ma'lumotlarni taqdim etadi.²³

²² Ooyoung Pyun, D. (2013). Attitudes toward task-based language learning: A study of college Korean language learners. *Foreign Language Annals*, 46(1), 108-121.

²³ Olimjonovna, P. S. (2024). Koreys Tilini O'qitishda Zamonaviy Yondashuvlar: Zamonaviy Texnologiyalar Bilan O'qitish. *Miasto Przyszłości*, 49, 1267-1269.

Yoon (2005) esa o'zining doktorlik dissertatsiyasida talabalarning ikkinchi til sifatida koreys tilida akademik yozuvni o'rganish jarayonidagi tajribalarini o'rgangan. U corpus texnologiyasidan foydalanish orqali talabalarning yozuv ko'nikmalarini rivojlantirishga e'tibor qaratgan. Ushbu tadqiqot integrativ yondashuvning yozuv ko'nikmalarini rivojlantirishda ham samarali ekanligini ko'rsatadi.²⁴ Masharibova (2024) koreys tili ta'limi va darsliklari haqida yozgan maqolasida koreys tilini o'qitishdagi mavjud muammolar va ularni hal etish yo'llari haqida so'z yuritadi. Integrativ yondashuvning afzalliklari va bu yondashuv yordamida darsliklarni takomillashtirish imkoniyatlari haqida qimmatli ma'lumotlar beradi.²⁵

Yuqoridagi adabiyotlar tahlili shuni ko'rsatadiki, integrativ yondashuv koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda samarali usul hisoblanadi. Bu yondashuvning qo'llanilishi o'quvchilarning til o'rganish jarayonidagi muvaffaqiyatlarini oshirishga yordam beradi.

METODLAR

Mazkur tadqiqot koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda integrativ yondashuvning samaradorligini o'rganishga qaratilgan. Tadqiqotda ishtirok etganlar Mamlakatimizdagi ikkita maktabning 9-sinf o'quvchilaridan iborat bo'lib, jami 60 nafar o'quvchi qatnashdi. Ishtirokchilar ikkita guruhga ajratildi: eksperimental guruh (30 o'quvchi) va nazorat guruhi (30 o'quvchi).

Eksperimental guruh integrativ yondashuv asosida o'qitildi. Bu yondashuvda task-based language learning, corpus texnologiyasi va zamonaviy texnologiyalardan foydalanildi. Mashg'ulotlar davomida o'quvchilar turli vazifalarni bajarishdi, koreys tili matnlarini tahlil qilishdi va yozma topshiriqlarni bajarishdi. Har bir mashg'ulot o'quvchilarning o'zaro muloqot qilishlarini ta'minlashga yo'naltirildi.

Nazorat guruhi esa an'anaviy metodlar asosida o'qitildi. Bu guruh o'quvchilari grammatik qoidalarni o'rganish va mustahkamlash, matnlarni o'qish va tarjima qilish kabi odatiy usullar bilan shug'ullanishdi. Tadqiqotning davomiyligi 8 hafta bo'ldi va bu davr mobaynida har ikki guruhdagi o'quvchilar testlar orqali baholandi.

NATIJALAR

Tadqiqot natijalari eksperimental guruhda nutq va yozuv ko'nikmalarining sezilarli darajada oshganligini ko'rsatdi. Dastlabki test natijalariga ko'ra, har ikki guruhdagi o'quvchilarning ko'rsatkichlari bir xil edi. Biroq, 8 haftalik darslar davomida eksperimental guruhda ancha ijobiy o'zgarishlar kuzatildi.

Eksperimental guruhda:

²⁴ Yoon, H. (2005). An investigation of students' experiences with corpus technology in second language academic writing (Doctoral dissertation, The Ohio State University).

²⁵ Masharibova, D. (2024, May). KOREYS TILI TA'LIMI VA DARSЛИKLARI HAQIDA. In Conference Proceedings: Fostering Your Research Spirit (pp. 310-313).

• **Nutq ko'nikmalari:** Eksperimental guruhdagi o'quvchilarning nutq ko'nikmalari o'rtacha 35% ga oshdi. O'quvchilarning darsdagi faol ishtiroki va mashg'ulotlarda erkin fikr bildirish imkoniyati bu natijaga erishishda muhim rol o'ynadi.

• **Yozuv ko'nikmalari:** Yozuv ko'nikmalari bo'yicha esa o'quvchilar o'rtacha 40% ga yaxshilanishga erishdilar. Bu o'quvchilarning yozma topshiriqlarni bajarish va matnlarni tahlil qilish jarayonidagi faol ishtiroklari natijasida amalga oshdi.

• **Motivatsiya:** Eksperimental guruhdagi o'quvchilarning til o'rganishga bo'lgan motivatsiyasi ham sezilarli darajada oshdi. Dastlabki motivatsion savolnomalar natijalariga ko'ra, o'quvchilarning motivatsiya darajasi 50% ni tashkil qilgan bo'lsa, tadqiqot yakunida bu ko'rsatkich 75% ga yetdi.

Nazorat guruhida esa natijalar quyidagicha bo'ldi:

• **Nutq ko'nikmalari:** Nutq ko'nikmalarida nazorat guruhida o'rtacha 15% o'sish kuzatildi. An'anaviy usullar orqali o'quvchilar grammatik qoidalarni yaxshi o'zlashtirishdi, biroq amaliy nutq ko'nikmalarini rivojlantirishda eksperimental guruhdan ortda qolishdi.

• **Yozuv ko'nikmalari:** Yozuv ko'nikmalari bo'yicha nazorat guruhida 20% ga yaxshilanish kuzatildi. Grammatik qoidalarni o'rganish va matnlarni tarjima qilish orqali o'quvchilar yozuv ko'nikmalarini biroz yaxshilashdi.

• **Motivatsiya:** Nazorat guruhidagi o'quvchilarning motivatsiya darajasi dastlabki 50% dan tadqiqot yakunida 55% ga oshdi. An'anaviy usullar o'quvchilarning motivatsiyasini sezilarli darajada oshirishda yetarli samaradorlik ko'rsatmadi.

Yuqoridagi natijalar integrativ yondashuvning koreys tilini o'qitishda samarali ekanligini ko'rsatadi. Eksperimental guruhdagi o'quvchilarning natijalari bu yondashuvning afzalliklarini yaqqol isbotlab berdi. Integrativ yondashuv o'quvchilarning nafaqat til ko'nikmalarini, balki motivatsiyasini ham oshirishda muhim rol o'ynadi.

Shunday qilib, tadqiqot natijalari integrativ yondashuv asosida koreys tilini o'qitish metodikasi o'quvchilarning nutq va yozuv ko'nikmalarini samarali rivojlantirishi, shuningdek, ularning til o'rganishga bo'lgan qiziqishlarini oshirishga yordam berishini tasdiqladi. Bu yondashuvning keng qo'llanilishi koreys tilini o'rganuvchi o'quvchilarning muvaffaqiyatlarini yanada oshirishga imkon beradi.

MUHOKAMA

Integrativ yondashuvning koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda samaradorligini o'rganish bo'yicha olib borilgan tadqiqot natijalari bu yondashuvning afzalliklarini yaqqol ko'rsatdi. Eksperimental guruhdagi o'quvchilarning nutq va yozuv ko'nikmalaridagi sezilarli o'sish, nazorat guruhi bilan solishtirganda, integrativ yondashuvning yuqori samaradorligini tasdiqlaydi. Ushbu yondashuv o'quvchilarning nafaqat til ko'nikmalarini, balki motivatsiyasini ham oshirishga yordam berdi. Birinchidan,

eksperimental guruhdagi nutq ko'nikmalaridagi 35% o'sish integrativ yondashuvning kommunikativ metodlarni qo'llash orqali erishilganligini ko'rsatadi. Task-based language learning va corpus texnologiyasining birgalikda qo'llanishi o'quvchilarning muloqot qobiliyatlarini oshirishga katta yordam berdi. Mashg'ulotlar davomida o'quvchilarning erkin fikr bildirishlari va o'zaro muloqot qilishlari ularning nutq ko'nikmalarini rivojlantirdi. Ikkinchidan, yozuv ko'nikmalaridagi 40% yaxshilanish ham bu yondashuvning samaradorligini isbotlaydi. Yozma topshiriqlar va matnlarni tahlil qilish jarayonida o'quvchilar grammatik qoidalarni amalda qo'llashni o'rganishdi. Bu esa ularning yozuv ko'nikmalarini sezilarli darajada oshirdi. Yoon (2005) tomonidan olib borilgan tadqiqotlar ham yozuv ko'nikmalarini rivojlantirishda corpus texnologiyasining samaradorligini tasdiqlaydi.

Uchinchidan, o'quvchilarning til o'rganishga bo'lgan motivatsiyasi ham sezilarli darajada oshdi. Dastlabki 50% motivatsiya darajasi tadqiqot yakunida 75% ga yetdi. Bu esa integrativ yondashuvning o'quvchilarning til o'rganishga bo'lgan qiziqishlarini oshirishda muhim ahamiyatga ega ekanligini ko'rsatadi. Olimjonovna (2024) tomonidan ta'kidlanganidek, zamonaviy texnologiyalar yordamida o'quvchilarning til o'rganish jarayonini qiziqarli va samarali qilish mumkin. Biroq, nazorat guruhidagi natijalar integrativ yondashuvsiz an'anaviy usullarning yetarlicha samarali emasligini ko'rsatadi. Nazorat guruhidagi nutq ko'nikmalaridagi 15% o'sish va yozuv ko'nikmalaridagi 20% yaxshilanish integrativ yondashuvsiz o'quvchilar faqat grammatik qoidalarni o'rganish bilan cheklanganliklarini bildiradi. Bu esa ularning amaliy nutq va yozuv ko'nikmalarini rivojlantirishda yetarli darajada samaradorlik ko'rsatmaganligini tasdiqlaydi. Muhokama jarayonida integrativ yondashuvning asosiy tamoyillari va afzalliklari qayta tasdiqlanadi. Pyun (2013) tadqiqotlarida integrativ yondashuvning task-based language learning usuli orqali samaradorligi ko'rsatilgan bo'lib, bu yondashuvning o'quvchilarning motivatsiyasini oshirish va nutq ko'nikmalarini rivojlantirishda muhim ekanligi aniqlangan. Shuningdek, Masharibova (2024) tomonidan koreys tilini o'qitishda zamonaviy texnologiyalarning ahamiyati ta'kidlangan bo'lib, bu yondashuvning zamonaviy texnologiyalar bilan uyg'unlashgan holda qo'llanishi o'quvchilarning til o'rganish jarayonida yuqori natijalarga erishishlariga yordam beradi.

XULOSA

Mazkur tadqiqot integrativ yondashuvning koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda samarali usul ekanligini tasdiqladi. Eksperimental guruhdagi o'quvchilarning nutq va yozuv ko'nikmalaridagi sezilarli o'sish, shuningdek, ularning til o'rganishga bo'lgan motivatsiyasining oshishi integrativ yondashuvning yuqori samaradorligini ko'rsatadi. Natijalar shuni ko'rsatadiki, integrativ yondashuv o'quvchilarning til o'rganish jarayonini yanada qiziqarli va samarali qilish imkonini beradi. Bu yondashuvning task-based language learning, corpus texnologiyasi va zamonaviy texnologiyalar bilan uyg'unlashgan holda qo'llanilishi

o'quvchilarning til ko'nikmalarini rivojlantirishda muhim rol o'ynaydi. Tadqiqot natijalari shuni tasdiqlaydiki, integrativ yondashuv asosida koreys tilini o'qitish metodikasi o'quvchilarning nutq va yozuv ko'nikmalarini samarali rivojlantirishi, shuningdek, ularning til o'rganishga bo'lgan qiziqishlarini oshirishga yordam berishini tasdiqladi. Bu yondashuvning keng qo'llanilishi koreys tilini o'rganuvchi o'quvchilarning muvaffaqiyatlarini yanada oshirishga imkon beradi.

Integrativ yondashuvning koreys tilini o'qitishda qo'llanilishi til o'rganish jarayonida yangi imkoniyatlarni ochib beradi. Bu yondashuvning zamonaviy texnologiyalar bilan uyg'unlashgan holda qo'llanilishi o'quvchilarning til o'rganish jarayonida muvaffaqiyatlarini oshirishga yordam beradi. Kelgusida integrativ yondashuv asosida olib boriladigan tadqiqotlar til o'qitish metodikalarini yanada takomillashtirishga va o'quvchilarning til o'rganish jarayonidagi muvaffaqiyatlarini oshirishga yordam beradi. Umuman olganda, koreys tilidan nutq va akademik yozuv ko'nikmalarini rivojlantirishda integrativ yondashuvning qo'llanilishi o'quvchilarning til o'rganish jarayonida yuqori natijalarga erishishlariga yordam beradi. Bu yondashuvning keng qo'llanilishi koreys tilini o'rganuvchi o'quvchilarning muvaffaqiyatlarini oshirishga xizmat qiladi. Integrativ yondashuvning afzalliklari va bu yondashuvning samaradorligi kelgusida til o'qitish metodikalarini yanada takomillashtirishga yordam beradi.

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*Samieva Z.D.
teacher*

*Department of Electric Power
Namangan Engineering Construction Institute
Soliyev X.A.
2nd stage student
Namangan Engineering Construction Institute*

THEORETICAL BASIS OF ELECTROPULSE EFFECT ON MEDICINAL PLANTS

Abstract. This article considers the theoretical foundations of the electropulse effect on plant objects. The influence of the energy absorbed by a living system on the degree of damage to plant cells and tissues is studied. It has been established that the impact of many damaging factors accompanying a high-voltage electrical impulse determines the degree of damage to plant tissue. The authors propose to consider the process of electrical processing from the standpoint of the law of conservation of energy and accept the initial conditions that describe the properties of a plant object. However, the research results do not allow theoretically assessing the dependence of the coefficients included in the formulas on all the parameters that determine their values.

Keywords: impulse, plant, cell, protein, Plant tissues, ultraviolet radiation, magnetic field, high temperature.

1. Introduction

A large number of works by scientists of various specialties are devoted to the study of the properties of living cells and tissues [1, 2, 3, 4, 7]. However, the mechanism of functioning of both the cell itself and living tissue as a whole, as well as the mechanism of the influence of electrophysical factors on them, has not yet been fully disclosed. Recently, applied works have been greatly developed, using the positive effect of the action of electric current and electric discharges on plant tissue.

For rational application, quantitative and qualitative assessment of the electrical impact on living plant tissue, it is necessary to know its main acting factors. There is no consensus among researchers on this issue. The nature of the processes occurring in cells and tissues depends on the magnitude and type of electric current (constant, alternating, pulsed), the magnitude of the electric field, the duration of exposure, structural features of individual cells and tissues, and other reasons.

It has been established that there are electrical charges on colloids and protein particles that determine the electrical properties of living cells of plant tissue and are the driving forces of metabolic processes [5, 6, 8]. For example,

the protoplast of a cell has a negative charge. The impact of an electric current of a certain magnitude on a cell suppresses its electric field and thereby disrupts vital activity. The cell protein becomes electrically neutral (isoelectric point), which leads to the aggregation of protein particles of protoplasm and their coagulation. That is, under the influence of direct or alternating electric current, the structure of plasma shells changes, which increases their permeability and reduces electrical resistivity [9, 10, 11].

Studies by many authors [1, 2] have shown that the bulk conduction current is the main acting factor in electrospray processing of plant tissue. Depending on the magnitude of the electric current passing through the living plant tissue, which is determined by the magnitude of the voltage gradient, and the time of its action, electroporation can proceed either with a predominance of thermal phenomena, or with a predominance of electrokinetic phenomena.

But according to a number of researchers, the destruction of cells under electropulse action occurs mainly under the action of hydrodynamic forces resulting from the microhydraulic effect in the cell or intercellular space. Moreover, the degree of destruction of cells depends on their size, turgor pressure and thickness of the membranes.

It has been established that the degree of damage to plant tissue does not depend on the shape of the acting voltage pulse and is directly proportional to the capacitance of the storage capacitor and the discharge voltage, that is, it depends on the factors that determine the energy of the pulse. The efficiency of electropulse processing increases with an increase in the total energy of the pulses and with an increase in their voltage. Moreover, the influence of voltage is much stronger than the energy of pulses [6]. This is explained by the specific effect of electrical impulses on living tissue cells, which consists in the direct interaction of the electric field with the electrically charged system of protoplasm, leading to electrical interaction and force deformation.

Exposure of plant tissue to high voltage pulses is also accompanied by high temperature, visible and ultraviolet radiation, high electric and magnetic fields, high electric current density, ultrasound, pressure at the shock wave front, and ionization processes. The predominance of one or another factor depends on the parameters of the electrical impulse, the properties of the plant tissue and is of a random probabilistic nature.

It is known that cell damage is largely independent of the nature of the influencing factor and is determined only by its intensity. That is, the result of the impact on a living system is determined by the amount of energy absorbed by this system. It has been established that the effect of successive stimulations by small portions of energy absorbed by biological objects and leading to the destruction of membranes is summed up.

Thus, the degree of damage to plant tissue during electrical impulse exposure is determined by the sum of the effects of many damaging factors that accompany a high-voltage electrical impulse. It is not possible to isolate the

effect of the impact of each individual factor, since the process is of a random probabilistic nature. As an integral factor that determines the degree of damage to plant tissue by high-voltage electrical impulses, the value of the energy of a single discharge can be taken.

2. Materials and methods

This article does not contain research methods, it describes the theoretical foundations of the electropulse effect on plant objects and discusses possible relationships between the parameters of this effect and the degree of damage to plant tissue.

To obtain the dependence of the degree of damage to a living plant object by high-voltage electrical impulses, taking into account the initial state of the object, we consider the process of electrical processing from the standpoint of the law of conservation of energy.

We accept the following initial conditions:

1. A plant object consists of a finite number of cells that have the same properties, size and structure.
2. Plant tissue is homogeneous and isotropic.
3. Cell damage occurs instantly.
4. All energy supplied to the object passes through the tissue.

Since the object is exposed to pulses, the factor that integrally determines the duration of exposure is the number of pulses n .

3. Results and discussion

The energy balance equation for the exposure duration dn has the form:

$$dE_1 = dE_2 + dE_3 \quad (1)$$

where E_1 – energy eaten up to the object in dn pulses, J;

E_2 – energy absorbed by tissue cells, J;

E_3 – energy that has passed through the tissue, but not absorbed by the cells, J.

The components of the energy balance (1) are determined by the following expressions:

$$dE_1 = E_i dn \quad (2)$$

where E_i - energy of one impulse, J;

$$dE_2 = P dN_d \quad (3)$$

where P - the energy required to destroy one cell, J;

dN_d - change in the number of dead cells per dn pulses;

$$dE_3 = \varphi E_i dn \quad (4)$$

where φ - dimensionless coefficient that determines the fraction of the energy not absorbed by the cells of the object from the value of the imparted energy per dn pulses.

Plant tissue cells absorb only the energy that passes through them. The energy that has passed through the intercellular space or through the vacuolar juice of destroyed cells, by which undamaged cells are shunted, is not absorbed by them and does not destroy them. That is, the amount of unabsorbed energy

depends on the structural features of the tissue and cells and the number of damaged cells. Then one can write

$$\varphi = \alpha(N_d - N_{dp})(5)$$

where α - a dimensionless coefficient showing by what part of $E_i dn$ the unabsorbed energy increases during the destruction of one cell (depends on the structural features of the tissue, cells and characteristics of the electrical impulse);

N_{dp} - the number of affected tissue cells before the start of its electrical pulse processing;

N_d - the number of affected tissue cells after exposure to dn pulses.

Equation (1) can be represented as:

$$E_i dn = P dN_d + \alpha(N_d - N_{dp})E_i dn(6)$$

or

$$\frac{P}{\alpha E_i} \cdot \frac{dN}{dn} + N_d - \alpha \left(N_{dp} + \frac{1}{\alpha} \right) = 0 \quad (7)$$

Let us denote

$$K = \frac{P}{\alpha} \quad (8)$$

$$N_{d \max} = N_{dp} + \frac{1}{\alpha} \quad (9)$$

where K - duration constant of the energy impact, J (numerically equal to the energy required to destroy all the cells of the object, provided that all the energy communicated to the object is absorbed by the cells);

$N_{d \max}$ - the number of affected cells of dead plant tissue, that is, the number of cells that make up the object of treatment.

Then equation (7) can be written as

$$\frac{K}{E_i} \cdot \frac{dN_d}{dn} + N_d - N_{d \max} = 0 \quad (10)$$

The solution to this first order differential equation is

$$N_d = N_{dp} \exp \left(-\frac{E_i n}{K} \right) + N_{d \max} \left(1 - \exp \left(-\frac{E_i n}{K} \right) \right). \quad (11)$$

Dividing all the terms of equation (11) by the number of cells that make up the plant tissue of the processing object N , we obtain

$$\frac{N_d}{N} = \frac{N_{dp}}{N} \exp \left(-\frac{E_i n}{K} \right) + \frac{N_{d \max}}{N} \left(1 - \exp \left(-\frac{E_i n}{K} \right) \right) \quad (12)$$

The ratio of the number of damaged N_d cells to the total number of tissue cells N represents the degree of damage to the plant tissue, i.e. the values $\frac{N_{dp}}{N}$, $\frac{N_{d \max}}{N}$, $\frac{N_d}{N}$ express, respectively, the initial S_0 , the prolongation $S_{\max}$, and the current S degree of damage to plant tissue, expressed in relative units.

Equation (12) can be written

$$S = S_0 \exp \left(-\frac{E_i n}{K} \right) + S_{\max} \left(1 - \exp \left(-\frac{E_i n}{K} \right) \right) \quad (13)$$

The characteristic of the processing object in equation (13) is the parameter K , expressed by dependence (8) and in the general case depending on

the structural features of the plant tissue and cells, as well as on the parameters of the acting electrical impulses.

After each electrical impulse, the state of the object changes qualitatively, that is, the value of α must change (increase). Then the value of the parameter K in the process of electropulse processing also changes (decreases), since the value of P remains constant.

Experimental and theoretical studies have established that the value of K depends on the parameters of the electric pulse processing. For example, for grape varieties "Tyfi pink" the regression equation describing this relationship is:

$$K = 25,996 - 12,904U - 31,64C - 0,843n + 1,259U^2 + 42,887C^2 + +0,037n^2 - 1,765UC - 0,074Un - 1,059Cn$$

The results of numerous studies by various authors who have studied certain aspects of the action of electric current and electric discharges on living plant organisms do not make it possible to theoretically evaluate and obtain the dependences of the coefficients included in formulas (5), (8) and (13) on all parameters that determine their values. For this, it is necessary to conduct complex special studies with the wide involvement of scientists from many specialties.

4. Conclusions

Damage to plant tissue during electropulse exposure depends on the intensity of exposure, which is determined by the amount of energy absorbed by the system. The degree of damage to plant tissue during electrical impulse exposure is determined by the sum of the effects of many damaging factors that accompany a high voltage electrical impulse.

Based on the law of conservation of energy, it is possible to obtain the dependence of the degree of damage to a living plant object by high-voltage electrical impulses, taking into account the initial state of the object.

The dependence (13) obtained theoretically, which describes the process of electropulse processing of plant tissue, agrees quite accurately with the results of experimental studies.

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USE OF DIGITAL MARKETING IN RETAIL DEVELOPMENT BASED ON INNOVATIVE APPROACHES

Abstract. The retail industry is experiencing a significant transformation driven by digital marketing and innovative approaches. This paper examines how data analytics, artificial intelligence (AI), social media, and personalization are reshaping retail development. Key strategies include leveraging data-driven insights for customer segmentation and predictive analytics, utilizing AI for chatbots and dynamic pricing, and employing social media for influencer marketing and user-generated content. Personalization techniques such as targeted advertisements and dynamic content further enhance the customer experience. Case studies of leading retailers illustrate the successful implementation of these strategies, highlighting the critical role of digital marketing in achieving growth and customer engagement in the evolving retail landscape.

Keywords: digital marketing, retail development, data analytics, artificial intelligence, social media marketing, personalization, customer experience, predictive analytics.

The retail industry is undergoing a transformative shift driven by the rapid evolution of digital technologies and changing consumer behaviors. Digital marketing, leveraging innovative approaches, has become a pivotal element in shaping retail development and redefining the shopping experience. As traditional retail models face disruption, businesses are increasingly turning to digital strategies to attract, engage, and retain customers. This introduction explores the critical role of digital marketing in retail development, highlighting how innovative techniques such as data analytics, artificial intelligence (AI), social media, and personalized marketing are revolutionizing the industry. The advent of the internet and the proliferation of digital devices have fundamentally altered the retail landscape. Consumers now have unprecedented access to information and a plethora of choices at their fingertips, demanding more convenience, personalization, and seamless experiences. Retailers, in response, are embracing digital marketing to meet these evolving expectations and stay competitive in a dynamic marketplace. Digital marketing encompasses a wide range of tactics and tools designed to connect with consumers online. This includes search engine optimization (SEO), content marketing, email marketing, social media advertising, and more. Each of these components plays a vital role in driving traffic, increasing brand awareness, and ultimately converting leads into loyal customers. The integration of these strategies allows retailers to create

cohesive and compelling marketing campaigns that resonate with their target audiences.

One of the most significant advancements in digital marketing is the ability to harness and analyze vast amounts of data. Retailers now have access to detailed insights into consumer behavior, preferences, and purchasing patterns. By leveraging big data analytics, businesses can make informed decisions, optimize marketing efforts, and deliver personalized experiences. Predictive analytics, for example, allows retailers to forecast trends, anticipate customer needs, and tailor marketing messages accordingly. AI and machine learning are revolutionizing digital marketing by enabling more sophisticated and automated processes. Chatbots, powered by AI, provide instant customer support and personalized recommendations, enhancing the shopping experience. Machine learning algorithms analyze customer data to identify patterns and predict future behaviors, allowing for more targeted and effective marketing campaigns. AI-driven tools also enable dynamic pricing strategies, adjusting prices in real-time based on demand, competition, and other factors.

Data-Driven Insights. The ability to collect and analyze data has revolutionized the retail industry, allowing businesses to make informed decisions and optimize their marketing efforts. Data-driven insights enable retailers to understand customer behavior, preferences, and purchasing patterns more accurately. By leveraging big data analytics, retailers can uncover trends and gain a deeper understanding of their target audience. Data analytics allows retailers to segment their customer base into distinct groups based on various criteria such as demographics, purchasing behavior, and preferences. This segmentation enables retailers to tailor their marketing efforts to specific customer segments, increasing the relevance and effectiveness of their campaigns. For example, a retailer might identify a segment of customers who frequently purchase eco-friendly products and target them with marketing messages highlighting the company's sustainability initiatives. Predictive analytics uses historical data and machine learning algorithms to forecast future customer behavior and trends. Retailers can use predictive analytics to anticipate customer needs, optimize inventory management, and personalize marketing messages. For instance, by analyzing past purchase data, a retailer can predict when a customer is likely to run out of a frequently purchased item and send a timely reminder or offer. This proactive approach not only enhances customer satisfaction but also drives repeat purchases.

Artificial Intelligence and Machine Learning. Artificial intelligence (AI) and machine learning are transforming digital marketing by automating processes and enabling more sophisticated analysis. These technologies allow retailers to deliver personalized experiences at scale and improve operational efficiency. Chatbots and virtual assistants, powered by AI, provide instant customer support and personalized recommendations. These tools can handle a wide range of customer inquiries, from answering product questions to assisting

with order tracking. By offering 24/7 support, chatbots enhance the customer experience and free up human agents to handle more complex issues. Additionally, AI-powered virtual assistants can analyze customer data to offer personalized product recommendations, increasing the likelihood of conversion. Dynamic pricing algorithms adjust product prices in real-time based on various factors such as demand, competition, and inventory levels. This AI-driven approach allows retailers to optimize pricing strategies and maximize revenue. For example, a retailer might lower the price of a product during off-peak times to stimulate demand or increase the price of a high-demand item to capitalize on its popularity. Dynamic pricing ensures that retailers remain competitive while maximizing profitability.

Social Media Marketing. Social media platforms have become integral to retail marketing, offering unique opportunities for customer engagement and brand building. Innovative social media marketing strategies leverage the power of these platforms to reach a broader audience and foster customer loyalty. Influencer marketing involves partnering with social media personalities who have a large and engaged following. Influencers can promote products to their audience, providing authentic endorsements that resonate with consumers. This approach leverages the trust and credibility that influencers have built with their followers, making it an effective way to increase brand awareness and drive sales. For example, a beauty retailer might collaborate with a popular makeup artist to showcase their products in tutorials and reviews, reaching a wider audience and building brand credibility. User-generated content (UGC) refers to content created by customers, such as reviews, social media posts, and videos. UGC serves as authentic endorsements and can influence purchasing decisions. Retailers can encourage customers to share their experiences with products through social media campaigns and contests. Featuring UGC on the retailer's website and social media channels not only enhances authenticity but also creates a sense of community and engagement. For instance, a clothing retailer might feature customer photos wearing their products on their Instagram page, showcasing real-life use and inspiring other customers.

Interactive Campaigns. Interactive campaigns create engaging experiences that encourage customer interaction and participation. These campaigns can include polls, quizzes, live videos, and augmented reality experiences. Interactive content captures attention and keeps customers engaged, increasing the likelihood of brand recall and loyalty. For example, a retailer might host a live Q&A session on Instagram, where customers can ask questions about products and receive real-time responses. This interactive approach fosters a deeper connection between the brand and its customers. Personalization is a key driver of success in digital marketing. Customers expect tailored experiences that cater to their individual preferences and needs. Retailers can leverage data and AI to deliver personalized content, offers, and recommendations.

In conclusion, the integration of digital marketing and innovative approaches is transforming the retail industry, providing new opportunities for growth and customer engagement. By leveraging data-driven insights, AI, social media, and personalization, retailers can create compelling and effective marketing strategies. As the retail landscape continues to evolve, the ability to harness the power of digital marketing will be crucial for success. This article explores these innovative strategies in detail, offering insights into best practices for retail development in the digital age.

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Sattorov X.
Far.DU. 1-kurs doktoranti

**AMIR TEMUR VAFOTIDAN KEYINGI TAXT UCHUN KURASHNING
“ZUBDAT UT-TAVORIX”DA YORITILISHI (HOFIZI ABRU
ASARLARIDA TEMURIYLAR DAVRI TARIXINI YORITILISHI)**

Annotatsiya. Maqolada Amir Temur vafotidan soʻng Temuriyzodalar oʻrtasida boʻlib oʻtgan, taxt uchun kurashlar, nizolar oʻzaro janglar Xofiz Abruning Zubdat at tavorixi boʻysungʻiri asari asosida. Temuriylar davrida yaratilgan ilmiy adabiyotlar manbalar bilan taqoslanib keng yoritilgan.

Kalit soʻzlar: Amir Temur, Xalil Sulton, Balx, Zubdat at tavorixi boysungʻuri, Samarqand, Buxoro, Zaffarnoma, Taxt uchun kurashlar.

Sattarov Kh.
1st year doctoral student

**COVERAGE OF THE STRUGGLE FOR THE THRONE AFTER THE
DEATH OF AMIR TIMUR IN "ZUBDAT UT-TAWORIX" (COVERAGE
OF THE HISTORY OF THE TIME OF TIMUR IN THE WORKS OF
HAFIZI ABRU)**

Abstract. In the article, after the death of Amir Temur, the struggle for the throne, disputes between the Temurs, based on the work of Hafiz Abru, Zubdat at Tawarikh. The scientific literature created during the Timurid era is widely covered by comparison with the sources.

Key words: Amir Temur, Khalil Sultan, Balkh, Zubdat at Tavarikh Boysunguri, Samarkand, Bukhara, Zaffarnama, Struggle for the Throne.

Kirish.

Amir Temur Amir Temur vafot etgach, amir Shohmalik va Shayx Nuriddin hamda haram ahli voqeani yashirishga intildi. Dastlab soʻl qanot qoʻmondoni Mirzo Sulton Husayn, oʻng qanot qoʻmondoni amirzoda Xalil Sultonga maktub yuborib, sohibqiron kasal ekanligi sababli Oliy oʻrdaga zudlik bilan yetib kelishlari soʻraldi. Soʻngra Mirzo Pir Muhammadga uning valiahd etib tayinlanganligi va tezda Samarqandga yetib kelishi zarurligi xususida maktub joʻnatildi²⁶.

Amir Temurning bemor ekanligi xususida xabardor qilingan Mirzo Sulton Husayn va Xalil Sulton Oʻtrorga kelmaydi.

²⁶Издий. Зафарнома. – Б. 298.

Shundan so'ng amirlar Chukalak²⁷ mavzesida to'planib, qo'shin orasida yoshi ulug'i bo'lgan amirzoda Xalil Sultonni podshoh etib ko'targan holda Xitoy yurishini davom ettirishni va Xitoy yurishidan qaytgandan so'ng, vasiyat bo'yicha ish ko'rishni maslahat qiladilar²⁸.

Shu bilan birgalikda, Xalil Sulton taxt uchun jiddiy harakatni boshlab yuboradi. U dastlab Toshkent va Sayramda turgan zahiradagi barcha ot, xachir va tuyalarni, shuningdek, mablag' hamda qurol-yarog'ni o'zi bilan hamfikir bo'lgan bek va navkarlarga tarqatdi. Amir Burunduqni lashkardan ajratish maqsadida uni avvalroq daryodan kechib o'tish uchun jo'natdi va o'zi ham lashkar bilan uning ortidan Samarqand tomon yo'l oldi. Bu vaqtda Xalil Sulton huzuridagi yirik amirlar o'zaro til biriktirib, unga qarshi chiqishga kelishib oladilar²⁹. O'zaro kelishuvga ko'ra amir Burunduq amir Shohmalik va Shayx Nuriddinga borib qo'shilishi, amir Xudoydod Husayniy va Shamsuddin Abbos esa o'z askarlari bilan Ochiq Farkat mavzesiga yo'l olib, u yerdan vaziyatga qarab ish tutishlari kerak edi.

Xalil Sultonning qachon Samarqandga yetib kelganligi xususida aniq ma'lumot yo'q. Manbalarda ta'kidlanishicha, 5 mart kuni Samarqanddan Buxoro tomon yo'lga chiqqan amirlar 6 mart kuni Buxoro va Samarqand o'rtasidagi Dabusiya³⁰ qal'asiga yetib kelganlarida ularning huzuriga Samarqand hokimi Arg'unshohdan maktub bilan Bayon Temur xazinachi³¹ yetib keladi. Xatda Arg'unshoh yana bir bor Mirzo PirMuhammadga sodiq ekanligini tasdiqlagan va amirlarni Samarqandga kirgizmaganligi uchun izoh berib, uzr so'ragan edi. Amirlar Shohmalik va Shayx Nuriddin ham bu safar nochorlikdan ularning fikrini ma'qullagan holda, shu ahdlarida sodiq tursalar katta mavqe va maqomga ega bo'lishlarini ta'kidlab, javob maktubi jo'natadilar. Shundan ikki-uch kun keyin, demak 8 yoki 9 mart kunlari Xalil Sultonning Samarqandga yetib kelganligi va shahar kalitlari unga topshirilganligidan xabar topadilar. Ularning Samarqanddan Dabusiya bir kunda yetib kelganlarini hisobga olsak, Xalil Sulton kechi bilan 9 mart kuni Samarqandga yetib kelganligi oydinlashadi.

Xalil Sulton Samarqandga yetib kelgan vaqtda Mirzo Shohrux ham unga jiddiy xavf tug'dira olmasdi. Mirzo Shohruxga Amir Temurning vafot etganligi

²⁷Чукалак –Ўтрор шаҳри яқинидаги мавзе. Бу мавзе 1387–1388 йилларда Мирзо Умаршайх бошчилигидаги темурийлар лашкари ва Тўхтамишхон юборган Дашти Кипчоқ қўшини ўртасидаги жанг бўлиб ўтган майдон сифатида ҳам машхур. Мавзе номини Яздий ва Хондамир Чукалак, Шомий Чулок, Ҳофизи Абру ва Самарқандий Жулок тарзида беришган. Қаранг: Шомий. Зафарнома. –Б. – 143; Йаздий. Зафарнома. – Б.117; 670. ص. – جلد دوم. – حافظ ابرو. Самарқандий. مقطع السعدين... Қўлёзма. – Б. 185; Хондамир. Ҳабиб ус-сийар... – Б. 118.

²⁸Йаздий. Зафарнома. – Б. 299. Хондамир ҳам Халил Султон иштирокида Хитой юришини давом эттиришга келишилганлигини таъкидлайди. Қаранг: Хондамир. Ҳабиб ус-сийар... – Б. 285.

²⁹Tağ as-Salmānī. – P. 37.

³⁰Дабусия – Самарқанд– Бухоро йўлида жойлашган кичик шаҳар, қалъа. Қаранг: Бўриев О. Темурийлар даври ёзма манбаларида Марказий Осиё тарихий географияси. – Б. 154.

³¹Баён Темур хазиначи – 1401 йили Боғдодни забт этиш чоғида ҳалок бўлган Менглихожанинг иниси, Амир Темурнинг хазиначиси. Кенгроқ маълумот учун қаранг: Дадабоев Ҳ. Амир Темур даврдошлари. – Б. 40, 103.

xabari 1405 yili 1 mart kuni yetib keladi³². Muarrix Fasih Havofiy ushbu xabar Amir Shayx Nuriddin va Shohmalik tomonidan yuborilganligini ta'kidlagan. 1405 yil 3mart kuni esa Mirzo Shohrux Hirot shahrida o'z nomiga xutba o'qitib, taxtga o'tiradi va Mirzo Pir Muhammadning valiahd etib tayinlanganligini bee'tibor qoldiradi. Agar u xutbaga valiahd Mirzo Pir Muhammad nomini ham qo'shib o'qitganida Sohibqironning vasiyatiga ma'lum darajada amal qilayotganligi ko'zga tashlanardi. Uning bunday maqsadi yo'qligi, tezda Movarounnahr tomon yo'lga chiqqanligida ham ko'rinadi. Lekin Mirzo Shohruxhali Murg'ob daryosidan kechib o'tmasdanoq, yurishni to'xtatadi³³.

Mirzo Shohruxning Hirotidan Samarqand tomon qachon yo'lga chiqqanligi haqidagi fikrlar ham biroz bahslidir. Hofizi Abru va Abdurazzoq Samarqandiy Xalil Sulton saltanat poytaxtini qo'lga kiritganligi haqidagi xabar Hirotga yetib kelganidan keyin yurish boshlanganligini ta'kidlaydi³⁴.

Bizningcha, bu xabarlar Samarqandni Xalil Sulton qo'lga o'tganligi haqida emas, balki amirlar Shayx Nuriddin va amir Shohmalikning Samarqandga kira olmagan va poxtaxt hokimining Xalil Sulton bilan kelishib olganligi xususidagi bo'lishi kerak. Ya'ni, bu xabarlar 1405 yilning 5-6 mart kunlari Samarqand atrofida yuz bergan voqealarni anglatgan. Bizningcha, Mirzo Shohrux Hirotida o'z nomiga xutba o'qitganidan so'ng bir hafta o'tgach, taxminan 10 martdan keyin o'zining Movarounnahr yurishini boshlagan. Hirotidan Movarounnahr tomon yo'lga chiqqan Mirzo Shohrux To'qqiz rabotmavzeiga yetkanida Samarqand xabarlarini aniqlash uchun Xizrxoja va Shayx Hasan qavchin³⁵ ismli beklarni Movarounnahrda jo'natgan. Amir Sayyidxoja keltirgan xabar ham Samarqandning Xalil Sulton qo'lga o'tganligi xususida bo'lmagan. Uning ma'lumotida Movarounnahrda Xalil Sulton tarafdorlari ko'payib, uning mavqei oshib borayotganligi haqida so'z yuritilgan bo'lishi kerak. Chunki Hofizi Abru va Abdurazzoq Samarqandiy ma'lum muddat to'xtagan Mirzo Shohrux yurishni davom ettirib, Murg'ob daryosini kechib, Shaxzoda Boyazid langariga yetganidan keyingina Movarounnahrda ketgan amir Xizrxoja va Shayx Hasan qavchin qaytib kelganligini ta'kidlaydilar. Ular Samarqand taxtiga Xalil Sulton o'tirganligi haqida ma'lumot beradilar. Bu haqida Hofizi Abru ma'lumot berib o'tgan.

1405 yil 18 mart kuni, ya'ni Amir Temur vafot etganidan roppa-rosa bir oy muddat o'tgach, Xalil Sulton Samarqandga kirib keladi va hokimiyatni qo'lga kiritadi. Bu haqda Sharafiddin Ali Yazdiy quyidagicha hikoya qilgan: "Va maslahat uchun amirzoda Muhammad Jahongirkim, amirzoda Muhammad Sultonning o'g'li erdi va amirzoda Pir Muhammad valiahdning birodarzodasining o'g'li erdi, ani xon qildi va aning yoshi ul mahalda to'qqiz yil

³²Хавафи. Муджмал-и Фасихи. – С. 126.

³³Самарқандий. Матлаи саъдайн... . 2-Ж. 1-Қ. – Б. 49.

³⁴Хофиз абу 3 – жилд. – Б. 14–15; Самарқандий. Матлаи саъдайн... . 2-Ж. 1-Қ. – Б. 48.

³⁵Шайх Ҳасан қавчин – Мирзо Шохрух хизматида бўлган беклардан бири. Фаолияти асосан Хуросон ҳудудларида кечган. Кенгроқ маълумот учун қаранг: Дадабоев Ҳ. Амир Темур даврдошлари –Б. 226.

erdi. Va ani izzat uchun yuqori o'lturg'uzdi. Va amirzoda Xalil Sulton istiqlol bila saltanat amrig'a mashg'ul bo'ldi va sikka va xutba Movarounnahrda aning otig'a o'qudilar".

Xalil Sulton oldidagi birlamchi vazifalardan biri Mirzo Shohrux bilan munosabatlarga aniqlik kiritib olish edi. UBuxoroni o'z hukmronligi ostiga olish maqsadida Rustam Tag'ay Bug'oni o'z tomoniga og'dirishga intilayotgan vaqtda Hirotidan elchi kelib, Mirzo Shohruxning so'zlarini yetkazdi. Mirzo Shohrux o'zining yoshi kattaligi sababli Xalil Sultonni o'ziga bo'ysunib, huzuriga yetib kelishga chorlagan va unga xazina, mamlakat hamda askardan orzu qilganicha in'om etishga tayyorligini bildirgan edi. Bu haqida Hofizi abru to'xtalib o'tgan.

Xalil Sulton bu vaqtda Amudaryo sohilida turgan Xuroson hukmdorining maktubiga hali kuchlar nisbatiga to'la aniqlik kiritilmagan vaziyatda o'ta bosiqlik va yuqori diplomatik saviyada javob qaytaradi: "Men onhazratning bandasi, davlatxohi va inisimen, ammo hazratimizning elu uluslari Xurosondadur; albatta u mamlakatni tashlab ketmasalar kerak va bu viloyatni biror qullariga yoki ini va noiblariga topshiralar. Shunday bo'lgach, bu ishga mendan boshqa qaysi bir qul qobiliyatliroq bo'la olishi mumkin?! Agar iltimosni qabul qilib, yaqin qarindoshlik huquqiga rioya qilsalar va baxtu saodat bilan qaytib ketsalar, men xazina va mol yuboramen hamda har nimagaki ishorat qilsalar, bajo keltiramen". Ushbu javob maktubidan Xalil Sultonning Movarounnahrda voz kechmasligi ayon bo'lgach, Mirzo Shohrux Hirotga qaytishga qaror qildi. Movarounnahr hokimi tomonidan uning oliy hukmdorligi rasman bo'lsa-da tan olinishi bilan cheklanishga majbur bo'ldi. Shu o'rinda qayd etish kerakki, X. Fayziyev ushbu maktub mazmunini keltirishda Abdurazzoq Samarqandiy mubolag'a ishlatgan, Xalil Sulton keyingi maktublarini Mirzo Shohruxga nisbatan mensimaslik kayfiyatida bitganiga qaraganda buni faqat diplomatik murojaat shakli sifatida tushunish kerakligini ta'kidlaydi. Tadqiqotchining mazkur fikrini tasdiqlagan holda, maktub mazmuni Xalil Sultonning 1405 yil mart oyi oxiri va aprel oyidagi imkoniyatlaridan kelib chiqqanligi qo'shimcha qilish mumkin.

Sulh shartlariga ko'ra har ikki tomon ham o'z poytaxtlariga qaytgan bo'lsa-da, Fasih Xavofiyning fikricha, Xalil Sulton sulh shartlari bo'yicha o'z majburiyatlarini to'la bajarmaga. Abdurazzoq Samarqandiy Xalil Sulton tomonidan Xonika begim xazinasi bilan Balxga jo'natilganligini, lekin uning bir qismi Mirzo Sulton Husayn tomonidan talon-taroj qilinganligini ta'kidlagan. Yuqoridagilardan ko'rinadiki, Xalil Sulton sulh shartlarining ba'zilarini bajargan.

X. Fayziyev sulh shartlari bajarilmaganidan xabar topgan Mirzo Shohrux Xalil Sultonga qarshi harbiy harakatlarni qayta boshlaganligini, lekin 1405 yilning 29 iyunida Mirzo

Xalil Sulton ham 1405 yil 28 iyun kuni Samarqanddan isyonchilarga qarshi yo'l oladi. Manbalarda ta'kidlanishicha, u yurish oldidan xazinadan katta

miqdorda mablag' ajratib lashkarni rag'batlantiradi. 1405 yil 6 iyulda bo'lib o'tgan Jigdolik mavzesida bo'lib o'tgan jang Samarqand qo'shini g'alabasi bilan yakunlanadi. Harbiy harakatlar boshlanishi bilan amirlar Arg'unshoh va Allohddod lashkarlari bilan Xalil Sulton tomoniga o'tib ketishi jang taqdirini hal qiladi. Mag'lubiyatga uchragan Mirzo Sulton Husayn Xurosonga Mirzo Shohrux qoshiga qochadi va keyinchalik o'sha yerda o'ldiriladi. Fasih Xavofiy u farmonga binoan amir Nushervon barlos tomonidan Hirotning Bog'i Zubayda bog'ida qatl etilganligini qayd etgan.

Ushbu g'alabadan so'ng Movarounnahrning janubiy chegaralarida ma'lum muddat tinchlik o'rnatiladi. Bu ko'proq Mirzo Shohruxga qarshi yirik amirlardan biri Sulaymonshohning isyon ko'tarishi va unga qarshi kurash, Shoh Ali va Shoh G'iyosiddin, Mavdud Garmseriyning Hirot hukmdoriga bo'ysunishdan bosh tortishi kabi voqealar bilan bog'liq edi.

Movarounnahrda ko'chmanchilarning hujumlari, odatda, qish vaqtida amalga oshirilgan. Xorazmning aynan qishda zabt etilgani ham shundan dalolat beradi. Buni hisobga olgan amir Shohmalik Samarqand ustiga yurish qilishga shoshiladi va BalxdaMirzo Pir Muhammad bilan uchrashadi. Ular dastlab Xalil Sulton huzuriga maktub bilan elchi yuboradilar. Abdurazzoq Samarqandiy Xalil Sultonga yuborilgan maktubning mazmunini quyidagicha keltirgan: "Mirzo Pir Muhammad hazrat sohibqironning valiahdidir; taxt unga tegishli, chunki u og'a, mirzo Xalil esa inidir.... Hazrat sohibqiron taxtu mamlakat Xalil Sultonga qoladi, deb qachon vasiyat qilgan". Xalil Sulton esa bunga javoban "Amir (Temur sohibqiron) hazratlariga mamlakatni bergan u qodir (egam) menga ham inoyat qildi", deya maktub jo'natdi. Xalil Sulton tomonidan berilgan javob anchagina batafsil, badiiy uslubda ibn Arabshoh tomonidan ham keltirilgan. Unda Xalil Sulton Amir Temur tomonidan ko'plab shahzodalarga mulk in'om etilgani holda unga biror viloyat berilmaganligini, shu sababli o'zi uni qo'lga kiritishga qaror qilganligiga urg'u bergan. Faqat u bu maktub almashunuvlarni 1405 yilning birinchi yarmidagi voqealar qatorida noto'g'ri keltirgan. Umuman olganda muzokaralar natija bermagach, Mirzo Pir Muhammad va amir Shohmalik qo'shin bilan daryodan o'tib, Samarqand tomon yo'l oldilar.

Manbalarda ittifoqchilarning ushbu yurishiga qarshi Xalil Sulton jiddiy tayyorgarlik ko'rganligi ta'kidlanadi. Abdurazzoq Samarqandiy Xalil Sulton lashkar ahliga behisob ehsonlar ko'rsatganligini qayd etish bilan cheklangan bo'lsa³⁶, Hofizu Abrubu masalani kengroq yoritadi. U Xalil Sulton tomonidan qo'shinga naqd pul shaklida katta miqdorda oltin kumush, shu bilan birgalikda qimmatbaho toshlar, qurol-aslaha hamda matolar tarqatilganligi haqida hikoya qiladi. Ibn Arabshoh ham shu mazmunda ma'lumot beradi. Lekin uning aytishicha, Xalil Sulton qo'shini tarkibida turli hududlardan kelgan askarlar mavjud bo'lgan. Bu Xalil Sulton qo'shinining asosiy qismini hamon Xitoy

yurishiga temuriylar saltanatining turli hududlaridan jalb etilgan askarlar tashkil etganligidan dalolat beradi. Ibn Arabshohning ushbu fikrlari Abdurazzoq Samarqandiy va Hofiz Abru keltirgan ma'lumotlarga ham mos keladiki, buhaqida quyida fikr bildirilgan.

Tarixiy manbalardagi ba'zi ma'lumotlar Mirzo Pir Muhammad va ittifoqchilari qo'shinining yurish yo'nalishi xususida fikr yuritish imkonini beradi. Ibn Arabshoh Mirzo Pir Muhammad Amudaryoni kechib o'tib, avval Hisor Shodmonga yetib kelganligini qayd etgan. Bundan ko'rinadiki, yurish Xuttalon, Surxon vohalari orqali olib borilgan va Hisor viloyati ham bo'ysundirilgan. Hisoridan Kesh orqali Samarqandga borish qulay edi. Lekin yuqorida ko'rib o'tilgan sabablar tufayli, ya'ni yurishni Buxoro orqali davom ettirish istagi sabab ular Nasaf tomon yo'l olishgan.

Nasaf yonidagi jang Xalil Sultonning harbiy qudrati va sarkardalik mahorati kuchli ekanligidan dalolat beradi. Movarounnahr qo'shinining o'ng qanotini amir Burunduq barlos, chap qanotini esa amir Sulaymonshoh boshqaradi. Xalil Sulton esa umumiy qo'mondonlik bilan birgalikda markazni boshqarishni ham o'ziga qoldiradi. Uning qo'shini tarkibi haqida so'z yuritgan Abdurazzoq Samarqandiy ba Muhammad Mirxond lashkar Movarounnahr dilovarlari, Xuroson polvonlari va Iroq bahodirlaridan tashkil topganligini ta'kidlagan. Ittifoqchilar lashkarining asosiy qismini Mirzo Shohruxga tegishli lashkar tashkil etganligi ularning safidan ham anglashiladi. O'ng qanotga Mirzo Shohruxning yirik amirlaridan biri Nushervon barlos, chap qanotga esa Mirzo Ulug'bek, amir Shohmalik va Yodgorshoh Arlot boshchilik qiladi. Ko'rinadiki, lashkarning o'ng va chap qanoti Mirzo Shohrux jo'natgan harbiy qismlardan iborat edi. Markazda esa Mirzo Pir Muhammadning o'zi joylashadi.

Jang boshlanishi bilan Xalil Sulton boshchiligidagi Movarounnahr lashkarining markazi ittifoqchilar qo'shinining Mirzo Pir Muhammad rahbarligidagi g'uliga hujum qiladi va raqibni chekintiradi. Markazning chekinishi har ikki qanotni ham sarosimaga solib qo'yadi. Natijada birinchi bo'lib arlotlardan tashkil topgan harbiy qism jang maydonidan qochadi. Yodgorshoh arlotning chap qanotda joylashganligidan kelib chiqsak, birinchi bo'lib chap qanot qochishni boshlab berganligi oydinlashadi. Abdurazzoq Samarqandiy ham juvong'or va barong'or tarqalib ketganligini, g'ulning o'z yeridan qo'zg'alib jo'naganligini ko'rgan Mirzo Ulug'bek va amir Shohmalik ham jangni to'xtatganliklarini ta'kidlaydi. Lekin muallif bu yerda Mirzo Ulug'bek va amir Shohmalikni ehtiyot qilib yozgan ko'rinadi. Chunki uning o'zi balxliklarning aslaha yuklari samarqandliklar qo'lga tushganligini qayd etgan. Bu esa markaz chekinsada jang maydonidan qochmay, jangni davom ettirganligidan dalolat beradi. Umuman olganda, Xalil Sulton rahbarligidagi Movarounnahr lashkarining markazi tomonidan berilgan zarba jang taqdirini hal qiladi.

Xalil Sulton lashkarining ilg'or qismlari Amudaryodan ham o'tib, Shibirg'on va Andxud viloyatlarini talon-taroj qiladilar. Lekin Mirzo

Shohruxning ushbu hududga yaqin bo'lgan Bodg'is viloyatida turganligi sababli, Amir Sulaymonshoh, amir Arg'unshoh va Ahmad chuhra boshchiligidagi Movarounnahr lashkarining ilg'or qismi Amudaryo ortiga qaytishni ma'qul ko'radi.

V. V. Bartold Mirzo Shohruxning bu vaqtda Mirzo Pir Muhammad bilan avvaldan kelishgan holda Murg'ob daryosi bo'yiga yetib kelgan bo'lib, Movarounnahrda yurish qilishga tayyor turganligini ta'kidlaydi. Abdurazzoq Samarqandiy Mirzo Shohrux qish fasli oxiriga yetganida Bodg'is tomon yo'lga chiqqanligini va manziliga yetmasdan Nasaf jangi xususidagi xabarni eshitganligini qayd etgan. Fasih Xavofiy ham Mirzo Shohruxning Bodg'is tomon yo'lga chiqishi xabarini Nasaf jangidan avval keltirgan³⁷. Lekin Hofiz Abru Mirzo Shohrux Movarounnahr amirlarining Shibirg'on va Andxudga hujumini eshitganidan so'ng bu yerga yetib kelganligi ta'kidlagan. Bizningcha, Mirzo Shohrux Bodg'is yaylovi tomon Mirzo Pir Muhammad qo'shinlari Amudaryoni kechib o'tganidan so'ng yo'lga chiqqan. Mirzo Shohrux ittifoqchilar qo'shini Nasaf jangida g'alabaga erishganida yurishga qo'shilishi mumkin edi. Chunki u o'z qo'shinlarining bir qismini Mirzo Pir Muhammad lashkariga qo'shib Movarounnahrda, yana bir qismini amir Jahonmulk boshchiligidagi Garmser viloyatiga yuborgan bo'lib, bir vaqtda o'z ixtiyorida qolgan qo'shin bilan tavakkal qila olmasdi.

Xalil Sulton Samarqand taxtini qo'lga kiritganidan so'ng Xurosonga ketgan Shayx Nuriddinning qachon Movarounnahrda qaytganligi to'g'risida manbalarda aniq ma'lumotlar yo'q.

Abdurazzoq Samarqandiy bergan ma'lumotlarga qaraganda, 1405 yilning may oyida amir Shayx Nuriddin Xuroson hukmdori Mirzo Shohrux xizmatida edi: "Hazrat hoqoni said amir Shayx Nuriddin nimani maslahat ko'rgan bo'lsa, ma'qul topdi va amir Shayx Nuriddin, Amir Abdusamad, Bakana Baxshiy va Allohddod xozinlarni Jayhundan o'tib, barcha muhim ishlarni saranjom qilib qaytishga tayinladi". G'iyosiddin Xondamir manba sifatida Abdurazzoq Samarqandiyga tayangani uchun ham Shayx Nuriddin Mirzo Shohrux topshiriqlarini bajarib bo'lganidan so'ng Movarounnahrda qaytib kelganligini ta'kidlagan. Mirzo Shohruxning Samarqandga jo'natilgan elchilari safida bo'lgan Fasih Xavofiy esa nima uchundir amir Shayx Nuriddinning mazkur faoliyati xususida ma'lumot bermagan. B. Usmonovning ta'kidiga ko'ra, shundan keyingi Xurosondagi voqealarda uning ishtiroki haqida har ikkala manbada ham ma'lumot keltirilmaydi. Abdurazzoq Samarqandiy 1409 yil voqealari bayonida Shayx Nuriddin Mirzo Shohruxning ruxsati bilan zarurat tug'ilganda xizmatga yetib kelishga so'z berib, Movarounnahrda ketganligi xususida quyidagicha ma'lumot beradi: "Amir Shayx Nuriddin Movarounnahr tarafiga borishga ijozat so'ragan vaqtida: "Qachonki humoyun mavkab Movarounnahrda qarab yurgudek bo'lsa, men ham oliy o'rduga kelib

qo'shilaman", – deb arz qilgan edi"³⁸. Muarrixning ushbu ma'lumotida garchi biror bir sana berilmagan bo'lsa-da, unda amir Shayx Nuriddin Mirzo Shohrux bilan o'zaro kelishgan holda, uning roziligi bilan Movarounnahrda ketganligi aks etgan. E'tiborlisi shuki, amir Shayx Nuriddin Mirzo Shohruxning o'g'li shahzoda Ibrohimning otaligi edi. Bu yuksak lavozim unga Mirzo Ibrohimga in'om etiladigan viloyatlarni shahzoda nomidan boshqarish huquqini berardi. Shayx Nuriddinning bu holatda Movarounnahrda ketishi ba'zi mulohazalarni keltirib chiqaradi.

Amir Shayx Nuriddin 1405 yilning iyun oyida Movarounnahrda qaytgan bo'lsa kerak. Chunki muarrix Fasih Xavofiy 1405 yilning yozida bo'lib o'tgan tarixiy voqealarni hikoya qilish chog'ida, Samarqand shahrida Xalil Sulton Amir Temurning bevasi Tuman oqani amir Shayx Nuriddinga xotinlikka berganligihaqida ma'lumot beradi. Amir Shayx Nuriddinning Movarounnahrda kuchli mavqeini hisobga olgan Xalil Sulton u bilan yaqinlashish maqsadida Tuman oqanixotinlikka bergan. Shayx Nuriddinning Movarounahr shimoliga kelib o'rnatish bu yerdagi siyosiy vaziyatni va kuchlar nisbatini butkul o'zgartirgan. Turkiston shaharlarini egallashga da'vogar bo'lgan amir Xudoydod Husayniy ham uning maqeyini tan olib, u bilan yaxshi qo'shnichilik munosabatlarini o'rnatishga majbur bo'lgan.

Movarounnahrning janubiy chegarasidagi mazkur o'zgarishlar Xalil Sultonni tashvishga solmay qo'ymadi. U amir Allohddod, Seydi va Mansur Xumoriylarni Termizga jo'natdi. Ibn Arabshoh Amudaryo bo'yiga jo'natilgan lashkarga Chingizxon bosqinidan beri vayron bo'lib yotgan Termiz shahri qal'asini qayta tiklash va mustahkamlash topshirilganligini qayd etadi. Uning ta'kidlashicha, bu voqea 1407 yilning iyul-avgust oylarida bo'lib o'tgan. "Xalil Sulton qo'shinlaridan bir toifa yuborib, – deb yozadi muarrix, – ularni Allohddodga qo'shdi va (yana) ularga askarboshilaridan Ilyosxoja, ibn Qumari Mansur, Tavakkul Qarqaro, Davlat Temur va boshqalarni biriktirib, Termiz (shahri)ni tiklashga jo'natdi". Termiz shahri devorini qayta tiklash ishlari lashkarning kuchi bilan 15 kunda bajarilgan. Shundan so'ng, aholiga yashash uchun manzillar, masjid va bozorlarning o'ri belgilab berilgach, xalq ko'chib kelib, Termiz obod va mustahkam shaharga aylangan. Yangi shahar eski shahardan bir farsax uzoqlikda barpo etilgan edi.

Shu o'rinda yuqoridagi voqealar bo'yicha ba'zi bir mulohazalarni bildirish lozim topildi. Abdurazzoq Samarqandiy Mirzo Shohrux 1409 yil 22 mart kuni Bodg'is tomon yo'lga chiqqanligini va lashkar to'plashga farmon berganligini ta'kidlagan. Xalil Sultonning 1409 yil 30 mart kuni asir olinganidan kelib chiqsak, Mirzo Shohruxning Bodg'isda qo'shin to'plashi fevral oyining oxiri yoki martning boshlaridan boshlangan bo'lishi kerak. Chunki Xuroson qo'shinlarining Bodg'isda yig'ilayotganligidan xabar topgan Xalil Sultonning Keshga kelishi, so'ngra Xudoydod Husayniyning hujumidan xabar topib o'z

amirlarini Jizzax tomon jo'natishi, Jizzaxga yetib borgan Samarqand lashkari yordam so'ragach, o'zi ham Kesh tomon yo'lga chiqishi hamda Sherozda asir olinishi voqealarining bir hafta ichida (1409- yil 22-30-mart) bo'lib o'tishi mumkin emas. Bu esa X.Fayziyev ta'kidlaganidek, Xudoydod Husayniyning yurishi Mirzo Shohrux tomonidan rejalashtirilganligini ko'rsatadi.

Amir Xudoydod Husayniy Xalil Sultonni asir olgach, uning nomidan farmon berish orqali deyarli butun Movarounnahrni o'ziga bo'ysundirdi. Albatta, bu Mirzo Shohruxning rejalariga mos emas edi. U tartib o'rnatuvchi, o'zaro nizolarga chek qo'yuvchi sifatida Movarounnahrda kirib keldi. Xudoydod Husayniy Samarqandda Mirzo Shohruxning noibi bo'lishga tayyorligini bildirdi. Mirzo Shohruxning Movarounnahrda kirib kelgan vaqtda Shayx Nuriddin ham Buxoro shahriga hujum boshladi. Lekin u kutilmaganda Xudoydod Husayniy tomonidan mag'lubiyatga uchratildi. Ushbu muvaffaqiyatdan ruhlangan Xudoydod Husayniy Amirak Ahmad mirzo va Saydi Ahmad mirzolari Hisorni zabt etishga yubordi. Lekin ular Mirzo Shohrux lashkariga borib qo'shildilar. Natijada Mirzo Shohruxga qarshilik qila olmasligini tushungan Xudoydod Husayniy o'z mulki bo'lgan Farg'onaga qaytib ketdi.

Xudoydod Husayniy Mirzo Shohrux qo'shinining yurish yo'nalishlari bo'ylab o'z lashkarini joylashtiradi. Uning o'zi Toshkentni, o'g'li Allohddod Shohruxiya qal'asini, yana bir o'g'li Abduholiq Xo'jand yaqinidagi A'lo qal'asini himoya qilishi kerak edi. Farg'ona vodiysini zabt etish, amir Abduholiqqa qarshi kurashish uchun Mirzo Amirak Ahmad boshchiligida qo'shin jo'natgan Mirzo Shohrux o'zi O'ratepaga kelib joylashadi. Mirzo Shohrux lashkari Shohruxiya va A'lo qal'asini qamalga olgan vaqtda Toshkentga yetib kelgan mo'g'ul shahzodasi Sham'i Jahon Mirzo Shohrux bilan to'qnashishni xohlamay Xudoydod Husayniy qatl etadi hamda o'z yurtiga qaytib ketadi³⁹. Natijada ko'p o'tmay Shohruxiya qal'asi ham taslim bo'lib, Toshkent va Turkiston shaharlarida ham Mirzo Shohrux hukmronligi o'rnatiladi.

Bu vaqtda Andijon shahrida turgan Xalil Sulton dastlab A'lo qal'asiga yetib keldi. A'lo qal'asini amir Shohmalik qamal qila boshlagach, amir Shayx Nuriddin huzuriga ketgan Xalil Sulton oxir oqibat Mirzo Shohruxga taslim bo'lishga majbur bo'ldi.

Xulosa:

Shu tariqa Movarounnahrda hokimiyat uzoq davom etgan o'zaro kurashlardan so'ng Mirzo Shohrux qo'lga o'tdi. Bu esa mamlakatda ma'lum darajada tinchlik o'rnatilishini ta'minladi.

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DEVELOPMENT OF INFORMATION COMPETENCE OF FUTURE MANAGERS IN DISTANCE EDUCATION

Abstract. In the article, the theoretical foundations of didactic support for the formation of information competence in distance education, the structure of didactic support of distance education and automated didactic support were developed. A sample content of electronic resources and a graphic display of information, which serve to form the information competence of future specialists in the conditions of distance education, have been developed.

Key words: information competence, distance education, dualism, relativity, systematicity, selectivity, accumulation, polyfunctionality, mental cards, modern electronic resources.

In the formation of information competence of future specialists in the distance education environment, it is necessary to clarify its main features and functions. Based on the analysis of scientific research and educational literature, we recommend including the following in the characteristics of information competence:

dualism - existence of objective (external assessment of information competence) and subjective (internal - self-assessment of information competence by a person) sides;

relativity - taking into account the obsolescence of knowledge and knowledge bases, they can be considered new only conditionally in a certain space-time interval;

systematicity - the existence of a unique knowledge or knowledge base in each person;

selectivity - not turning all the information received by a person into a base of knowledge and knowledge;

accumulation - knowledge accumulates over time and becomes a knowledge base;

self-development - emergence of new knowledge through creative thinking based on the knowledge base;

"polyfunctionality" - multi-functionality of information (knowledge) in the knowledge base related to different subjects.

We can include such functions as cognitive, communicative, adaptive, normative, evaluation, interactive functions of information competence. These functions are inextricably linked to each other and can be exchanged from one to another, but represent a single process. This reflects the interdependence between the problems of several disciplines.

The characteristics and functions of the category of information competence create the necessary conditions for creating its didactic support in the distance education environment.

In distance education, the role of the teacher in the teaching process is expanded and updated. Now the teacher is required to coordinate the learning process, regularly improve the subject he is teaching in accordance with news and innovations, deepen his level and creative activity. The teacher will have the opportunity to adjust the educational materials and content depending on the personal characteristics and abilities of each student. This will certainly increase the effectiveness of education.

Therefore, this factor has found its place in the following main characteristics of distance education:

- communicative component and its implementation;
- delivery of educational materials, correct selection and justification of its content;
- the existence of a system for ensuring the flexibility of the educational content to the student's personal characteristics and abilities.

The development of distance education places high demands on the design of the educational process, its quality, and the correct implementation of didactic support of all stages of teaching on the basis of distance education.

Didactic provision of distance education means a teaching-methodological complex created on the basis of the systematic principle of MT in a specific subject or subject department.

When creating educational methodological complexes, first of all, it is necessary to take into account factors that take into account the system of certain principles of didactics (S.I. Arkhangelsky, Y.K. Babansky, V.I. Zagvyazinsky, I.Y. Lerner, V.A. Slastenin, P.I. Pidkasistiy) and the features of distance education.

It is considered appropriate to take the following principles as the main ones in the formation of the educational and methodological base of distance education: didactic usefulness; sequence and systematicity; modularity; multilevel; cognitive; flexibility; non-linear content.

Among the above principles, the most important one is didactic usefulness, because other principles are formed on the basis of this principle and complement it.

Didactic utility is a feature of didactic support aimed at the development of the student's personality in achieving the set educational goal. This is with the possibility of forming the content of the educational content, taking into account the psychophysiological characteristics and age of the student, as well as the requirements of the social activity of the knowledge system. is determined.

The content and structure of didactic support of distance education should be created and implemented based on the above principles and determine the content of the technology of distance education. Different methods are used to

create didactic support. We can divide the functional basis of the didactic supply structure into the following two parts:

substantive and managerial.

intellectual communication.

MT denies direct contact with the teacher. The model of teaching and emotional-intellectual communication is replaced by the teaching model, which is the basis of the teacher program. The MT teaching model consists of an information-science environment, which includes various types of educational materials, software for educational purposes, and a student activity management model.

Automated didactic support is required in distance education.

Automatic didactic support consists of 2 components: didactic and functional support.

Didactic support consists of teaching-methodical sets on specific subject content.

Functional support - allows to model the learning of educational content and consists of pedagogical and technological parts.

Pedagogical - methodical sequence of goal- and person-oriented pedagogical methods and technologies to achieve the pedagogical goal.

Technological - a sequence of information technologies used to achieve a pedagogical goal. The participation of the teacher in the creation of the technological part makes it possible to combine pedagogical and information technologies.

The analysis of practical experiences in the creation of teaching-methodical complexes provides an opportunity to generalize the automated didactic system and determine its stages. From a pedagogical point of view, the stages of creating an automated didactic system show that it is an important factor, and it mainly consists of the following 2 project activities: pedagogical and technological. Together, they make up the functional support of the system and are a model for designing a didactic system.

The functional support has a dynamic structure, which reflects the processes, stages of the automatic didactic system, the procedure for creating the automatic didactic support (ADT), and these blocks are directed to obtain the intended results.

Electronic resources are the main didactic support of distance education. The term "resource" is currently used in a very broad sense. "Educational resource" means a source of educational materials in various forms and forms used for learning during the educational process. In other words, an educational resource is a source of information used in the educational process. Based on the above, we can divide educational resources into the following groups:

1. Traditional publication materials containing text, pictures, diagrams and tables (textbook, study guide, text of lectures and courses, manuals for laboratory and practical exercises, problems collection, dictionaries, catalogs,

reference books, handouts, educational materials, various methodological manuals and instructions, questions and tasks, etc.).

2. Traditional audio and video materials: musical and speech materials (discs with lectures, audiobooks, educational video films, etc.), demonstration videos, presentation films, cinematographic products.

3. Modern (digital) electronic resources: files recorded on various media (disks, flash drives, etc.), digital electronic materials made possible to hear and see information of groups 1 and 2 using modern household electronic devices or computers.

4. Special programs for studying, independent education and checking the acquired knowledge: programs, programs that highlight the educational content and are directed to interaction with the student and are designed to solve certain pedagogical tasks set or systems.

The third group of resources intended for storage and distribution is mainly traditional print and audio-video materials transformed into electronic forms intended for hearing and viewing with the help of modern computer techniques.

According to the format of storage and presentation of information, electronic resources can be classified as follows:

separate files - file equivalents of traditional resources of group 1 (text documents with tables and graphic illustrations, graphic files of illustrations, files in audio-video format, etc.).

hypertext materials - electronic educational literature consisting of elements of electronic educational literature, such as text, graphics, multimedia elements, and electronic equivalent of traditional resources of groups 1-2.

Among the electronic resources, the "traditional educational resource", that is, a special teacher's programming tool, plays an important role. An example of the most common such resource is electronic testing software

Resources in groups 3 and 4 are collectively called "E-learning resources". The creation of the following software electronic equivalent of 1-2 groups of resources plays an important role in the automation of the educational process in the distance education system: computer training programs; computer textbooks and training manuals; automated teaching system for the studied subject; automatic knowledge test control system; computer simulators;

auxiliary tools (programs that provide a visual environment for performing laboratory work, using computer encyclopedias and dictionaries; automated training courses.

Electronic educational resources means a system of transmission (delivery) of educational materials combined with a system of automatic control of acquired knowledge, which allows automatic adjustment taking into account the personal characteristics of the user, that is, the student.

The following methods can be used to illuminate information based on graphic schemes: clusters, mental cards, fish skeleton scheme, denotation graphs, etc.

The phrase "cluster" is derived from the English word "Cluster", which can be used to systematically illuminate a large amount of information.

Mental cards were developed by Tony Buzan, a well-known author, speaker and consultant on the psychology of learning and thinking. It is derived from the word Mind maps and is also known as "Intellect-card" or "Mind card". Also, educational materials include fish skeleton, jigsaw, FSMU, boomerang, scarab, cascade, Veyer, pirbord, "T-scheme-technique", delphi, blitz-survey, "Why?" technologies, BBXB (I know, I want to know, I have learned), conceptual table, explanation on the basis of the insert table enables the distance education student to receive information well and learn it easily.

Formation of information competence in future specialists in distance learning environment is different from traditional educational environment. As an organizer of didactic support, web quest tasks also play an important role in this. A web quest is a problem-oriented activity in which students retrieve information from Internet resources. It should be noted that the Internet resources are very wide and unlimited. In such an environment, students will be able to deviate from the set topic, get various unnecessary information and spend a lot of time on the process of obtaining information. However, the formation process of information competence is not only about obtaining and storing information, but it is also evaluated by the formation of the skills of reading, understanding, understanding and creative processing, practical use of this information.

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*Soatov U.A.
dotsent, f-m.f.n.
Jizzax politexnika institute*

MUHAMMAD XORAZMIYNING ALGEBRAIK ASARI “AL-KITOB AL-MUXTASAR FI AL-JABR VA AL-MUQOBALA” HAQIDA

*Annotatsiya. Ushbu maqolada Muhammad ibn Muso al-Xorazmiyning “Al-kitob al-muxtasar fi al-jabr va al-muqobala” nomli algebraik asari va uning bo‘lim-laring mazmun-mohiyati o‘rganilgan hamda XX-asrgacha madrasada matematika-ni o‘qitishda asosiy manbalardan biri bo‘lganligi ochib
brilgan.*

Kalit so‘zlar: Al-Xorazmiy, algebra, algebraik asar, al-jabr, al-muqobala, Sharq olimlari, o‘rta asrlar, madrasa, qo‘llanma, qo‘lyozma, tenglama, algebraik usul, meros, meros taqsimlash, sodda va murakkab masalalar, ilmiy va amaliy nazariya.

*Soatov U.A., Ph.D.
associate professor
Jizzakh Polytechnic Institute*

ALGEBRAIC WORK OF MUHAMMAD KHORAZMI "AL-KITAB ABOUT AL-MUKHTASAR FI AL-JABR AND AL-MUQABALA"

Abstract. In this article, Muhammad ibn Musa al-Khorazimi's algebraic work "Al-kitab al-mukhtasar fi al-jabr wa al-muqabala" and its sections are studied, and mathematics was taught in madrasa until the 20th century. it was revealed that it was one of the main sources in teaching.

*Key words: Al-Khorazimi's, algebra, algebraic work, al-jabr, al-muqabala, Eastern scholars, middle ages, madrasah, manual, manuscript, equation, algebr-
raic method, inheritance, distribution of inheritance, simple and complex issues, scientific and practical theory.*

O‘rta asrlarda yashagan va arab tilida ilmiy asarlar yozgan mashhur matema-tik, astronom va faylasuflardan biri, buyuk olim Abu Abdulloh Muhammad ibn Muso al-Xorazmiy (783-850 yy.) asarlarining soni hozirgacha ma‘lum bo‘lmasa-da, uning fan tarixida muhim o‘rin tutgan arifmetika, algebra, astronomiya va geografiyadan yozgan 5 ta asari bizgacha yetib kelgan. U xalifa al-Ma‘mun davrida (813-833 yy.) “Al-kitob al-muxtasar fi al-jabr va al-muqobala”, “Zij” va “Hisob al-Hind” nomli asarlarini yozadi. Xalifa al-Mu‘tasim davrida (833-842 yy.) esa “Suratul arz” va xalifa al-Vosiq davrida (842-847 yy.) yahudiylar kalendari haqidagi risolasini yozadi. Bu asarlar dastlab arab tilida yozilgan bo‘lib, so‘ngra lotin tiliga bir necha marta tarjima

qilinadi. Xorazmiyning bu asarlari bir necha asrlar davomida o'sha zamon olimlari va keyingi davr olimlari uchun ham asosiy qo'llanma bo'lib xizmat qiladi [4-5].

Xorazmiyning matematika taraqqiyotida da muhim o'rin tutgan algebraga doir "Al-kitob al-muxtasar fi al-jabr va al-muqobala" nomli asarini yaratadi. U bu asari bilan algebraga asos soladi va algebrani alohida fan darajasiga ko'taradi.

Xorazmiy algebraik asarining 1145 yilda arab tiliga ko'chirilgan nusxasi Oksford universitetining Bodlyan kutubxonasida saqlanadi. Shu qo'lyozmadan Ispaniyaning Segoviya shahrida Robert Chesterlik (XII asr) va Gerardo Kremonalik (1114-1187) lar lotin tiliga tarjima qiladilar. Keyingi yillarda lotin tilidagi tarjimadan F. Rozen (1831 y.), A.Ch. Karpinskiy (1915 y.) ingliz tiliga, G.Lori fransuz tiliga tarjima qilgan tarjimalar nashr etildi. Bundan tashqari, bu asar Evropa tillariga sharhi bilan tarjima qilinib, uning asosida qo'lyozma yoki konspekt tariqasi-da asarlar yoziladi va o'rganiladi.

Taniqli matematik olim B.A. Rozenfeldning arab tilidagi qo'lyozmaning fotonusxasidan rus tiliga qilgan tarjimasi, Xorazmiyning arifmetik asari bilan birgalikda, 1961 yilda Toshkentda "Fan" nashriyotida "Matematik risolalar" ("Matematcheskiye traktaty") nomi bilan bosilib chiqdi [6]. Xorazmiyning algebraik asaridan keyin Sharqda algebra fani keng taraqqiy etadi. Masalan, X-XI asrlarda Forobiyning shogirdi Abul Vafo Xorazmiyning algebrasini to'ldirib, yangi usullar kiritish bilan alohida asarlar yozadi. Umar Xayyom esa Xorazmiy asarini taraqqiy ettirib, o'zining algebraga doir asarida uchinchi darajali tenglamalarning tasnifini va ularning geometrik yechish usulini bayon etadi. Sharq olimlari Xorazmiy algebrasini taraqqiy ettirish va rivojlantirish bilan matematikaga o'z hissalarini qo'shadilar va natijada Sharqda algebra bir xil sistemada bayon etiladigan matematik fan sifatida shkllanib takomillashadi.

Xorazmiyning algebraik asari, asosan uch bo'limdan iborat bo'lib, birinchi bo'limda al-jabr va al-muqobala (tiklash va qarama-qarshi qo'yish) yordamida birinchi va ikkinchi darajali bir noma'lumli tenglamalarni yechish, ratsional va irratsional ifodalar bilan amallar bajarish hamda tenglama yordamida sonli masalalarni yechish yo'llari beriladi. Ikkinchi bo'lim geometriyaga tegishli bo'lib, bunda miqdorlarni o'lchash va o'lchashga doir masalalarga algebraning ba'zi bir tatbiqlari ko'rsatiladi. Uchinchi bo'limda algebraning amaliy tatbiqi, ya'ni meros bo'lishga doir masalalar beriladi. Buyuk matematik olim Muxammad Xorazmiy algebraik asarining kirish qismida fan taraqqiyotida o'tmishdagi olimlarning qo'shgan hissasi va xalifa al-Ma'mun ilm-fanga katta e'tibor berganligini uqtirib, o'z asarining ahamiyatini aytib o'tadi, uning al-jabr va al-muqobala haqidagi qisqacha kitobi arifmetikaning sodda hamda murakkab masalalarini o'z ichiga olganligi, ular meros ulashish, vasiyatnoma tuzish, mol-dunyo taqsimlash uchun, sud hamda savdo ishlarida, yer o'lchashlarida, kanallar o'tkazish va yuz o'lchashlarda zarurligini ta'kidlaydi.

Haqiqatan, Xorazmiy asari, o'z mazmuni bilan nazariyaning elementlarini o'z ichiga olgan amaliy matematikaning bir qismidir. Olim asarining "Vasiyat haqida maqola" deb atalgan oxirgi qismida islom huquqi normalariga qarab, merosxo'rlar o'rtasida mulk taqsimlash haqida turlicha mazmunda 60 dan ortiq murakkab masalalarni tenglama yordamida yechish yo'llarini ko'rsatadi. Xorazmiydan keyingi davrlarda yozilgan o'rta asr Sharq olimlarining matematika-ga doir asarlarida va XX – asrgacha madrasada o'qitiladigan darsliklarda "Meros taqsimlash" bo'limiga katta o'rin beriladi. Xorazmiy algebraik asarining asosiy maqsadi musulmon huquqi normalriga qarab, merosxo'rlar o'rtasida mulkni taqsimlash masalasini nazariy va amaliy jihatdan yoritishga qaratilgan. Bu masalani sof arifmetik usulda hal qilish qiyin bo'lganligi sababli u ob'ektiv ravishda algebraik usulni qo'llaydi va algebraning asosiy bo'limi – tenglamalarni meros taqsimlashga mohirlik bilan tatbiq qiladi. Garchi Xorazmiydan avval meros taqsimlash masalasi bilan qadimiy Bobil, Misr va Yunonistonliklar shug'ullangan bo'lsalar-da, Xorazmiy bu masalani musulmon huquqi normalari asosida meros taqsim qilishning nazariy va amaliy asoslarini birinchi bo'lib ko'rsatadi. Shuning uchun Xorazmiyni meros taqsim qilish nazariysi va amaliyotiga asos soluvchi deyish mumkin. Xorazmiydan keyingi davrlarda o'rta asr Sharq olimlari Karxiy, Nasaviy, Abu Komil, Sirojiddin Sijovandiy, Tusi, Jamshid Koshiy va boshqalar algebrani taraqqiy ettirish bilan meros taqsim qilish bo'limining ilmiy va amaliy nazariyasini boyitdilar. Masalan, XII-asrda yashagan matematik va huquqshunos Sirojiddin Sijovandiyning algeb-raga doir asarlarida va 1203 yilda alohida yozilgan "Sirojiddinning vorislar huqu-q" ("Al-vosiqa Sirojiya") nomli asarida meros taqsim qilishning umumiy ilmiy va amaliy nazariyasi beriladi. Sijovandiydan keyin mutaxassislar uning bu asarini Sharq va G'arb tillariga sharhi bilan tarjima qiladilar va bu asar uzoq vaqt islom mamlakatlarida asosiy qo'llanma vazifasini bajarib keldi.

XX-asrgacha madrasalarda matematika o'qitishdan asosiy maqsad matema-tikaning amaliyotga tatbiqi, xususan, meros taqsim qilishning ilmiy va amaliy nazariyasini biluvchi mutaxassislar tayyorlashdan iborat edi. Bunday mutaxassis "faroyiziyun" ("Meros bo'luvchi" ma'noda) nomi bilan atalib, u madrasani bitir-gandan so'ng mahalliy sud idoradalarida meros taqsim qilish masalasi bilan shu-g'ullanardi.

Xulosa. Yuqorida aytilganlardan shunday xulosaga kelish mumkinki, o'rta asrlardan XX-asrgacha islom mamlakatlarida meros taqsim qilishning ilmiy va amaliy nazariyasi matematika va uni o'qitish usulini taraqqiy ettirishning asosiy stimullaridan biri bo'lgan, Shuningdek, Xorazmiyning arifmetika, algebra va geometriyaga doir asari kundalik amaliy maqsadlarga moslab tuzilgan, nazariy elementlarni o'z ichiga olgan amaliy elementar matematikadan iborat.

Buyk mutafakkir, matematik olim, faylasuv, astronom, geograf hamda algebra fanining asoschisi Muso al Xorazmiy va uning fan va insoniyat

sivilizatsiyasiga qo'shgan hissalar haqida [1-3] va boshqa ishlarda batafsil ma'lumotlar keltirilgan. Masalan, algebraning ilm maydoniga kirib kelishi natijasida musulmonlar orasidan yetishib chiqqan matematik olimlar o'z salohiyatlarini turli xil tenglamalarni faqat-gina algebraik nuqtai nazardan yechishga sarf eta boshladilar. Borlig'imizni qamrab turuvchi har qanday texnologiyalar uchun asos sifatida xizmat qiladigan fan nomidagi "Algoritm" atamasi esa aynan olimning Al-Xorazmiy ismidan olingan.

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Soatov U.A.
dotsent, f-m.f.n.
Jizzax politexnika institute

FAN OLIMPIADALARI - SINFDAN VA MAKTABDAN TASHQARI ISHLARNING ENG SAMARALI SHAKLLARIDAN BIRI

Annotatsiya. Ushbu maqolada umumiy o'rta ta'lim maktablarida matemati-kaga layoqatli bolalar bilan shug'ullanishda fan to'garaklarini, fan olimpiadalarini tashkil etish va o'quvchilarni matematik olimpiadalarga tayyorlashda foydalanila-digan masalalar qaralgan.

Kalit so'zlar: matematik olimpiada, fan to'garagi, mustaqil fikrlash, ijodkorlik, qiziqarli va original masala, sodda va mantiqiy masala, ten lama, tengsizlik, mantiqiy fikrlash.

Soatov U.A., Ph.D.
associate professor
Jizzakh Polytechnic Institute

SCIENCE OLYMPIADS ARE ONE OF THE MOST EFFECTIVE FORMS OF OUTSIDE THE CLASSROOM AND SCHOOL

Abstract. This article deals with the issues of organizing science clubs, science olympiads and preparing students for mathematical olympiads in dealing with mathematically gifted children in secondary schools.

Key words: mathematical Olympiad, science club, independent thinking, creativity, interesting and original problem, simple and logical problem, ten lama, inequality, logical thinking.

O'zbekiston Respublikasi rivojlangan mamlakatlar darajasiga va mavqeiga intilib borar ekan, uning istiqboli bugungi avlodning har tamonlama bilimdon, ma'naviy va jismoniy jihatdan barkamol insonlar bo'lib yetishishlariga bog'liqdir. Eng avvalo yosh avlodning ilmiy, dunyoviy bilimlar asoslarini puxta egallashi, ularda keng dunyoqarash hamda tafakkur ko'lamining hosil bo'lishi uchun ta'lim-tarbiya ishlarining samarali tashkil etilishiga erishish har bir o'qituvchining asosiy vazifasidir.

Umumiy o'rta ta'lim jarayonida puxta matematik bilimlar yosh avlod vakil-larini keng dunyoqarashli shaxslar qilib tarbiyalashda yetakchi ahamiyatga ega. Matematikaga layoqatli bolalar bilan shug'ullanishni boshlang'ich sinflardan boshlash va maktab ta'limining keyingi bosqichlarida muntazam davom ettirish juda foydalidir. Matematika mantiqiy fan bo'lganligi uchun yosh bolalarning mantiqiy fikrlash omilini kuchaytiradi, ongini tez rivojlantiradi va fizika, texnika fanlarini oson o'zlashtirishga poydevor yaratadi.

Maktab davrida sinfdan va maktabdan tashqari ishlarning eng samarali shakllaridan biri **fan olimpiadalari** bo'lib, ular bolaning rivojlanishida muhim o'rin tutadi va bu jarayonda paydo bo'ladigan imkoniyatlar o'quvchilarga rivojlan-tiruvchi ta'sir ko'rsatadi. Aynan shu paytda bolalarning mustaqil fikrlashlari va ijodkorliklari namoyon bo'ladi, bu ijodkorliklar juda kichik hajmda bo'lsada kelgusida ularda fanga qiziqish o'sadi. Bunda matematikaga iqtidori baland o'quv-chilarni topish, tanlash, matematiklarning yosh avlodini tarbiyalash olimlarimiz-ning, fidoiy o'qituvchilarimizning muqaddas burchi hisoblanadi va bu xayrli ishda matematik olimpiadalar muhim ahamiyatga ega.

Matematika bilan shug'ullanish masalalar yechish demakkim, bu esa o'ziga xos fikrlashni, mustaqil fikr yurita bilishni talab etadi. Matematik olimpiadadan ko'zda tutilgan maqsadlardan biri ham o'quvchilarni mustaqil fikrlashga o'rgatish-dir. Olimpiadalarga qatnashayotgan hozirgi o'quvchilar orasidan kelajakda, boshqa fanlar qatori taniqli matematiklar yetishib chiqishi shubhasiz.

O'quvchilarni ko'p bosqichli matematik olimpiadalarga tayyorlab borish fan o'qituvchisidan bilim va malakalarni talab etishi bilan birga kuchli e'tibor va mehnatni ham talab qiladi. Shunday ekan o'quvchilarni matematik olimpiadalarga tayyorlashda **maktab fan to'garagi** mashg'ulotlariga matematikaga o'ta qiziquv-chan o'quvchilarni jalb qilib, ularning yoshiga mos, bilimlarini kengaytiradigan va chuqurlashtiradigan original, sodda, qiziqarli va mantiqiy mashqlar, masalalar hamda test topshiriqlaridan foydalanish, ularni yechish usullarini o'rgatish zarur. Keyingi bosqichlarda esa fan olimpiadalarida berilgan masala va topshiriqlarni yechish usullarini o'rgatib borish samarali bo'ladi. [1-2]

Matematika fan olimpiadalari tarixiga e'tibor beradigan bo'lsak, maktab o'quvchilarining 1-shahar matematik olimpiadasi 1934 yilda Leningrad (Sankt-Peterburg) da o'tkazildi. Unga professor B.N.Delone boshchilik qilgan, keyingi yilda Moskvada ham shahar olimpiadasi bo'lib o'tdi. Mashhur matematik olimlar-dan A.N. Kolmogorov, S.L.Sobolev, L.A.Lyusternik olimpiada tashkiliy qo'mitasi a'zolari bo'lishgan, P.S.Aleksandrov qo'mita raisi bo'lgan edi.

Respublikamizda dastlabki matematik olimpiada Toshkent shahrida 1935 yilda o'tkazilgan bo'lib, u shahar olimpiadasi edi. 1935-37 yillarda bu olimpiada-larni o'tkazishga mashhur olim, профессор V.I.Romanovskiy (1879-1954) bosh-chilik qilgan. Ammo matematik olimpiadalar shahar miqyosida bo'lib, turli sabab-larga ko'ra har yili o'kazilmagan.

O'zbekistonda maktab o'quvchilarining matematikadan respublika fan olim-piadasini 1962 yildan boshlab o'tkazilib kelinmoqda. I–olimpiada 1962 yilning mart oyi oxirida (o'quvchilarning bahorgi ta'tili davrida) Toshkentda 110-maktab binosida o'tkazildi. Matematika fani rivojiga ulkan hissa qo'shgan mashhur olim Sa'di Hasanovich Sirojiddinov hay'at raisi edilar. U kishi respublika matematik olimpiadasining yo'lga qo'yilishiga, "olimpiada harakati"ning rivojiga katta hissa qo'shdilar. Hozirgi davrda fan olimpiadalari 4

ta bosqichdan iborat: maktab, tuman, viloyat va respublika bosqichlari bo'lib, har yili o'tkaziladi.

O'quvchilarni matematik olimpiadalarga tayyorlashga doir sodda va qiziqarli masalalardan namunalar [3-5].

a) Hisoblashga doir mashqlar.

1. Hisoblang: 1) $\frac{5}{6} + 6\frac{5}{6} \cdot (11\frac{94}{1591} - 6\frac{38}{1517}) : 8\frac{11}{43}$, (Javob: 5.

Ko'rsatma: $1591=37 \cdot 43$ va $1517=37 \cdot 41$).

2) $1\frac{1}{6} + 6\frac{5}{6} \cdot (10\frac{133}{2173} - 5\frac{23}{1643}) : 1\frac{12}{31}$, (Ж:2. Ko'rsatma: $2173=53 \cdot 41$ va $1643=31 \cdot 53$).

2. Natijani tez toping: 1) $\frac{5932 \cdot 6001 - 69}{5932 + 5931 \cdot 6001}$. Yechish: $\frac{5932 \cdot 6001 - 69}{5932 + 5931 \cdot 6001} = 1$

chunki $5932 \cdot 6001 - 69 = 5931 \cdot 6001 + 6001 - 69 = 5931 \cdot 6001 + 5932$.

3. Tenglamani yeching. $2 \cdot (0,2 - 0,02 : (0,002 + 0,0002 \cdot x)) = 0,3$.

Yechish. $2 \cdot (0,2 - 0,02 : (0,002 + 0,0002 \cdot x)) = 0,3$ yoki

$0,4 - 0,04 : (0,002 + 0,0002x) = 0,3$, $y = 0,002 + 0,0002x$ belgilash olinsa, $-0,04 : y = -0,1$. Bundan $y = 0,04 : 0,1 = 0,4$; $y = 0,4$.

$0,002 + 0,0002x = 0,4$. U holda $x = 0,398 : 0,0002 = 1990$, $x = 1990$.

b) Masalalar yechish:

1-masala. A va B shaharlardan bir – biriga qarab ikki mashina jo'nashdi: A dan "Nexsiya" ertalab soat 7:20 da va B shahardan "Damas" ertalab soat 7:00 da. Agar "Nexsiya" A dan B gacha bo'lgan butun yo'lni 2 soat-u 42 minutda, "Damas" 3 soat-u 36 minutda bosib o'tsa, u holda mashinalar qaysi vaqtda uchrashishgan?

Yechish: 1) "Nexsiya" 1 soatda A dan B gacha yo'lning $1 : 2\frac{7}{10} = \frac{10}{27}$ qismini o'tadi; 2) "Damas" 1 soatda A dan B gacha yo'lning $1 : 3\frac{3}{5} = \frac{5}{18}$ qismini o'tadi; 3) Ikkalasi birgalikda 1 soatda A dan B gacha yo'lning $\frac{10}{27} + \frac{5}{18} = \frac{35}{54}$ qismini o'tadi; 4) "Damas" A dan B gacha yo'lning $\frac{5}{18} \cdot \frac{1}{3} = \frac{5}{54}$ qismini 20 minutda o'tadi; 5) Butun yo'lning $1 - \frac{1}{54} = \frac{49}{54}$ qismini ikkala mashina ham soat 7.20 dan to uchrashish momentigacha o'tishdi; 6) $\frac{49}{54} : \frac{35}{54} = 1,4$ soat. "Nexsiya" yo'lga chiqqandan 1,4 soat keyin mashinalar uchrashishdi, ya'ni soat 8:44 da.)

3-masala. a^2 , b^2 va c^2 sonlari arifmetik progressiya tashkil qilsa, $1/(b+c)$, $1/(a+c)$ va $1/(a+b)$ sonlari ham arifmetik progressiya tashkil qilishini isbotlang.

Yechish. $b^2 - a^2 = c^2 - b^2 = d$, $b^2 - a^2 = d$ va $c^2 - b^2 = d$ tengliklarni hadlab qo'shsak, $c^2 - a^2 = 2d$ ga ega bo'lamiz. Faraz qilaylik, $A_1 = \frac{1}{c+a} - \frac{1}{b+c}$ va $A_2 =$

$\frac{1}{a+b} - \frac{1}{c+a}$ bo'lsin. $A_1=A_2$ ekanligini ko'rsatamiz. Agar $d=0$ bo'lsa, $a^2=b^2=c^2=0$ va bundan $a=b=c$ bo'ladi. U holda $A_1=A_2$. Shuning uchun $d \neq 0$ deb faraz qilamiz. Bu holda

$$A_1 = \frac{c-a}{c^2-a^2} - \frac{c-b}{d} = \frac{c-a}{2d} + \frac{b-c}{d} = \frac{2b-a-c}{2d} \text{ va}$$

$$A_2 = \frac{a-b}{a^2-b^2} - \frac{c-a}{c^2-a^2} = \frac{a-b}{-d} - \frac{c-a}{2d} = \frac{2b-a-c}{2d}. \text{ Demak, } A_1 = A_2.$$

4-masala. Uch xonali sonning o'nliklari soni yuzliklar va birliklar sonining

o'rta geometriga tengligini bilgan holda uni toping. Agar uning yozuvida yuzliklar va birliklar raqamlarining o'rnini almashtirilsa va hosil qilingan yangi son izlana-yotgan sondan ayrilsa, ayirma 297 ga teng bo'ladi.

Yechish: Uch xonali son a_1, a_2, a_3 bo'lsin. U holda masala shartiga ko'ra

$$\begin{cases} 1 \leq a_1 \leq 9 \\ 0 \leq a_2, a_3 \leq 9 \\ a_2^2 = a_1 \cdot a_3 \\ 100a_1 + 10a_2 + a_3 = [100a_3 + 10a_2 + a_1] = 297 \end{cases} \Rightarrow \begin{cases} 1 \leq a_1 \leq 9 \\ 0 \leq a_2, a_3 \leq 9 \\ a_2^2 = a_1 \cdot a_3 \\ a_1 = 3 + a_3 \end{cases} \Rightarrow$$

$a_3 = 0, 1, 2, \dots, 9$ dan va $a_1 = 4$ va $a_2^2 = 1 \cdot 4 = 4, a_2 = 2$ bo'ladi.
 $a_1 = a_3 = 1$

$$\begin{cases} a_3 = 1 \\ a_1 = 3 + a_3 = 4 \\ a_2^2 = 1 \cdot 4 \end{cases} \Rightarrow \begin{cases} a_3 = 1 \\ a_1 = 4 \\ a_2 = 2 \end{cases}. \text{ Demak, izlanayotgan son } 421 \text{ ga teng.}$$

c) Soddashtiring: $\left(\frac{1+\sqrt{1-x}}{1-x+\sqrt{1-x}} - \frac{1-\sqrt{1+x}}{1+x-\sqrt{1+x}} \right)^2 \cdot \frac{x^2-1}{2} + \sqrt{1-x^2}.$

$$\begin{aligned} \text{Yechish: } & \left(\frac{1+\sqrt{1-x}}{1-x+\sqrt{1-x}} - \frac{1-\sqrt{1+x}}{1+x-\sqrt{1+x}} \right)^2 \cdot \frac{x^2-1}{2} + \sqrt{1-x^2} = \left(\frac{1+\sqrt{1-x}}{\sqrt{1-x}(\sqrt{1-x}+1)} - \right. \\ & \left. - \frac{1-\sqrt{1+x}}{(\sqrt{1+x}(\sqrt{1+x}-1))} \right)^2 \cdot \frac{x^2-1}{2} + \sqrt{1-x^2} = \left(\frac{1}{\sqrt{1-x}} + \frac{1}{\sqrt{1+x}} \right)^2 \cdot \frac{x^2-1}{2} + \sqrt{1-x^2} = \\ & \left(\frac{1}{1-x} + \frac{2}{\sqrt{1-x}\sqrt{1+x}} + \frac{1}{1+x} \right) \frac{x^2-1}{2} + \sqrt{1-x^2} = \frac{1+x+2\sqrt{1-x^2}+1-x}{1-x^2} \cdot \frac{1-x^2}{2} + \sqrt{1-x^2} = \\ & = \frac{-2-2\sqrt{1-x^2}}{2} + \sqrt{1-x^2} = -1 - \sqrt{1-x^2} + \sqrt{1-x^2} = -1. \end{aligned}$$

d) Tengsizlikni isbotlang: $\frac{a+b+c+d}{4} \geq \sqrt[4]{abcd}.$

Isbot: Ma'lumki, $\frac{a+b}{2} \geq \sqrt{ab}.$ Bu tengsizliklardan foydalanib,

$$\frac{a+b+c+d}{4} \geq \sqrt[4]{abcd} \text{ ni yechamiz: } \frac{\frac{a+b}{2} + \frac{c+d}{2}}{2} \geq \sqrt{\frac{a+b}{2} \frac{c+d}{2}}. \text{ Bundan } \frac{a+b}{2} \geq \sqrt{ab},$$

$$\frac{c+d}{2} \geq \sqrt{cd} \quad \text{tengsizliklarga} \quad \text{ko'ra}$$

$$\frac{\frac{a+b}{2} + \frac{c+d}{2}}{2} \geq \sqrt{\sqrt{ab}\sqrt{cd}} \Rightarrow \frac{a+b+c+d}{2} \geq \sqrt{\sqrt{abcd}} = \sqrt[4]{abcd} \Leftrightarrow \frac{a+b+c+d}{4} \geq \sqrt[4]{abcd}.$$

Agar $a=b=c=d=0$ bo'lsa, $\frac{a+b+c+d}{4} = \sqrt[4]{abcd}$ tenglik bajariladi.

Xulosa. Sir emaski matematika juda keng qamrovli fan. Uning keng tatbiq-lari deyarli barcha fanlarda uchraydi. Matematik formulalar, qonuniyatlar va xulo-salar hayotdagi barcha masalalarni yechishga yordam beradi. O'quvchilar olim-piada masalalarini mustaqil ishlash jarayonida ularni yangicha usullarda yechishni o'rganadi. O'ylash, fikr qilish jarayonining xususiyati shuki, u qandaydir masalani to'g'ri yechishga qaratilgan bo'ladi. Garchi o'quvchilarning har qanday masala-muammoni mustaqil yechishlari barcha bilimlarni safarbar etishni taqozo qilsa ham, bunda ularning mulohazakorligi, topqirligi, tasavvuri, fikrlashdagi betakror-ligi muhim rol o'ynaydi. Maktabda o'quvchilarni matematik olimpiadalarga tay-yorlab borish orqali biz ularning boshqa fanlarni tez o'zlashtira olishlariga imkon yaratamiz. [6-11] ishlarda ham mavzuga oid bir qancha masalalar o'rganilgan.

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Suyarov A.O.
assistant
Jizzax politexnika instituti
G`aniyev A.
talaba
Jizzax politexnika institute
Vahobjonov H.
talaba
Jizzax politexnika institute

QUYOSH ELEMENTLARI ISHLASH PRINSIPLARI

Annotatsiya. Ushbu maqolada quyosh element larining ishlash prinsiplari va ularda kechadigan jarayonlar, quyosh elementlarini tayyorlanadigan materiallar ko`rib chiqilgan va tahlil qilingan.

Kalit so`zlar: quyosh elementlari, quyosh, nur, quyosh doyimiyliigi.

Suyarov A.O.
assistant
Jizzakh Polytechnic Institute
Ganiev A.
student
Jizzakh Polytechnic Institute
Vahobjonov H.
student
Jizzakh Polytechnic Institute

PRINCIPLES OF OPERATION OF SOLAR ELEMENTS

Abstract. In this article, the working principles of solar cells and their processes, the materials used to make solar cells are considered and analyzed.

Key words: solar elements, sun, light, solar permanence.

Quyoshni gigant termoyadro reaktoriga qiyoslash mumkin. U mutlaq qora qattik jismga o'xshab 6000°S haroratda energiyasini nurlantiradi. Bu nurlanishning manbai termoyadro reaksiyasidir. Har soniyada taqriban $6 \cdot 10^{11}$ kg vodorod quyosh qa'rida geliyga aylanadi. Natijada massalar defekti $4 \cdot 10^3$ kg teng bulib, $E=mc^2$ tenglamaga asosan ajralib chiqayotgan energiya $4 \cdot 10^{20}$ joulga tengdir. Ajralib chiqayotgan energiya asosan elektromagnit to'lqinlar ko'rinishida bulib nurlanishning asosiy qismi 0,2-3 mkm oralikdadir. Quyoshning to'liq massasi hozirgi kunda taqriban $2 \cdot 10^{30}$ kg bo'lib, u uzluksiz 10 mlrd. yil davomida turishi mumkin.

Yer quyosh atrofida elliptik orbitada harakatlanadi. Quyoshning diametri taqriban $1,39 \cdot 10^9$ metr ga teng. Bir astronomik birlikka teng masofadagi ($1 \text{ a.b.} = 1,496 \cdot 10^{11} \text{ m}$, taqriban 150 mln.km) quyosh nurlariga perpendikulyar joylashgan yuzadagi energetik yoritilganlik, Quyosh doimiyligi (q.d.) deyiladi. Quyosh doimiysi kattaligi 1353 Vt/m^2 ga teng. Yil davomida Yer-Quyosh orasidagi masofa o'zgarishi q.d.ni 0,34 gacha o'zgarishiga olib kelishi mumkin.

Biz yer sirti albedosi hakida ham qisqacha ma'lumot berib o'tamiz. Uning sirtini o'rab turuvchi atrof muhitdan qaytgan nurlanish oqimining, unga tushayotgan oqimning nisbatiga aytiladi. Sirtidan diffuz qaytish uchun hisoblangan yer albedosining o'rtacha qiymati 0,34 ga teng [1,2].

Yer atmosfera massasi 1 ga teng deb olinsa, qaytgan nurning spektri yer sirtidagi quyosh nurlanishi spektriga aynan o'xshash deb hisoblanadi.

Yer atmosferasi o'zining optik xususiyatlariga asosan selektiv yorug'lik filtri bo'lib, koinotdan kelayotgan quyosh nurlanishini o'zgartiradi. Agar nurlanish oqimi atmosferadan o'tib yer sirtiga tik tushsa, u holda nurlanish bosib o'tgan optik masofa bir atmosfera massasiga teng deb hisoblanadi va AM1 bilan belgilanadi. Qiya tushayotgan nurlarning optik masofasi uzunligini ularning AM1 optik masofa kattaligiga qiyoslab aniqlash mumkin. Agar nurlanish oqimi atmosfera ta'sirida o'zgarmasa, uning optik atmosfera massasi nolga teng bo'lib, u AM0 deb belgilanadi[1].

To'g'ridan - to'g'ri tushayotgan Quyosh nurlanishi oqimining dengiz sathida qoq tush paytida ochiq havoda yer sirtidagi energetik yoritilganligi $\approx 100 \text{ mVt/sm}^2$ teng deb hisoblanadi.

Insolyatsiya deb, ma'lum geografik hududda Yer sirtiga tushayotgan Quyosh nurlanishining miqdoriga aytiladi. Insolyatsiya, Yer-Quyosh tizimida masofaning mavsumiy tebranishlariga, geografik kenglikka, hududning muhitiga va atmosfera massasiga bog'likdir. Insolyatsiyani odatda quyosh nurlanishining kunlik, oylik, yillik o'rtacha miqdori bilan ko'rsatiladi. Quyoshdan tushayotgan yorug'lik yarimo'tkazgichga tushganda uning xususiyatlarining o'zgarishini kuzatamiz[1]. Bu yarimo'tkazgichlar o'zi qanday moddalar?

Agar moddaning valent sohasi to'laligicha egallanmagan bo'lsayu, ammo o'tkazuvchanlik sohasigacha bo'lgan energetik masofa nisbatan kichik (2 eV dan kamroq) bo'lsa, bunday moddalar yarimo'tkazgich deyiladi. Yarimo'tkazgich xususiyatlari xususan elektr o'tkazuvchanligi tashqi muhitga, ayniqsa haroratga bog'liq bo'ladi. Harorat (T) ning ortishi elektronlar miqdorining valent va o'tkazuvchanlik soha orasida joylashgan man qilingan sohadan (E_g) o'tib o'tkazuvchanlik sohasiga o'tishda tok tashuvchilarning eksponentsial ravishda ko'payishiga va elektr o'tkazuvchanlikning (σ)

$$\sigma = A \exp(-E_g/2kT) \quad (1)$$

tenglamaga asosan o'zgarishiga olib keladi. Bu erda k – Boltsman doimiyligi, A – moddani xarakterlovchi o'zgarmas kattalik[3-4].

Metallarning elektr o'tkazuvchanligi erkin elektronlar konsentratsiyasi o'zgarmas bo'lganligi tufayli elektronlar harakatchanligining haroratga

bog'liqligi bilan aniqlanadi va haroratning ortishi bilan asta-sekin kamayadi. Yuqoridagi tenglamani logariflab quyidagi holda ifoda etamiz.

$$\ln \sigma = \ln A - E/2kT \quad (2)$$

Bu tenglamani yarim logarifmik koordinatalarda grafik ravishda ko'rsatish mumkin va hosil bo'lgan to'g'ri chiziq va uning ϕ burchakli tangensi yarimo'tkazgich materiallarning asosiy parametri bo'lgan, man qilingan soha kengligi bo'lgan $E_g = 2kT\phi$ ni aniqlaydi. Ta'kidlash lozimki, qiya to'g'ri chiziq, ya'ni elektr o'tkazuvchanlikning logarifmi $1/T$ dan o'zgarishi faqat toza kirishmalardan holi, xususi o'tkazuvchanlikka ega bo'lgan materiallar uchungina shunday ko'rinishga ega [2].

Kirishmali yarim o'tkazgichlarda $\ln G$ ning $1/T$ dan boglanishi murakkab bo'lib, u ikkita qiya to'g'ri chiziqdan iborat bo'lishi mumkin va bir-biri bilan gorizontali qism orqali tutashgan bo'ladi. Past haroratli sharoitda o'lchash natijasida olingan $\ln \sigma = \ln A - E/2kT$ tenglamadan hosil qilingan qiya to'g'ri chiziq tangensi yordamida kirishmalarning man qilingan sohada joylashgan energetik sathlari holatini aniqlash mumkin. Yuqori haroratli sharoitda olingan hollarda esa yarimo'tkazgich materialning man qilingan sohasi kattaligini, ya'ni Y_{eg} ni aniqlash mumkin.

QE tayyorlashda Quyosh nurlanishining yarimo'tkazgich material bilan o'zaro ta'siri, fotonlar energiyasi materialdagi elektronlarda yutilishi va chiqishi jarayonlari muhim ahamiyatga egadir.

Kvant mexanikasida elementar zarrachalar, shu jumladan elektronlar ham to'lqin xossalariga ham ega deb qaraladi. Shuning uchun elementar zarrachalar harakatini o'rganishda energiya (E) va impuls (R) bilan bir qatorda, ularning to'lqin uzunliklari λ va takrorlanuvchanligi v va to'lqin vektori $K = P/h$, (h - Plank doimiyligi) ham ishlatiladi. Bu yerda $E = h v$ va $P = h/\lambda$ ga teng.

Kristallning sohali tuzilmasini $E-K$ diagrammalar bilan tasvirlash mumkin. Bu yerda energiya elektron-voltlarda (eV) to'lqin vektori K – kristalli panjara doimiyligi qismlarida ko'rsatiladi, shu bilan birga K o'qida ko'rsatkichlar yordamida kristall orientatsiyasining yo'nalishi ko'rsatiladi. $E-K$ diagrammasining ko'rinishi vositasida sohalararo o'tishlarning yarimo'tkazgich materialdagi xarakteri va jumladan o'tishning «to'g'ri» yoki «to'g'rimas»ligini aniqlash mumkin [2].

Optik yutilishni o'lchashdan aniqlangan E_g ning kattaligi, ko'pincha yarimo'tkazgich materialdagi erkin zaryad tashuvchilarning konsentratsiyasiga, haroratga va kirishmalar energetik sathlarining man qilingan sohada mavjudligiga bog'liq bo'ladi. Agar o'tkazuvchanlik sohasi tubidagi va valent sohasi ustidagi holatlar zaryad tashuvchilar bilan to'ldirilgan bo'lsa, u xolda optik o'lchashlar natijasi kirishmali yarimo'tkazgichli materiallar uchun E_g sof xususi materialga tegishli qiymatidan kattaroq bo'lishi mumkin. Agar kirishmalar hosil qilgan soha eng yaqin ruxsat etilgan soha chegarasi bilan birlashib ketsa, masalan, ko'p miqdordagi kirishmalar kiritilganda kuzatiladigan

holat, u xolda E_g kamayadi. E_g ning bunday kamayishi asosiy yutilish chegarasiga ta'sir qiladi.

Yarimo'tkazgich materialda yutilish koeffitsienti α odatda to'ltkin energiyasining $1/\alpha$ masofada e marotaba kamayishi orqali aniqlanadi va u $N=N_0 \exp(-\alpha\ell)$ dan topiladi, bu yerda N – yarimo'tkazgich materialda ℓ chuqurlikka kirgan fotonlar oqimining zichligi, N_0 – material sirtini kesib o'tuvchi fotonlar oqimining zichligi.

Fotoelektrik effektga asoslangan yarimo'tkazgich materiallarda p-n o'tishli tuzilmalardan iborat QE da, ularga tushayotgan Quyosh nuri bevosita elektr energiyasiga aylantiradi. Shuning uchun, QE fotoqabullagich va fotoqarshiliklardan farqli ravishda tashqi kuchlanish manbaiga muhtoj emas[9]. Bu effekt yuz yildan ortiq vaqt davomida selen va mis oksidining fotoelektrik xususiyatlari sifatida o'rganib kelingan, ammo ularning foydali ish koeffitsienti (F.I.K.) 0,5 % oshmagan.

Bu muammoning nisbatan faol echilishi yarimo'tkazgich materiallar elektron tuzilishining soha nazariyasi yaratilganidan keyin, materiallarni kirishmalardan tozalash va nazoratli kirishmalar kiritish texnologiyasi, hamda p-n o'tishning nazariyasi yaratilishi bilan bog'liqdir.

So'nggi 35 yil davomida energiya manbai sifatida yuqori samarali Si, GaAs, InP, CdTe va ularning qattiq qotishmalari asosida FIK 20-24 % bo'lgan QE yaratildi. Kaskadli QE larda esa FIK 30% gacha etkazildi[3].

Keng tarqalgan kremniy asosidagi QE lari konstruktsiyasi qarama-qarshi tipdagi p- va n-materialning bir-biriga yaqin tutashtirishdan hosil qilinadi. Yarimo'tkazgich material ichidagi p- va n-tip materiallar orasidagi o'tish sohasi (chegara xududi) elektron-teshik yoki p-n o'tish deyiladi. Termodinamik muvozanat holida elektron va teshiklar muvozanat holatini belgilovchi Fermi sathi materialda bir xil holda bo'lishi kerak. Bu shart p-n o'tish hududida ikkilangan zaryadli qatlam hosil qiladi va uni hajmiy zaryad qatlami deyilib, unga taaluqli elektrostatik potentsial paydo bo'ladi [3].

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Suyarov A.O.
assistant
Jizzax politexnika instituti

QAYTA TIKLANUVCHI ENERGETIKA MANBALARI FANINI O'QITISHDA ZAMONAVIY TEXNOLOGIYALARDAN FOYDALANISH

Annotatsiya. Ushbu maqolada qayta tiklanuvchi energiya manbalari va gibridd tizimlarni modellashtirishni talabalarga o'qitishda zamonaviy texnologiyalardan foydalanishning dolzarbligi tahlil qilingan.

Kalit so'zlar: qayta tiklanuvchi energiya, metodik klassifikatsiya, zamonaviy texnologiyalar, gibridd tizimlar, PV panel.

Suyarov A.O.
assistant
Jizzakh Polytechnic Institute

USE OF MODERN TECHNOLOGIES IN TEACHING THE SCIENCE OF RENEWABLE ENERGY SOURCES

Annotation. This article analyzes the relevance of using modern technologies when teaching students how to model renewable energy sources and hybrid systems.

Key words: renewable energy, methodological classification, modern technologies, hybrid systems, photovoltaic panels.

Asosan, gibridd tizimlar mustaqil (avtonom) va tarmoqqa ulangan tizimlar sifatida ikki toifaga bo'linadi. Shamol va quyosh energiyalari vaqt va mintaqaning bir-birini to'ldirishidan kelib chiqqan holda elektr energiyasini ishlab chiqarishda qo'shimcha hisoblanadi; mustaqil tizimlarda shamol turbinasi va PV tomonidan ta'minlanadigan energiya asosiy qayta tiklanadigan energiya manbalari hisoblanadi[1].

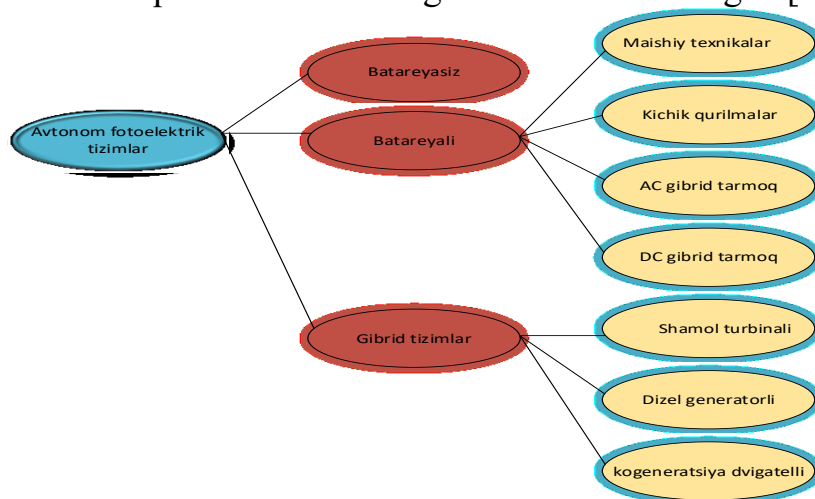
Mustaqil tizimlar olis va qishloq joylarda yuklama etkazib berishning eng istiqbolli texnologiyalari hisoblanadi. Ular yagona ishonchlilik texnologiyalaridan foydalanish bilan taqqoslaganda katta ishonchlilik, yuqori samaradorlik va arzon narxlarni ta'minlaydi.

PV va shamolning kombinatsiyasi mustaqil tizimlarda qayta tiklanadigan energiya eng keng tarqalgan manbalari bo'lganligi sababli, ushbu tadqiqotlar davomida PV va shamolni energiya avlodlari manbai sifatida akkumulyator va dizel generatorlarini o'z ichiga olgan gibridd tizimlarni optimallashtirish o'rganiladi. Qayta tiklanadigan manbalarning tarkibiy modellari quyidagi bo'limda umumlashtiriladi va keyinchalik gibridd qayta tiklanadigan energiya

tizimlarining (HRES) ishlashini bashorat qilish uchun gibridd tizimlarning manbalari va ulanishlarini tartibga solish muhokama qilinadi.

Fotoelektrik (PV) texnologiyasi va modellash. Fotoelektrik tizimlar ikkita katagoriyaga bo'linadi ya'ni tarmoqqa ulangan va mustaqil (avtonom) tizimlarga, ular masofaviy elektr ta'minoti (RAPS) tizimlari sifatida tanilgan.

1.rasmda Mustaqil PV tizimlarining tasnifini aks ettirilgan [2].



Rasm 1. Mustaqil PV tizimlarining tasnifi

Quyosh nurlarini yoki sun'iy nurni olish va uni elektr energiyasiga aylantirish bilan bog'liq barcha texnologiyalar fotovoltaik (PV) deb nomlanadi, ular kristalli, ingichka plyonka, aralash yarimo'tkazgich va nanotexnologiyalarga bo'linadi. PV texnologiyasidagi texnologik rivojlanish qishloqlarni elektrlashtirishda yanada istiqbolli va talabchan loyihalarni amalga oshirishga olib keladi[3].

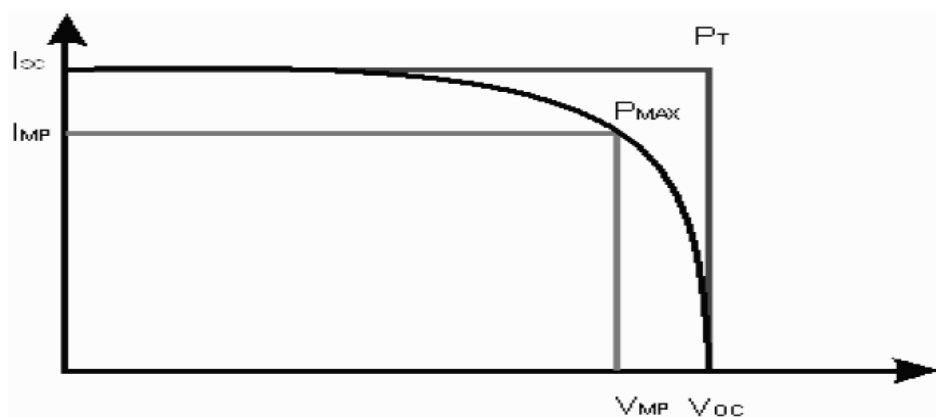
PV modellari va tenglamalari

PV ishiga, ma'lum bir joyda quyosh nurlanishining mavjudligi va PV-modul harorati ta'sir qiladi. Kristalli kremniy quyosh moduli bitta diod bilan ifodalanishi mumkin. Ushbu modelda nurlanishni rag'batlantiruvchi oqimni ifodalovchi oqim manbai, ijobiy tanqislik va Rsh qarshilik ostida ideal diodga parallel. Oqim ketma-ket qarshilikli RS orqali yuklamaga tushadi. Ushbu modelning asosiy parametrlari PV modullarining kerakli joyida, materialida va haroratida quyosh nurlanishiga ta'sir qiladigan qisqa tutashuv oqimi (I_{sc}) va ochiq tutashuv kuchlanishi (V_{oc}). PV modulining yana ikkita eng muhim elektr xarakteristikasi: Maksimal quvvat chiqishi (P_{max}) va to'ldirish koeffitsienti (FF). $P_{max} = V_{mp} \times I_{mp}$ tomonidan hisoblanadi, agar V_{mp} va I_{mp} mos ravishda maksimal nuqtada kuchlanish va oqim bo'lsa. P_{max} , shuningdek, 2-rasmda ko'rsatilgandek I-V egri chizig'iga o'rnatilgan eng katta to'rtburchak tomonidan grafik hisoblanishi mumkin. FF bir xil mos yozuvlar sharoitida turli xil quyosh modullari bilan taqqoslaganda quyosh xujayralarining sifatini o'lchaydi. FF

o'lchovsiz; u birlikka qanchalik yaqin bo'lsa, PV modulining sifati shunchalik yuqori bo'ladi. U 0,5 dan 0,82 gacha va quyidagi tenglama bilan hisoblanadi[4]:

$$FF = \frac{P_{\max}}{V_{OC} I_{SC}} = \frac{I_{\max} V_{\max}}{V_{OC} I_{SC}}$$

FF, shuningdek, 3.2-rasmda ko'rsatilgandek PV modullarining I-V egri chizig'idan grafik izohlanadi:



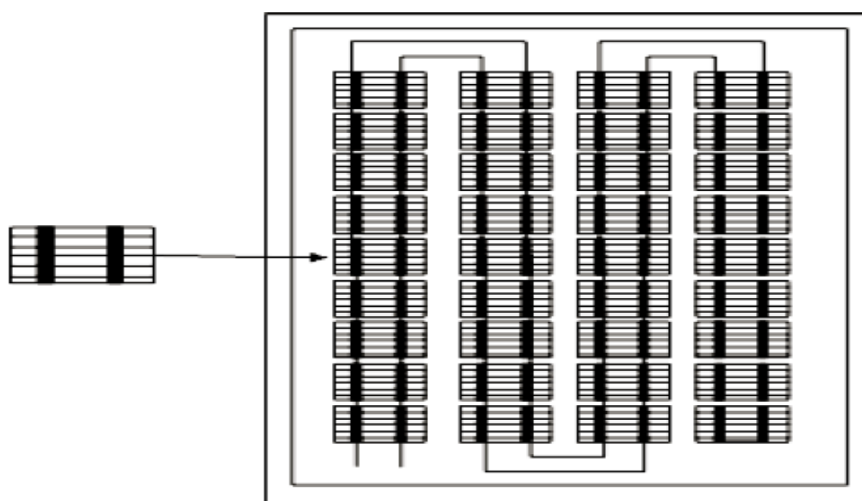
Rasm 2: I-V egri chizig'idan to'ldirish koeffitsientini (FF) hisoblash

Va nihoyat, xizmatning eng muhim ko'rsatkichi samaradorlikdir, bu quyidagilarga asoslanadi:

$$\eta = \frac{FF \times V_{OC} \times I_{SC}}{P_{in}}$$

Bu yerda η va P_{IN} mos ravishda quvvatni konvertatsiya qilish samaradorligini va kirish quvvatini anglatadi.

Ko'pgina dasturlarda kerakli chiqish kuchlanishini olish uchun odatda bir nechta katakchalarni modul hosil qilish uchun ulash mumkin (3-rasm).



Rasm 3: PV moduli

Array - oqimni oshirish uchun parallel ravishda yoki kuchlanishni kuchaytirish uchun ketma-ket ulangan bir qator PV modullaridan iborat tuzilish.

Parallel ravishda N_S modullari va N_P modullari bo'lgan PV massivining kuchi quyidagicha hisoblanadi:

$$P_A = N_P \cdot N_S \cdot P_M \cdot \eta_{MPPT} \cdot \eta_{Other}$$

η_{MPPT} bu-Maksimal quvvat nuqtasini kuzatib borish samaradorligi (masalan, 93-97%) va boshqa yo'qotishlarni ko'rsatadigan omil, ya'ni kabelning chidamliligi, akkumulyator changlari va boshqalar [5].

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Tillayev D.O.
UrDU akademik litseyi oliy toifali tarix fani o'qituvchisi

XIVA XONLIGIDA TIPOLITOGRAFIYANING OCHILISHI VA FAOLIYATI

Annotatsiya. Ushbu maqolada Turkistonda bosmaxona tashkil etilganligi va mahalliy millat vakillari orasida ham bosmaxona ishlari bo'yicha mutaxassislar ishlay boshlagani haqida ma'lumot beriladi. Xiva xoni tomonidan tipolitografiya tashkil etilganligi va uning ishga tushirilishi haqida qayd etilgan. Xiva xonligida tipolitografiyaning rivojlanishi hamda xonlik o'z madaniyati va tarixi haqida yozma manbalarni saqlashda ularga murojaat qilishgani muhim ahamiyat kasb etadi.

Kalit so'zlar: Xiva xonligi, bosmaxona, tipolitografiya, mutaxassis, litografik uskuna, madaniyat, manbaa.

Tillayev D.O.
senior history teacher
UrDU academic lyceum

THE DISCOVERY AND ACTIVITY OF TYPOLITHOGRAPHY IN THE KINGDOM OF XIV

Annotation. This article provides information about the establishment of a printing house in Turkestan and the work of specialists in printing work among the representatives of the local nation. The development of typolithography in the Khiva khanate and the fact that the khanate turned to them in the preservation of written sources about its culture and history are of great importance.

Key words: Khanate of Khiva, printing house, typolithography, specialist, lithographic equipment, culture, source.

O'lkada birinchi bosmaxonaga 1868-yilda Turkiston harbiy okrugi shtabi huzurida asos solindi. Lekin bu bosmaxona yaxshi jihozlanmaganligi tufayli faqatgina devonxona materiallari, turli blankalar va buyruqlarni bosib chiqarishga moslashgan edi. Shu sababdan 1869-yilda boshqa bosmaxona tashkil qilindi. Ushbu yangi bosmaxona nafaqat rus, balki arab harflariga ham ega bo'lib, 1870-yildan to'liq o'z faoliyatini boshlagan. Turkistonda bosmadan chiqarilgan dastlabki kitob mashhur rus sayyohi N. Seversovning qirq sahifadan iborat bo'lgan risolasi edi. O'zbek tilida bosmadan chiqqan dastlabki kitob Shohimardon Ibrohimov tomonidan tayyorlangan "Taqqim" edi. Rus matbaachilari tijoriy maqsadlarda xususiy bosmaxonalarga asos solgan edilar. Bu bosmaxonalarda rus millatiga mansub mutaxassislar bilan birgalikda tatar

millatiga mansub mutaxassislar ham mehnat qilganlar. Ular tijoriy maqsadlarda arabiy harflarda kitob bosishni ham yo'lga qo'ygan edilar. Bu masalada rus noshirlari tatar matbaachilaridan foydalandi. Ayni paytda bu matbaaga mahalliy millat vakillari ham ko'proq harf teruvchi sifatida ishga qabul qilingan. Masalan, Bazilevskiy matbaasida tatar mutaxassis harf teruvchilari - Shaxingirey Bekqulov, Abdulatif Yavushev va Ali Bektemirovlar faoliyat ko'rsatganlar. Bu odamlarning qo'lga shogird qilib erli xalq vakillari Sirojiddin Xo'jaev, Hamid Xo'jaev, Abdurahmon Xo'jaevlar olindilar. Bu shaxslar dastlabki o'zbek matbaachilaridan hisoblangan. Shu tariqa mahalliy millat vakillari orasida ham bosmaxona ishlari bo'yicha mutaxassislar shakllana boshladi.

Turkistonda bosmaxonalarning vujudga kelishi va taraqqiyotini hududlar kesimida ko'radigan bo'lsak, Xiva xonligi madaniyatni yuksaltirishga intilish O'rta Osiyoning qolgan mintaqalariga nisbatan kuchliligi, yangiliklarga nisbatan ochiqligi, o'zbek xonliklari ichida birinchi matbaaga asos solinishida buning asosiy omili edi. Xiva hukmdori Muhammad Rahimxon II farmoni bilan 1874-yili Erondan litografik uskuna olib kelindi va saroyda tipolitografiya tashkil etildi. Xon saroyida tashkil qilingan tipolitografiyani Otajon Abdalov eronlik ustozi Ibrohim Sulton rahbarligida ishga tushirdi. Ushbu bosmaxona "Podshohi zamon tipolitografiyasi" deb nomlangan bo'lib, tadqiqotlarga ko'ra, Muhammad Rahimxon II matbaani Jenevadan keltirgan ekan. Ammo bu bosmaxona tijoriy maqsadlarda qo'llanmaganligi sababli Xiva aholisiga ta'siri juda oz bo'lgan.

Xiva xoni Muhammad Rahimxon II 1896-yilgi Rossiyaga qilgan safari davomida Nijniy Novgorodda har yili tashkil etiladigan an'anaviy ko'rgazma-bozorga tashrif buyuradi. Xon ko'rgazma pavilyonlaridan birida qo'yilgan bosma uskunasi e'tibor beradi va uni barcha kerakli ashyolari bilan sotib olishga qaror qiladi. Ismoil G'asprali bergan xabarga ko'ra, Muhammad Rahimxon sotib olinajak bosmaxona uskunasi Xivadagi madrasalardan biriga vaqf qilish niyatida bo'lgan. Lekin bu bosmaxona haqida boshqa biror ma'lumot yo'q. Bu misol orqali XIX asr oxiridagi Xiva adabiy muhiti Qo'qon saroyi muhitidan yuqoriroqda ekanligi ta'kidlanadi. Ayni vaqtda, o'rta asrlar madaniy va she'riy an'analari rioya qilib, ularni davom ettirayotgan Xiva adabiy muhiti Yevropa tipidagi yangiliklardan uzoq bo'lib qolgan edi. Sababi, ta'kidlaganimizdek, Muhammad Rahimxon II an'anaviy yo'ldan borishni tanlagan edi. Shu sababdan 1910 yil Muhammad Rahimxon II dunyodan ko'z yumib, o'rniga o'g'li Isfandiyorxon (1910–1918) taxtga o'tirgandan keyin mamlakatda sharoitni yangilash maqsadida katta islohotlar amalga oshiriladi.

1883 yilda Komil Xorazmiy Muhammad Rahimxon II bilan birga Moskva, SanktPeterburg shaharlarida bo'lib, rus xalqi madaniyati va hayotini o'rganadi hamda ilg'or madaniyat, san'at namunalarini Xivada ham yo'lga qo'yish ishini xonga targ'ib qiladi. Safardan qaytgach, u Xivada rus-tuzem maktabi ochilishiga rahnamolik qildi. Xivadagi maktabda 1887 yilda 11 ta o'quvchi ta'lim olgan. 1891 yilda Komil Xorazmiy tashabbusi bilan Xivada ochilgan rus-tuzem maktabi to'g'risida "Turkiston viloyatining gazetisi" shunday

xabar bergan: "...Xiva mamlakatida Rusiya tilini o'rganmoqning boshlanishini xohlab, Rusiya tilida ta'lim beradurgon maktabxona ochib, ul maktabda o'n bola uchun joy va xarajat ta'min qilinibdur. Ushbu yil aprel oyida Turkiston viloyatidagi tamomi Rusiya madarasasi va maktabxonalarining noziri...Xivaga borib ...mazkur maktabni ko'ribdur... Xon (Feruz) andin Xivaga bir o'ris domlasi yubormoqni iltimos qilibdur. Shul sababdin Rusiya tili va ilmi hisobini o'rgatmoq uchun ushbu yil Toshkand shahrida Uchitelskaya seminariyani juda yaxshi xatm qilg'on qozoq musulmon Xusayn Ibrohim o'g'lini maktabxonaga domlalikka tayinlabdur". Bu esa Xiva an'anaviy muhiti uchun, kichik bo'lsa-da, islohot edi. Ya'ni, o'z vaqtida Feruzga she'riy kechalar o'tkazib ovunishni maslahat bergan Komil Xorazmiy qarashlarida yangiliklar sari o'zgarishlar yuz beradi: u Rossiya safaridan keyin maorif sohasida modernizatsiyaga intila boshlaydi.1892 yili Komil Xorazmiy Toshkentga keladi va tipolitografiya, teatr, gimnaziya va maktablar, kasalxonalar, gazetalar muharriyati ishi bilan tanishadi. O'rta asr an'analari ichida yashayotgan Xiva saroyi muhitidan Toshkentga kelgan shoir o'z yurtdoshlari, butunlay yangi, zamonaviy bir sharoitda yashayotganlariga guvoh bo'ladi.

Jadid namoyandalari aholini diniy bo'lmagan adabiyot bilan yanada yaqindan tanishtirish maqsadida 1909-yildan boshlab turli shirkatlar tashkil eta boshladi. Bular qatoriga Buxorodagi "Shirkati Buxoroi sharif", Toshkentdagi "Maktab", Qo'qondagi "G'ayrat" jamiyat va shirkatlarini misol qilish mumkin. Ushbu kabi tashkilotlarning asosiy vazifalari yangi usul maktablari uchun darsliklar chop qilish bilan bir qatorda mahalliy aholi orasida turli kitoblar, gazeta va jurnallarning keng yoyilishini yo'lga qo'yish edi. Quyida keltirilgan jadvaldan 20-asr boshlarida Turkistonning ayrim yirik shaharlarida kitob savdosi bilan mashg'ul bo'lgan do'konlarning rasmiy idoralar tarafidan ro'yxatga olinish xronologiyasini ko'rish mumkin. Turkiston xonliklarida birinchi matbaa Xivada tashkil etildi. Xiva hukmdori Muhammad Rahimxon Soniyning qarori bilan 1874-yili Erondan litografik uskuna olib kelindi va saroyda tipolitografiya tashkil etildi. Xon saroyida tashkil qilingan tipolitografiyani xivalik Otajon Abdalov (1856-1927) yurita boshladi. U ruslar tarafidan tashkil qilingan maktabda ta'lim olgan va tipolitografiya ishlarini 1874-1878-yillar orasida Xivada istiqomat qilgan eronlik matbaachidan o'rgandi. Xiva xonligida tipolitografiya, ya'ni matbaa usuli, 19-asr oxirlarida va 20-asr boshlarida rivojlangan. Bu usul orqali gazeta va kitoblar chop etish imkoniyati oshdi, natijada ma'lumot tarqatish va madaniy rivojlanish tezlashdi. Xiva xonligi o'z madaniyati va tarixi haqida yozma manbalarni saqlashda va ularga murojaat qilishda muhim rol o'ynadi. Matbaa san'ati orqali adabiyot va ilm-fan taraqqiyotiga hissa qo'shildi Tipolitografiya, matbuotda matn va rasmni yaratish uchun ishlatiladigan bir qismini tashkil etadi. Xiva xonligida tipolitografiya ochilishi va faoliyati esa tarixiy va ijtimoiy o'zgarishlarga bog'liq edi.

Xiva xonligida tipolitografiya ochilishi 19-asrning oxirida bo'lgan. Ushbu davrda Xivada o'qituvchi va ilmiy o'quv markazlarining yanada rivojlanishi

bilan kitobxonalar soni katta o'sgan edi. Bu esa matbuotning ham rivojlanishiga ta'sir qildi. Tipolitografiyaning faoliyati esa matn va rasmni yaratish, tahrir qilish, nashr qilish va tarqatish jarayonlarini o'z ichiga oladi. Bu jarayonlarda harf, so'z, gap va matnlar bilan ishlovchi vositalar, misol uchun qog'oz, chizmachilik vositalari va qog'oz kesish asboblari ishlatiladi. Tipolitografiya orqali yaratilgan asarlar, kitoblar va gazetalar Xivada o'qituvchi va ilmiy markazlar, diniy institutlar va hokimiyat organlari tomonidan foydalanilardi. Bu esa o'quvchilar, ilmiy fanlar bilan shug'ullanuvchi shaxslar va umumiy aholi uchun ma'lumotlarni tarqatish imkonini berdi. Xiva xonligida tipolitografiya faoliyati tarixiy manzillarda yaxshi boshlangan edi. Bu esa Xiva shahrida ilmiy-fan rivojlanishning bir elementi sifatida ko'rinadi.

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Toshturdiyev N.N.
Mirzo Ulug'bek nomidagi O'zbekiston Milliy Universiteti
Gidrometeorologiya fakulteti 3-kurs talabasi

GLOBAL IQLIM O'ZGARISHINI SUV RESURSLARIGA TA'SIRI

Annotatsiya. Global iqlim o'zgarishi butun dunyo bo'ylab suv resurslariga sezilarli ta'sir ko'rsatmoqda, bu suvning mavjudligi, sifati va taqsimotiga chuqur ta'sir ko'rsatmoqda. O'zgaruvchan iqlim shakllari, jumladan, yog'ingarchilikning o'zgarishi, haroratning ko'tarilishi va ekstremal ob-havo hodisalari gidrologik siklni buzadi va suv resurslarini boshqarishda qiyinchiliklar tug'diradi. Bu ta'sirlar xilma-xil va keng qamrovli bo'lib, ekotizimlarga, qishloq xo'jaligiga, inson salomatligiga va iqtisodiy rivojlanishga ta'sir qiladi. Ushbu o'zgarishlarga moslashish va suv resurslarini barqaror boshqarishni ta'minlash suv tanqisligi xavfini yumshatish va kelajak avlodlar uchun suv xavfsizligini ta'minlash uchun juda muhimdir. Ushbu maqola iqlim o'zgarishi va suv resurslari o'rtasidagi murakkab o'zaro ta'sirlarning umumiy ko'rinishini taqdim etadi, bu muammolarni hal qilish va suvni boshqarish amaliyotida barqarorlikni oshirish uchun samarali strategiyalarga zudlik bilan ehtiyojni ta'kidlaydi.

Kalit so'zlar: global iqlim o'zgarishi, suv resurslari, yog'ingarchilik, harorat, ekotizimlar, suv havzalari.

Tashturdiyev N.N.
3rd year student
Faculty of Hydrometeorology
National University of Uzbekistan named after Mirzo Ulugbek

IMPACT OF GLOBAL CLIMATE CHANGE ON WATER RESOURCES

Abstract. Global climate change is significantly affecting water resources worldwide, with profound implications for water availability, quality, and distribution. Changing climate patterns, including changes in precipitation, rising temperatures, and extreme weather events, are disrupting the hydrologic cycle and creating challenges for water resources management. These impacts are diverse and far-reaching, affecting ecosystems, agriculture, human health, and economic development. Adapting to these changes and ensuring sustainable management of water resources is critical to mitigating the risk of water scarcity and ensuring water security for future generations. This paper provides an overview of the complex interactions between climate change and water resources, highlighting the urgent need for effective strategies to address these challenges and increase sustainability in water management practices.

Key words: global climate change, water resources, precipitation, temperature, ecosystems, water bodies.

Global iqlim o'zgarishi butun dunyo bo'ylab suv resurslariga jiddiy ta'sir ko'rsatmoqda. Iqlim o'zgarishining suv mavjudligi, sifati va taqsimotiga ta'siri tobora yaqqol namoyon bo'lmoqda. Yog'ingarchilik shakllarining o'zgarishi, haroratning ko'tarilishi va ekstremal ob-havo hodisalari gidrologik siklni o'zgartirib, suv resurslarini boshqarishda jiddiy muammolarni keltirib chiqarmoqda. Iqlim o'zgarishining suv resurslariga ta'siri xilma-xil va keng tarqalgan bo'lib, ekotizimlar, qishloq xo'jaligi, inson salomatligi va iqtisodiy rivojlanishga ta'sir qiladi. Yog'ingarchilik shakllarining o'zgarishi qurg'oqchilik yoki toshqinlarga olib kelishi mumkin, bu esa suv ta'minotini buzishi va ko'plab mintaqalarda suv tanqisligi xavfini oshirishi mumkin. Haroratning ko'tarilishi muzliklar va muz qoplamlarining erishini tezlashtirmoqda, daryolar havzalarida suv mavjudligiga ta'sir qiladi va dengiz sathining ko'tarilishiga yordam beradi. Ushbu o'zgarishlarga moslashish va iqlim o'zgarishi sharoitida suv resurslarini barqaror boshqarishni ta'minlash muhim global muammodir. Iqlim o'zgarishining suv resurslariga ta'sirini yumshatish va kelajak avlodlar uchun suv xavfsizligini ta'minlash uchun suv resurslarini tejash, samaradorlikni oshirish va suv resurslarini kompleks rejalashtirishni o'z ichiga olgan samarali suv resurslarini boshqarish strategiyalari muhim ahamiyatga ega. Shu nuqtai nazardan, iqlim o'zgarishi va suv resurslari o'rtasidagi murakkab o'zaro ta'sirlarni tushunish barqaror va barqaror suvni boshqarish amaliyotini rivojlantirish uchun juda muhimdir. Global iqlim o'zgarishi butun dunyo bo'ylab suv resurslariga chuqur ta'sir ko'rsatib, suvning mavjudligi, sifati va taqsimlanishiga jiddiy muammolarni keltirib chiqarmoqda. Haroratning ko'tarilishi, ob-havo sharoitlarining o'zgarishi va ekstremal hodisalarning tez-tez bo'lishi natijasida suv aylanishining nozik muvozanati buzilib, ekotizimlar, jamoalar va iqtisodiyotlar uchun bir qator oqibatlarga olib keladi. Iqlim o'zgarishining suv resurslariga eng ko'zga ko'ringan ta'siridan biri bu yog'ingarchilik shakllarining o'zgarishidir. Yomg'irning intensivligi, chastotasi va taqsimotidagi o'zgarishlar suv bilan ta'minlanishning o'zgarishiga olib keladi, bu esa ba'zi hududlarda qurg'oqchilikka va boshqalarida suv toshqinlariga olib keladi. Yog'ingarchilikning bunday o'zgarishi qishloq xo'jaligi, suv ta'minoti va ekotizimlarga halokatli ta'sir ko'rsatishi mumkin, bu oziq-ovqat xavfsizligi va biologik xilma-xillikka tahdid soladi. Haroratning oshishi muzliklar va muzliklarning erishini ham tezlashtirib, dengiz sathining ko'tarilishiga, daryo va soylar oqimining o'zgarishiga sabab bo'lmoqda. Tog'li hududlarda muz va qor to'plamining yo'qolishi suv oqimining vaqti va hajmiga ta'sir qiladi, bu esa sug'orish, ichimlik suvi va gidroenergetika ishlab chiqarish uchun quyi oqim suvining mavjudligiga ta'sir qiladi. Sohilbo'yi hududlarida chuchuk suv manbalariga sho'r suvning kirib borishi tobora ortib borayotgan tashvishga aylanmoqda, chunki dengiz sathi ko'tarilishda davom etmoqda. Iqlim o'zgarishi

suv sifati bilan bog'liq muammolarni kuchaytirmoqda, chunki yuqori harorat va o'zgaruvchan yog'ingarchilik shakllari suvda yuqadigan kasalliklarning tarqalishiga, suv o'tlarining gullashiga va ifloslantiruvchi moddalardan ifloslanishga ta'sir qiladi. Kuchli yog'ingarchilik natijasida suv oqimining ko'payishi ifloslantiruvchi moddalarni suv havzalariga olib kelishi mumkin, bu suv sifatini buzadi va inson salomatligi va suv ekotizimlariga xavf tug'diradi. Iqlim o'zgarishining suv resurslariga ta'siri faqat ekologik muammolar bilan cheklanmaydi; ularning ijtimoiy va iqtisodiy ta'siri ham bor. Ayniqsa, rivojlanayotgan mamlakatlardagi zaif jamoalar suv tanqisligi, qurg'oqchilik va toshqinlardan nomutanosib ravishda ta'sir ko'rsatadi, bu esa ko'chish, oziq-ovqat xavfsizligi va suv resurslari bilan bog'liq mojarolarga olib keladi. Iqlim bilan bog'liq suv muammolarining iqtisodiy xarajatlari, jumladan, infratuzilmaga zarar yetkazish, qishloq xo'jaligi mahsuldorligini yo'qotish va suvni tozalash xarajatlarning oshishi sezilarli bo'lib, mahalliy iqtisod va hayotni qiyinlashtirishi mumkin. Suv resurslarida iqlim o'zgarishi bilan bog'liq muammolarni hal qilish iqlimga moslashish, suvni boshqarish strategiyalari va barqaror rivojlanish amaliyotlarini o'zida mujassam etgan ko'p qirrali yondashuvni talab qiladi. Suv tejaydigan texnologiyalarga sarmoya kiritish, suv infratuzilmasini yaxshilash, suv boshqaruvini yaxshilash va ekotizimga asoslangan yechimlarni ilgari surish iqlim ta'siriga chidamlilikni oshirish va kelajak avlodlar uchun suv resurslarini barqaror boshqarishni ta'minlash uchun muhim qadamdir. Iqlim o'zgarishi suv sifatiga turli yo'llar bilan sezilarli ta'sir ko'rsatib, inson salomatligi, ekotizimlar va suv hayoti uchun xavf tug'diradigan bir qator o'ziga xos oqibatlariga olib keladi. Iqlim o'zgarishi tufayli global haroratning ko'tarilishi daryolar, ko'llar va okeanlardagi suv haroratining oshishiga olib kelishi mumkin. Ko'tarilgan suv harorati suv ekotizimlarini buzishi, turlarning tarqalishini o'zgartirishi va zararli bakteriyalar va suv o'tlarining ko'payishiga yordam beradi, bu esa suv sifati bilan bog'liq muammolarga olib keladi. Yog'ingarchilik shakllarining o'zgarishi, jumladan tez-tez va kuchli yog'ingarchiliklar yoki uzoq davom etadigan qurg'oqchilik suv sifatiga ta'sir qilishi mumkin. Kuchli yog'ingarchilik natijasida shaharlar, qishloq xo'jaligi dalalari va sanoat maydonlaridan ifloslantiruvchi moddalarni suv havzalariga olib o'tadi, suv manbalarini ifloslantiradi va suv sifatini yomonlashtiradi. Dengiz sathining ko'tarilishi, iqlim o'zgarishi oqibati, sho'r suvning qirg'oq suvli qatlamlari va estuariylarga kirib kelishiga olib kelishi mumkin. Tuzli suvning kirib kelishi chuchuk suv manbalarini ifloslantirishi mumkin, bu ularni ichimlik, sug'orish va boshqa maqsadlarda foydalanish uchun yaroqsiz holga keltiradi va shu bilan qirg'oqbo'yi mintaqalarida suv sifatini yomonlashtiradi. Issiq suv harorati va qishloq xo'jaligi faoliyatidan kelib chiqadigan ozuqa moddalarining oqishi ko'llar, daryolar va qirg'oq suvlarida zararli alg gullarining o'sishiga yordam beradi. Bu gullar inson salomatligi va suv hayoti uchun zararli bo'lgan toksinlarni ishlab chiqarishi mumkin, bu esa suv sifati muammolariga va ekotizimning buzilishiga olib keladi. Iqlim

o'zgarishi okeanlar tomonidan ortiqcha karbonat angidridning so'rilishiga sabab bo'lib, okeanlarning kislotalanishiga olib keladi. Kislotalanish dengiz suvining kimyosiga ta'sir qilishi, marjon, qisqichbaqasimonlar va plankton kabi dengiz organizmlariga ta'sir qilishi va dengiz ekotizimlari va oziq-ovqat zanjirlarini buzishi, natijada suv sifatiga ta'sir qilishi mumkin. Haroratning oshishi natijasida muzliklar va muzliklarning erishi yillar davomida muzda qolib ketgan ifloslantiruvchi moddalarni chiqarishi mumkin. Ushbu ifloslantiruvchi moddalar suv havzalariga kirganda, ular suv sifatini yomonlashishi va inson salomatligi va suv ekotizimlariga xavf tug'dirishi mumkin. Iqlim o'zgarishi dovullar, bo'ronlar va toshqinlar kabi ekstremal ob-havo hodisalarining chastotasi va intensivligini oshirmoqda. Ushbu hodisalar ifloslantiruvchi moddalarning ko'chishi, oqava suvlarning to'lib ketishi va infratuzilmaning buzilishiga olib kelishi mumkin, natijada suv sifati yomonlashishi va aholi salomatligi uchun xavf tug'diradi. Iqlim o'zgarishining suv sifatiga ta'sirini bartaraf etish issiqxona gazlari chiqindilarini kamaytirish, suvni boshqarish amaliyotini takomillashtirish, ifloslanishni nazorat qilish choralari kuchaytirish va erdan barqaror foydalanish amaliyotini ilgari surish bo'yicha muvofiqlashtirilgan harakatlarni talab qiladi. Suv resurslarini muhofaza qilish va asrab-avaylash bo'yicha faol choralar ko'rish orqali biz iqlim o'zgarishining suv sifatiga salbiy ta'sirini yumshatishimiz hamda hozirgi va kelajak avlodlar uchun toza va xavfsiz suv mavjudligini ta'minlashimiz mumkin.

Iqlim o'zgarishining suv resurslariga ta'sirini bartaraf etish uchun yumshatish, moslashish va barqaror suvni boshqarish strategiyalarini birlashtirgan kompleks va kompleks yondashuv talab etiladi. Suvni tejash amaliyotini targ'ib qilish va suvdan foydalanish samaradorligini oshirish suvga bo'lgan talabni kamaytirishga yordam beradi va suv resurslariga, ayniqsa, iqlim o'zgarishi tufayli suv tanqisligi kuchayib borayotgan davrda tanglikni minimallashtirishga yordam beradi. Daryolar, ko'llar, er osti suvlari va botqoq erlar kabi suv manbalarining o'zaro bog'liqligini hisobga olgan holda suv resurslarini boshqarishning integratsiyalashgan yondashuvlarini joriy etish suvdan foydalanishni optimallashtirish, suv sifatini oshirish va barqarorlikni oshirishga yordam beradi. iqlim o'zgarishi ta'siri. To'g'onlar, suv omborlari, suv tozalash inshootlari va tarqatish tizimlari kabi iqlimga chidamli suv infratuzilmasini rivojlantirish va modernizatsiya qilish ekstremal ob-havo hodisalari ta'sirini yumshatish hamda ishonchli suv ta'minoti va sifatini ta'minlashga yordam beradi. O'rmonlar, botqoq erlar va suv havzalari kabi tabiiy ekotizimlarni muhofaza qilish va tiklash suv oqimini tartibga solish, suv sifatini yaxshilash va suv resurslarining iqlim o'zgarishi ta'siriga chidamliligini oshirishga yordam beradi. Yomg'ir suvini yig'ish va er osti suvlarini qayta to'ldirish kabi suv yig'ish texnikasini joriy etish, ayniqsa, iqlim o'zgarishi sababli suv tanqisligi va o'zgaruvchanligiga moyil bo'lgan hududlarda kelajakda foydalanish uchun suvni olish va saqlashga yordam beradi. Samarali sug'orish usullari, tuproqni saqlash va ekinlarni diversifikatsiya qilish kabi iqlimga

moslashgan qishloq xo'jaligi amaliyotlarini targ'ib qilish suvdan foydalanishni kamaytirishga, tuproq sog'lig'ini yaxshilashga va qishloq xo'jaligining iqlim o'zgarishi ta'siriga chidamliligini oshirishga yordam beradi. Mahalliy hamjamiyatlarni, manfaatdor tomonlarni va siyosatchilarni suv resurslarini boshqarish bo'yicha qarorlar qabul qilishda jalb qilish va ularning iqlim o'zgarishiga moslashish salohiyatini oshirish barqaror suv boshqaruvini rivojlantirish va quyi darajada barqarorlikni oshirish mumkin. Suv resurslarini boshqarish bo'yicha tadqiqot, innovatsiyalar va texnologiyalarni rivojlantirishga sarmoya kiritish iqlim muammolarini hal qilish uchun suvni qayta ishlash, tuzsizlantirish va suvni oqilona boshqarish tizimlari kabi ilg'or yechimlarni joriy etishga olib kelishi mumkin. suv resurslariga ta'sirini o'zgartirish. Ushbu asosiy strategiyalarni qabul qilish va turli manfaatdor tomonlar, hukumatlar va tashkilotlar o'rtasida hamkorlikni rivojlantirish orqali biz iqlim o'zgarishiga qarshi kurashda iqlimga chidamli suv tizimlarini barpo etish, suv xavfsizligini ta'minlash hamda hozirgi va kelajak avlodlar uchun suv resurslarini himoya qilish yo'lida harakat qilishimiz mumkin.

Xulosa:

Xulosa qilib aytadigan bo'lsak, global iqlim o'zgarishining suv resurslariga ta'siri chuqur va keng qamrovli bo'lib, butun dunyodagi ekotizimlar, jamoalar va iqtisodiyotlarga ta'sir qiladi. Suv va iqlim tizimlarining o'zaro bog'liqligini tan olish hamda bu o'zgarishlarni yumshatish va ularga moslashish bo'yicha faol choralar ko'rish orqali biz suv xavfsizligini ta'minlashimiz, aholining zaif qatlamlarini himoya qilishimiz hamda o'zgaruvchan iqlim sharoitida yanada barqaror va barqaror kelajakni qurishimiz mumkin.

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Tozaboyeva G.M.
Texnika fakulteti Geodeziya kartografiya va kadastr kafedrası Geodeziya
kartografiya va kadastr yo'nalishi 3 kurs talabasi

VAZIR QISHLOG'INI GOOGLE EARTH ENGINE PLATFORMASI ORQALI SHO'RLANGAN HUDUDLARINI ANIQLASH

Annatsiya. Google Earth Engine ko'p petabaytli sun'iy yo'ldosh tasvirlari katalogini va geofazoviy ma'lumotlar to'plamini sayyoraviy miqyosda tahlil qilish imkoniyatlari bilan birlashtiradi. Olimlar, tadqiqotchilar va ishlab chiquvchilar o'zgarishlarni aniqlash, tendentsiyalarni xaritalash va Yer yuzasidagi farqlarni aniqlash uchun Earth Enginedan foydalanadilar. Bundan tashqari ma'um bir hududni kesib olib shu hudud bo'yicha sho'rlanishini yoki o'simlik va suvli hududlarini ham aniqlashimiz mumkin.

Ushbu tadqiqot Landsat 8 sun'iy yo'ldosh suratlaridan hisoblangan sho'rlanish darajasini baholashning to'rt turdagi multispektral ko'rsatkichlardan foydalangan tuproq sho'rlanishini baholashni o'rganadi: sho'rlanish ko'rsatkichlari, ya'ni ko'rinadigan ko'k, ko'rinadigan yashil, ko'rinadigan qizil va yaqin infraqizil diapazonlarga asoslangan.

Kalit so'zlar: Sho'rlanish, Google earth engine, masofadan zondlash, landsat, tuproq sho'rlanishi, sun'iy yo'ldosh, NDSI, Green, SWIR, Band3, Vazir qishlog'i, tuproq.

Tozaboyeva G.M.
3rd year student
Technical Faculty
Department of Geodesy, Cartography and Cadastre

DETERMINATION OF SALINIZED AREAS OF VAZIR VILLAGE THROUGH GOOGLE EARTH ENVIRONMENTAL PLATFORM

Abstract. Google Earth Engine combines a multi-petabyte catalog of satellite imagery and geospatial datasets with planetary-scale analysis capabilities. Scientists, researchers, and developers use Earth Engine to detect changes, map trends, and identify differences on Earth's surface. In addition, we can determine salinity or plant and water areas by cutting a specific area.

This study investigates soil salinity estimation using four types of multispectral indices of salinity estimation calculated from Landsat 8 satellite images: salinity indices based on visible blue, visible green, visible red and near infrared bands.

Key words: Salinity, Google earth engine, remote sensing, Landsat, soil salinity, satellite, NDSI, Green, SWIR, Band3, Wazir village, soil.

Kirish: Tuproq miqdorida tuzning ortib borishi bu tuproqning sho'rlanib unumdorligi yo'qolishiga olib keladi. Tuproq sho'rlangan hududlarda sho'rlanishni yo'qotish uchun avval uning sabablari o'rganib chiqiladi. Masalan bu hududa noto'g'ri sug'orish oqibatida sho'rlanish paydo bo'lgan bo'lishi mumkin yoki bo'lmasa zaxkash suvlari bilan sug'orilganidan ham bo'lishi mumkin. Bu holatlar esa tuproq degradatsiya jarayonlariga ham olib keladi. Tuproqlarning sho'rlanishini aniqlashda laboratoriya jarayonlaridan ham foydalanishimiz mumkin lekin bunday usullar bizning ko'p vaqtimizni va mehnatimizni oladi. Shu sababli hozirgi kunda masofadan zondlashdan foydalangan maqul hisoblanadi. Masofadan zondlash usulidan foydalanib biz Landsat sun'iy yo'ldoshlari orqali sho'rlangan hududlarni aniqlashimiz mumkin.

Landsat 8 sun'iy yo'ldoshlari har 16 kunda yuqori aniqlikda tasvirlarni olib turadi. Bu esa bizga sho'rlangan yerlarni xartasini tuzishda kata yordam beradi.

Landsat yordamida sho'rlanishni aniqlash quydagi formula yordamida amalga oshiriladi:
$$NDSI = \frac{Green - SWIR}{Green + SWIR}$$

Bu yerda: NDSI – Normallshtirilgan tuz indeksi;

Green – Yashil;

Landsat 8 sun'iy yo'ldoshi uchun esa

$$NDSI = \frac{Band3 - Band6}{Band3 + Band6}$$

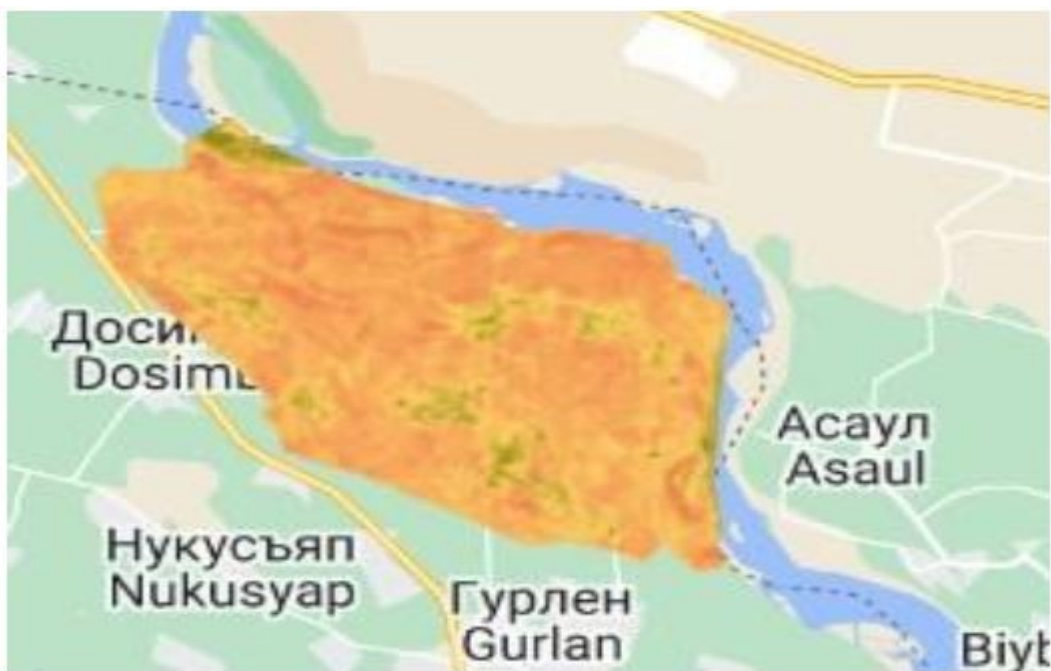
$$NDSI = \frac{Red - NIR}{Red + NIR}$$

Bu yerda: NDSI – Normal tuz indeksi

Red – Qizil rang

NIR – Yaqin infra qizil

Asosiy qism: Mening tadqiqotim Xorazm viloyatining Gurlan tumani Vazir qishlog'ining sho'rlangan yerlarini Google earth engine platformasi orqali Landsat sun'iy yo'ldoshidan foydalanib aniqlash.



1-rasm. Vazir qishlog'i sho'rlanish kartasi

Google earth engining saytidan ro'yxatdan o'tib, sayitga kirgandan keyin Vazir qishlog'ini belgilab olamiz.

Mendan avval ham ladsat sun'iy yo'ldoshidan foydalanilgan lekin ularda Xorazm viloyati Yangibozor tumani hududi bo'yicha olingan. Men yaratgan kartada esa kichikroq hudud "Vazir qishlog'i" olingan va aniqlik darajasi ham biroz yuqoriroq bo'ladi. Mening ishlagan bu ishimda Vazir qishlog'ining sho'rlangani 2022-01-11 sana holati bo'yicha olingan.

Bu maqolani yozishimdan maqsad Vazir qishlog'idagi sho'rlangan yerlarni aniqlash va uning sabablarini o'rganib chiqib oldini olish. Hech bo'lmaganda bu sho'rlangan yerlarga qanday ekin turlarini ekishimiz mumkinligini ham o'rganib chiqish.

Foydalanilgan adabiyotlar ro'yhati

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Turganbaev M.A.
student of group 2
Faculty of "Physical Culture"
Nukus State Pedagogical Institute named after Ajiniyoz

DEVELOPMENT OF PHYSICAL CULTURE IN STUDENTS

Annotation. This article reflects on the development of Physical Culture in students and on important aspects of education in physical education and sports training.

Keywords: student, training, mastering, process, institution, competition, pedagogical, theoretical.

The purpose of the features of education in the process of physical education and sports training will be to teach students and students to the requirements for the physical development of their organism and a healthy lifestyle. At the same time, sports and wellness activities of physical education greatly contribute to the positive assimilation of specialist training. Student and student physical education events take the forms of morning exercise, physical education classes, sports club training, sports wellness competitions and holidays.

Morning badantarbia classes are performed in the student hostel in public, during the Living months and in the family independently. Physical education activities in educational institutions will consist of training of students and students, training, wellness and life activities. Physical education processes are organized at all stages. The pedagogical team of the educational institution in the organization of physical education teachers of physical education and sports coaches. In educational institutions, physical education activities are badantarbia in the morning, physical education classes are activities in sports circles, sports competitions and holidays, and tourism activities on weekends and holidays.

At physical education events, students are formed skills and skills of movement by performing vital necessary exercises walking, running and jumping and throwing, crawling exercises.

The work on physical education in an educational institution differs from students and students in its very different forms, which require humor, initiative, organization. They help to train organizational skills, activity, resourcefulness in students and students.

To give special knowledge of physical exercises and sports, as exercise, is understood a variety of voluntary action activities that are consciously carried out, meeting the requirements of the laws of physical education. Such movement activities were historically systematized, accumulated and stylistically supplemented as gymnastics, games, sports, tourism exercises. Instill in them hygienic knowledge and skills. This task consists in giving the student and the

student the appropriate knowledge regarding the benefits of physical training, hygienic rules, compliance with all the rules of physical education provided for in the program.

All this directly affects the strengthening of health, their knowledge and observance of hygiene rules, which is achieved by the joint action of school, family, public and children themselves. Physical exercises and sports are taught in physical education classes, agenda activities, and circle training. As a result of it, physical development is ensured. Sports interests are also formed in students and students and involved in sports. Health, improving, helping students to develop and correct physical activity. Factors of nature include improving the health of students under the influence of water, sun, air, and improving the body's resistance to diseases.

To conduct physical education activities as clean as possible in the air, or to organize the provision of sports halls with fresh air. To lead students and students in water treatments, swimming and diving training, and to manage sunbathing activities. It is carried out on walks, excursions and tourism Sessions. This task is the most important of all physical culture and sports work in an educational institution. It is necessary to be in the center of attention of any teacher, a team of educators. Therefore, it is necessary for the normal development of students and students from physical humor. Formation and improvement of movement, skills and skills, training in new types of movement and movement activities.

The content of the student and students ' Physical Culture program is structured in such a way that students regularly engage in Physical Culture classes, at home, physical culture circles and sports circles, systematically acquiring vital necessary movement skills such as walking, running, throwing, scratching, balancing. All the listed activities help to develop a versatile physique, prepare them for a cocktail. In the formation of movement skills and skills in students and students, it is necessary to approach them based on gender, age and physical fitness, as well as personal ability. Improving physical qualities.

Agility, strength, agility and endurance and flexibility are all the qualities that a person needs. They are inextricably linked with the formation of movement skills in students and students. Conducting physical exercises for a short or long time at a different pace, with different complexities, contributes to the development of the above qualities. Develop physical qualities in accordance with one another.

Organization of classes in accordance with the personal abilities of those involved, as well as the involvement of students in sports. Education of mental and aesthetic qualities. Education of integrity, rigor, discipline, community, friendship and comradeship, cultural behavior skills, attitude to work and social property. The whole process of physical education helps to educate such valuable moral and volitional qualities. Many exercise, play movements will

help to train courage and friendship traits. And also the formation and upbringing of love, patriotism, bad feelings for the motherland. Formation of the right figure.

Formation of skills to keep the figure straight when roaming and walking. The correct formation of a reed is a complex and long-lasting process. It is envisaged that timely examination of the given tasks, as well as testing in practice, will achieve results on this basis.

Educating students and students from a wide range of mental and moral foundations is one of the important tasks because the minds of students and students are during development. It is possible to achieve the desired results only when you are able to direct the upbringing for the better. Involvement in physical education and sports activities. It consists in getting the student and students accustomed to systematically performing physical exercises not only in educational institutions, but also at home. This is an important task, to increase the quality of the student, and students, it is necessary to make all the activities carried out live, the content and form of the material to be studied interesting, exciting, to spend under the sincere treatment of the head of the training, to create conditions for the interaction of those involved. Involving students and students in sports according to their personal interests and physical abilities.

It is also necessary to carry out general physical training and sports training in residential areas, sports clubs. Education of organization in students and students, preparation of physical culture activities. The educational institution successfully conducts mass Physical Culture and sports activities, physical culture classes and full-fledged training, students and students need constant assistance to the teacher of physical culture activities.

In our scientific research and pedagogical practice work on the organization of sports and wellness activities of physical education with students and students in educational institutions, we have drawn a number of necessary clear conclusions.

1. In the processes of physical education and wellness of the student and the student, a special place is occupied by the motivation of the factors of nature.

2. Universal physical exercise serves as a necessary tool for students and students to refresh their body and prepare them for physical loads

3. Special physical exercises will greatly help students and students to master and improve the technique of physical activities in sports. 4. Auxiliary physical exercises serve as a kind of tool in the formation of special exercises of sports.

5. It is advisable to effectively use the forms of physical education sports and wellness in physical education, sports and wellness activities of students and students.

6. The impact of physical development and rehabilitation of physical education, sports and wellness activities held in nature has a special significance.

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Turganbaev M.A.
Ajiniyoz nomidagi Nukus Davlat
Pedagogika instituti "Jismoniy tarbiya"
fakulteti 2-"A" guruh talabasi

O'ZBEKISTONDA SPORTNI RIVOJLANTIRISH VA JISMONIY TARBIYAGA QARATILGAN E'TIBOR

Annotatsiya: Hozirda dunyo davlatlari o'rtasidagi o'zaro raqobat, kuch-qudratini namoyon etish sport va intellektual imkoniyatlarni namoyish etishda ifodalanmoqda. Mazkur maqolada O'zbekiston Respublikasida sport sohasining rivojida qonuniy asoslar va yurtimizda jismoniy tarbiya va sport sohasidagi islohotlar haqida ma'lumot berilgan.

Kalit so'zlar: Sport, jismoniy tarbiya, "Umid nihollari", "Barkamol avlod", "Universiada", "Yangi O'zbekiston", "Harakatlar strategiyasi", konsepsiya, Osiyo o'yinlari va chempionatlari, olimpiada o'yinlari.

Turganbaev M.A.
student of group 2-"A"
Faculty of "physical education"
Nukus State Pedagogical Institute named after Ajiniyoz

FOCUS ON SPORTS DEVELOPMENT AND PHYSICAL EDUCATION IN UZBEKISTAN

Annotation. Currently, the mutual competition between the countries of the world, the manifestation of strength, is expressed in the demonstration of sports and intellectual opportunities. This article provides information about the legal framework for the development of the sports sector in the Republic of Uzbekistan and the reforms in the field of physical education and sports in our country.

Keywords: Sports, Physical Education, "sprouts of Hope", "harmonious generation", "Universiade", "New Uzbekistan", "strategy of action", concept, Asian Games and championships, Olympics.

KIRISH

Bugungi kunda farzandlar ta'lim-tarbiyasi davlat siyosati darajasidagi muhim masalaga aylandi. Shu sababli ham mamlakatimizda jismoniy tarbiya va sportni rivojlantirish muhim vazifa qilib belgilangan. Bu borada respublikamizda amalga oshirayotgan ishlarni jaxon miqyosida yuqori baxolanayotganligining shohidimiz.

O'sib kelayotgan yosh avlod hayotidagi har bir qadami, uning ezguniyatlari, intilish va harakatlari avvaldan ilmiy asoslangan, dasturlashtirilgan

pedagogik-psixologik jihatdan to'g'ri yo'naltirilsa, albatta, ulardan jamiyatda muhim o'rin tuta oladigan, yetuk mutaxassis-kadrlar tayyorlanishiga hech shubxa yo'q.

Barkamol avlodni jismonan sog'lom va baquvvat qilib tarbiyalash jarayonini, bu jarayonga ta'sir etuvchi omillarni psixologik jihatdan ilmiy-asosda o'rganish, tahlil qilish, metodikalar va tavsiyalar ishlab chikishdan iboratdir. Buning uchun quyidagi vazifalar yechimini topish zarur:

- Barkamol avlodni jismoniy tarbiyalash jarayoniga tayyorlashning psixologik asoslarini o'rganish;
- Jismoniy tarbiyalash jarayonini psixologik jihatdan o'rganishning hozirgi holatini o'rganish;
- O'tmish allomalarining insonni jismoniy-ruhiy yetuk, barkamol qilib tarbiyalash haqidagi qarashlari;
- Barkamol avlodni jismoniy va psixologik yetuk, barkamol inson qilib tarbiyalashning ijtimoiy-psixologik muammolarini hal etishning usullarini ishlab chiqish.

Yosh avlodni jismoniy tarbiyalash jarayonini ilmiy asosda o'rganib, unga ta'sir etuvchi psixologik omillarni, tarbiya jarayoniga psixologik ta'sir etish yo'llarini, metodikalarini ishlab chiqilsa, jismoniy tarbiya yanada samarali bo'ladi.

METOD VA METODOLOGIYA

Hurmatli Prezidentimiz SH.M.Mirziyoyevning "Yoshlarimizning mustaqil fikrlaydigan, yuksak intellektual va ma'naviy salohiyatga ega bo'lib, dunyo miqyosida o'z tengdoshlariga hech qaysi sohada bo'sh kelmaydigan insonlar bo'lib kamol topishi, baxtli bo'lishi uchun davlatimiz va jamiyatimizning bor kuch va imkoniyatlarini safarbar etamiz" degan da'vatlari ta'limning sifatli va samarali tashkil etilishini talab qiladi va o'quvchilarni mustaqil fikrlaydigan, yuksak intellektual va ma'naviy salohiyatga ega shaxs sifatida tarbiyalash bugungi kunning dolzarb masalalaridan biri hisoblanadi.

O'zbekiston Respublikasi Prezidentining 2017 yil 3-iyundagi PQ 3031-sonli "Jismoniy tarbiya va ommaviy sportni yanada rivojlantirish chora-tadbirlari to'g'risida" gi qarori, 2018 yil 14 avgustdagi PQ-3907-sonli "Yoshlarni ma'naviyaxloqiy va jismoniy barkamol etib tarbiyalash, ularga ta'lim-tarbiya berish tizimini sifat jihatdan yangi bosqichga ko'tarish chora-tadbirlari to'g'risida" gi qarori, 2020-yil 24-yanvardagi PF-5924-sonli "Jismoniy tarbiya va sportni yanada takomillashtirish va ommalashtirish chora-tadbirlari to'g'risida"gi Farmoni hamda mazkur sohaga tegishli me'yoriy-huquqiy hujjatlarda belgilangan vazifalarni amalga oshirishda xizmat qiladi.

Takidlash lozimki, barcha turdagi o'quv yurtlarida davlat ta'limi tizimi asosida jismoniy tarbiya dars sifatida o'tkazilmoqda. Darsdan tashqari, sport to'garaklari mashg'ulotlari, xilma-xil sport musobaqalari o'tkazilib, ularning negizida kasb - hunarga tayyorlanishda jismoniy barkamollikning mazmun va mohiyat jihatdan ustuvor ekanligi aniqdir. Shu sababdan ta'limning uzluksizligi

bilan bevosita bog'liq bo'lgan "Umid nihollari", "Barkamol avlod", "Universiada" kabi nufuzli ko'p bosqichli sport musobaqalari an'anaga aylandi. Eng muhim tomonlardan biri shuki, bolalar sportini rivojlantirish bilan bog'liq bo'lgan Prezident Farmonlari va hukumat qarorlari o'quvchi yoshlar o'rtasida sportni ommalashtirish, iqtidorli bolalarni tanlash, sinov-tajribalardan o'tkazish, ularni yetuk sportchi qilib tarbiyalashga jiddiy e'tibor kuchaymoqda. Ularning kelajakda Xalqaro sport musobaqalarida mamlakatimiz sharafigini himoya qilish, uni yanada yuksak cho'qqilarga olib chiqishlari aniq maqsadlar qilib qo'yilmoqda.

TAHLIL VA TADQIQOT NATIJALARI

Hozirda dunyo davlatlari o'rtasidagi o'zaro raqobat, kuch-qudratini namoyon etish sport va intellektual imkoniyatlarni namoyish etishda ifodalanmoqda. O'zbekiston Respublikasining birinchi Prezidenti I.A. Karimov ta'kidlaganidek: "Sport – tinchlik elchisidir. Bizning maqsadimiz ham tinchlik, osoyishtalik va shu asosda jahon ahli bilan hamkorlik qilish.

Hech bir narsa mamlakatni sport kabi tezda dunyoga mashhur qila olmaydi. Darhaqiqat, mamlakatimiz sportchilari Markaziy Osiyo va Osiyo o'yinlari, turli xalqaro turnirlar, jahon birinchiligi va Olimpiya o'yinlarida muvaffaqiyat bilan ishtirok etib, egallagan sovrinli o'rinlari uchun O'zbekistonning xalqaro nufuzi oshmoqda. Sportdagi bu yutuqlar xalqimizning o'zligini anglash, birdamlik va vatanparvarlik hissiyotlarini o'sishiga sabab bo'ladi.

O'zbekiston Respublikasida keyingi to'rt yil mamlakatimiz va xalqimiz uchun hech bir mubolag'asiz sifat jihatidan tub o'zgarishlar va jadal taraqqiyot davri bormoqda. Yurtimizning barcha hududlari misli ko'rilmagan qurilish maydoniga aylangan - eng yangi texnologiyalarga asoslangan zamonaviy korxonalar, ko'rkam, barcha qulayliklar muhayyo qilingan turar joylar, keng va ravon ko'chalar barpo etilmoqda.

Xalqimiz hayoti tubdan yaxshilanib, inson huquq va erkinliklari, qonun ustuvorligi va ijtimoiy adolat qaror topmoqda. Jahonga bu o'zgarish va yangilanishlar natijasida mamlakatimiz ijobiy tomonga jiddiy o'zgarayotganining e'tirofi sifatida "Yangi O'zbekiston" ifodasini muomalaga kiritdi. Ushbu o'tgan to'rt yil davomida jismoniy madaniyat va sport sohasida aholi sog'lig'ini mustahkamlashga ko'maklashadigan aniq dasturlarni amaliyotga joriy etish, yoshlarni sportga keng jalb qilish, sport turlari bo'yicha yuqori natijalarni ta'minlaydigan mahoratli sportchilar bilan milliy terma jamoalarni shakllantirish va trenerlar uchun qo'shimcha shart-sharoitlar yaratish, mamlakatda yuksak madaniyatga ega bo'lgan har tomonlama yetuk hamda jismonan sog'lom avlodni shakllantirish maqsadida so'nggi to'rt yil davomida jismoniy madaniyat va sport sohasiga doir quyidagi yangi me'yoriy normativ-huquqiy hujjatlar qabul qilindi, jumladan:

➤ O'zbekiston Respublikasida 2017 yil 7 fevralda O'zbekiston Respublikasi Prezidentining "2017-2021 yillarda O'zbekiston Respublikasini

rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Harakatlar strategiyasi to'g'risida" gi PF-4947 sonli Farmoni,

➤ 2017 yil 3 iyunda O'zbekiston Respublikasi Prezidentining "Jismoniy tarbiya va ommaviy sportni yanada rivojlantirish chora-tadbirlari to'g'risida" gi PQ3031 sonli qarori,

➤ 2017 yil 10 avgustda O'zbekiston Respublikasi Prezidentining "O'zbekiston davlat jismoniy tarbiya va sport universiteti faoliyatini yanada takomillashtirish chora-tadbirlari to'g'risida" gi PQ-3197 sonli Qarori,

➤ 2018 yil 5 martda O'zbekiston Respublikasi Prezidentining "Jismoniy tarbiya va sport sohasida davlat boshqaruvi tizimini tubdan takomillashtirish choratadbirlari to'g'risida" gi PF-5368 sonli Farmoni,

➤ 2018 yil 5 martda O'zbekiston Respublikasi Prezidentining "O'zbekiston Respublikasi Jismoniy tarbiya va sport vazirligi faoliyatini tashkil etish to'g'risida" gi PQ-3583 sonli qarori,

➤ 2018 yil 25 oktabrda O'zbekiston Respublikasi Vazirlar Mahkamasining "O'quvchi va talaba yoshlar o'rtasida o'tkaziladigan respublika sport musobaqalari tizimini yanada takomillashtirish to'g'risida"gi 864-sonli qarori,

➤ 2019 yil 13 fevralda O'zbekiston Respublikasi Vazirlar Mahkamasining "2019-2023 yillar davrida O'zbekiston Respublikasida jismoniy tarbiya va ommaviy sportni rivojlantirish konsepsiyasini tasdiqlash to'g'risida" gi 118-sonli qarori,

➤ 2020 yil 24 yanvarda O'zbekiston Respublikasi Prezidentining "O'zbekiston Respublikasida jismoniy tarbiya va sportni yanada takomillashtirish va ommalashtirish chora-tadbirlari to'g'risida" gi PF-5924 sonli Farmoni,

➤ "O'zbekiston Respublikasida jismoniy tarbiya va sportni 2025 yilgacha rivojlantirish" konsepsiyasi qabul qilindi.

Yuqorida qabul qilingan jismoniy tarbiya va sport sohasiga doir yangi me'yoriy normativ-huquqiy hujjatlarning qabul qilinishi va ularning ijrosi bilan bog'liq mamlakat aholisining barcha qatlamlari, ayniqsa, yosh avlodning jismoniy tarbiya va sport bilan muntazam shug'ullanishi uchun zamon talablariga mos shart-sharoitlar yaratish, sport musobaqalari orqali yoshlarda o'z irodasi, kuchi va imkoniyatlariga ega bo'lgan ishonchini mustahkamlash, mardlik, vatanparvarlik, ona yurtga sadoqat tuyg'ularini kamol toptirish, yurtimiz vakillarining Olimpiada o'yinlari, jahon chempionatlari, Osiyo o'yinlari va chempionatlari va boshqa nufuzli xalqaro musobaqalarda yuksak natijalarga erishayotgani jahonda O'zbekistonning obro'sini yanada yuksaltirishga, jismoniy madaniyat va sportni yanada rivojlantirishga yo'naltirilgan keng ko'lamli ishlarning amalga oshirilayotganligi yurtimizning har bir fuqarosi uchun juda katta imkoniyatlar eshigini ochmoqda.

XULOSA

Xulosa o'rnida shuni ta'kidlash joizki, bugun "Yangi O'zbekistonda" jismoniy madaniyat va sportga berilayotgan e'tibor, yoshlarimizni jismoniy tarbiya va sport bilan muntazam shug'ullanishlari uchun yaratilayotgan shart-sharoitlar, bularning barchasi yoshlarimizning ma'naviy yetuk, jismonan sog'lom bo'lib voyaga etishlari, har-xil yot g'oyalarga berilmasliklari, qolaversa dunyoda o'zbek bayrog'ini yuqoriga ko'tarilishiga xizmat qilmoqda. Prezidentimiz Shavkat Mirziyoyev O'zbekiston Respublikasi davlat mustaqilligining 29 yilligiga bag'ishlangan tantanali marosimdagi nutqida xalqimizning ulug'vor qudrati jo'sh urgan hozirgi zamonda O'zbekistonda yangi bir uyg'onish - Uchinchi Renessans davriga poydevor yaratilayotganini ta'kidladi. O'zbekistondagi Uchinchi Renessans jismoniy madaniyat va sportni yuksaltirishga ham yo'naltirilganligi ushbu "hayotiy qobiliyat" ni oshirish maqsadi ko'zlanganligi bilan izohlanadi.

Prezidentimiz Shavkat Mirziyoyev ham "Sportni jadal rivojlantirish, xalqaro musobaqalarda yuksak natijalarga erishgan sportchilarni rag'batlantirish va qo'llabquvvatlashga bundan buyon ham katta ahamiyat beramiz" deb alohida ta'kidlagani bejiz emas. [1]

2019 yil 19 mart sanasida O'zbekiston Respublikasi prezidenti Sh. Mirziyoyev tomonidan mamlakatimizda ijtimoiy, ma'naviy-ma'rifiy sohalaridagi ishlarni yangi tizim asosida yo'lga qo'yish bo'yicha ilgari surilgan 5 ta muhim tashabbusning ikkinchisi ikkinchisi yoshlarni jismoniy chinqitirish, ularning sport sohasida qobiliyatini namoyon qilishlari uchun zarur sharoitlar yaratishga yo'naltirilganligi buning amaliy isbotidir. Bu jamiyatda sog'lom turmush tarzini - jismoniy faollik, badantarbiya mashqlari, sport bilan muntazam shug'ullanish qaror topishining asosidir.

"Yangi O'zbekiston" sportchilari mamlakatimizda Uchinchi Renessans davriga poydevor yaratishga o'zlarining munosib hissalarini qo'shishlari shubhasizdir. Yuqoridagilar ayni paytda "Yangi O'zbekistonda" jismoniy madaniyat va sport sohasida davlat siyosati darajasidagi ustuvor vazifalardan biriga aylangani va bu sohada yangi bosqich boshlanganidan dalolat beradi.

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*Turganbaev M.A.
student of group 2
Faculty of "Physical Culture"
Nukus State Pedagogical Institute named after Ajiniyoz*

ORGANIZATION OF PHYSICAL EDUCATION CLASSES BASED ON PEDAGOGICAL METHODOLOGY

Annotation. This article presents information on the principle-principle in the theory and methodology of physical education of the laws of nature, which govern the process of physical education and Physical Culture, affect the human body, physical growth, organizing physical education lessons based on pedagogical methodology.

Keywords: younger generation, healthy lifestyle, physical culture, activity, mental state, pace of training, technical-tactical.

It is considered an extremely important condition for the formation of the physical and spiritual health of the growing young generation in our country, the desire for a healthy lifestyle and the absorption of love for sports. The population is particularly concerned with the physical education of young people and mass sports, increasing their confidence in their will, strength and capabilities in young people through their participation in various sports competitions. Physical education and sports are important in the development of the growing younger generation in every possible way, mentally, morally and physically, and help in the formation of feelings of courage, patriotism, loyalty and honesty in them. The head of our state has put forward 5 important initiatives to establish work in the social, spiritual and educational spheres on the basis of a new system. In this, the second initiative is aimed at creating the necessary conditions for the physical conditioning of young people, their ability in the field of sports.

There are many benefits that can be obtained through physical education training, which helps young people grow up to be responsible adults who know the importance of a healthy lifestyle. The laws of nature that govern the process of physical education and Physical Culture, affect the human body, physical growth, have received the name principle-principle in the theory and methodology of physical education. Knowing the general principles of the development of the organism and their application in practice will bring the process of physical education of students to a more effective level.

In the literature on physical education and pedagogy, the principles are described differently, but the analysis of sources shows that one principle, defined by different names, indicates the following content:

- conscious, understood Organization of physical exercises for the comprehensive development of students in the process of physical education classes;

- using different forms of exhibitionism to better master the exercises you are teaching;

- to ensure the simplicity, intelligibility of specific goal-oriented and psychological weights that are offered to each student;

To strengthen the demand and provide the groundwork for further training as students involved strengthen what they have mastered in previous training sessions. Considering that in pedagogical science these principles are relevant in teaching, we call didactic principles. It is more legal to call principles methodical rather than didactic - methodological, since physical education, training in physical exercises and arming those involved with knowledge, covering the upbringing of physical qualities.

The basic methodological principles used in the formation of skills and competencies are the same and necessary for all, regardless of the age of the students. Knowledge conscious mastery of skills has the following characteristics: the purpose of education, the awareness of its need for life; conscious acquisition of factual materials and the ability to distinguish them among themselves; the perception of the processes of learning, strengthening, repeating knowledge; the ability to assess the results achieved by oneself on the subject of the theme. Activity, in turn, provides the basis for the upbringing of strength in children. These principles are complementary phenomena, the essence of which can be understood only when conceived as processes that are directed from the outside to the inside and from the inside to the outside. When activity is conceived as a process that is directed from the outside to the inside, then we realize the upbringing of strength in children in the form of personal quality.

Mental activity is aimed at the formation of mental tasks, processes, States and personal characteristics in athletes, which ensure the smoothness of the tasks of training and training in competition. The concept of mental training includes two concepts: general mental training and preparation for certain competitions. In addition, he will improve special types of progressives, such as in the formation of the mental environment in the sports team and the team, in the education of volitional qualities, the development of processes of progressiveness, in particular, the hiss of the opponent. In addition to the spiritual state dictates, its honesty. the accumulation, distribution of develops its transition from one to another. It is necessary to organize the ways of forming skills and competencies in such a way that they are always in development. It should also be remembered that the teacher has only special good training in the course of the lesson or does not work only with backward students, of course. It is necessary that he work with all students in the class in reliable problems and with a complete understanding of each other. So, what characteristics of students

should be taken into account for this, and what should be followed in accordance with these? Before all, it is necessary to distinguish between the child's attitude to reading and its outcome, and students who react negatively to reading and its outcome should be in the regular focus of the educator.

In conclusion, it is necessary to use different methods of methodological influence on them. To master and strengthen the training material, there is a huge difference in the need for exercises. The number and size of the necessary exercises in each student is different the pace of training of different individual practitioners. A highly qualified athlete must quickly find reasonable solutions and know how to apply the most effective technical and tactical actions for a particular competition situation.

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*Turg'unboyeva D.
Andijon davlat universiteti Geografiya
(o'rganish obyekti bo'yicha) mutaxassisligi magistranti*

MIGRATSIYASI JARAYONLARINI ASOSIY RIVOJLANISH TENDENSIYALARI

Abstract. In this article, the increasing social importance of the phenomenon of migration is associated with the expansion, deepening and acceleration of globalization, which is confirmed by the increased migration mobility of the population; concentration of immigrants in some countries and regions of the world; emergence of settlements as specific settlements of migrants; micro- and macro-level changes in social structure and relations in society, its socio-cultural values; new social formations - social communities, state of organization is highlighted.

Key words: migration processes, labor migrant, international migration organization, migration policy, integration, local population.

*Turgunbayeva D.
Master's student (on the object of study)
Andijan State University Geography*

MAIN DEVELOPMENT TENDENCIES OF MIGRATION PROCESSES

Abstract. In this article, the increasing social importance of the phenomenon of migration is associated with the expansion, deepening and acceleration of globalization, which is confirmed by the increased migration mobility of the population; concentration of immigrants in some countries and regions of the world; emergence of settlements as specific settlements of migrants; micro- and macro-level changes in social structure and relations in society, its socio-cultural values; new social formations - social communities, state of organization is highlighted.

Key words: migration processes, labor migrant, international migration organization, migration policy, integration, local population.

KIRISH Globallashuv jarayoni axborot oqimiga, madaniy tafovutlar va til to'siqlariga va hokazolarga ta'sir qiladi. Shu sababli, siyosatchilar, xususan, oliy ma'lumotlilarning migratsiyaga moyilligi ortib borishidan xavotirda. Agar shunday bo'lsa, bu nafaqat mehnat bozorlari, balki davlat moliyasi uchun ham bevosita ta'sir ko'rsatadi, chunki ta'lim subsidiyalanadi va yuqori daromad topuvchilar yuqori soliqlarni to'laydilar [1, 56]. Inson kapitalini yo'qotish xavfidan tashvishlanish globallashuvning yaxshi ma'lumotli ishchi kuchiga ega

bo'lish ahamiyatini oshirishi va mamlakatlar o'rtasida (oliy) ma'lumotli ishchilar ustidan raqobat tendentsiyasini oshirishi haqidagi tushuncha bilan ta'kidlanadi. Chetga migratsiyani oldini olish (va pirovardida ichki migratsiyani keltirib chiqarish) uchun oliy ma'lumotli ishchilarga soliq solishni kamaytirish bo'yicha takliflar ilgari surildi. Biroq, bunday o'zgarishlarning yuki migratsiya varianti kamroq ahamiyatga ega bo'lgan guruhlariga tushadi. Bunga qarshi turish uchun ba'zan ta'lim subsidiyalarini kamaytirish, ya'ni ta'limga xususiy hissa qo'shishni oshirish taklif etiladi. Agar dastlabki migratsiya darajasi past bo'lsa, malakasiz ishchilarni soliqqa tortish aniq ko'tarilishi kerak bo'ladi, ya'ni harakatchanlik uchun to'siqlarning pastligi malakali ishchilarga nisbatan malakasizlar uchun zararli taqsimlash oqibatlariga olib keladi.

MAVZUGA OID ADABIYOTLAR TAHLILI Migratsiya muammolarini faol o'rganishning boshlanishi maltusizm bilan bog'liq. 18-asrning yirik ma'rifatparvar faylasuflari ham, utopik sotsialistlari ham o'z asarlarida aholi migratsiyasi muammolariga to'xtaldilar. Klassik ilmiy maktab asoschilari A. Smit va D. Rikardolar [2, 67]. aholining ko'payishi va migratsiyasining iqtisodiy omillari talqiniga mansub. To'g'ridan-to'g'ri migratsiya masalalariga bag'ishlangan birinchi ilmiy ishlar paydo bo'ldi, ularda empirik kuzatishlar bilan bir qatorda migratsiyaning ba'zi umumiy qonunlari shakllantirildi. K. Keri, V. Izard, Stouffer, V. Vaditskiy, V. Alonso, I. Louri, M. Grinvud, A. Rodjers, R. Vikkerman, J.I. Kabi [3, 78] G'arb olimlarining migratsiya muammolarini o'rganishi. Kastro va boshqalar makro darajada o'tkazildi va T. Hägerstrand, JI. Sjaastad va boshqalar - mikro darajada va asosan iqtisodiy va demografik muammolar bilan bog'liq edi. Migratsiyani o'rganishga neoklassik iqtisodiy maktab vakillari Xarris, Torado, Strak va boshqalar katta hissa qo'shdilar. [4, 90]

TAHLIL VA NATIJALAR Migratsiya deganda odamlarning katta ijtimoiy guruhlarining ijtimoiy mavqei yoki turmush tarzini, har bir shaxsning ko'payish va rivojlanish sharoitlarini o'zgartirishga ma'lum bir tendentsiyani ifodalovchi statistik barqaror o'zaro ta'sirlar yig'indisi sifatida ijtimoiy jarayon tushuniladi. nisbatan uzoq vaqt davomida aholi yoki uning bir qismining davlat yoki ma'muriy chegaradan tashqaridagi ijtimoiy harakati ta'sirida davlat yoki mintaqa aholisining turli qatlamlari va guruhlarini ijtimoiy tuzilishi va maqom xususiyatlarining individual va ta'sir ko'rsatadigan o'zgarishi. Migratsiya jarayonini sotsiologik tahlil qilish strategiyasi uning ikki sub'ektivligiga asoslanadi, chunki nafaqat migratsiya jarayoni jamiyatning barcha jabhalaridagi, ham qabul qiluvchi, ham jo'natuvchi aholining ijtimoiy holatiga ta'sir qiladi, balki vaziyatning o'zi ham ushbu jarayonga ta'sir qiladi va o'z ichiga oladi. unga ta'sir etuvchi omillarning institutsional va situatsion xarakterdagi, shuningdek, ob'ektiv va sub'ektiv tomonlari tavsifi. [5, 147] Integratsiyaning dialog modelining sotsiologik kontseptsiyasi immigrantlar va mahalliy aholi o'rtasidagi murakkab o'zaro munosabatlarni tahlil qilish, jamiyat va immigrantlar tomonidan bir vaqtda mavjud bo'lgan turli integratsiya strategiyalarini kuzatish

va turli strategiyalarni birlashtirish imkonini beruvchi tahliliy vositadir. muayyan vaziyatlarda. Ichki va tashqi migratsiya paradigmalarini tizimlashtirgan matritsa migratsiyani o'rganuvchi fanlarga xos bo'lgan asosiy masalalar va tadqiqot metodologiyalari, hukmron nazariyalar va gipotezalar yig'indisidir; muammoli sohalarni tahlil qilish darajalari va birliklari; migrantlarning xatti-harakatlari va ularning oqibatlari.[6, 58] Bu tizimda sotsiologiya migratsiyani o'rganuvchi fanlar qatoriga kiradi, lekin hozirgi vaqtda uning predmeti torligi va boshqa fanlar bilan takrorlanishi bilan ajralib turadi, bu esa zamonaviy dunyoda migratsiya hodisasining oshib borayotgan ijtimoiy ahamiyatini o'rganish ehtiyojlariga javob bermaydi. migratsiya sotsiologiyasi sotsiologik bilimlarning nisbatan mustaqil bo'limi bo'lib, uning ob'ekti migratsiya jarayoni ijtimoiy-geografik harakatda ishtirok etuvchi aholining ijtimoiy o'zaro ta'siri, predmeti esa ob'ektiv va sub'ektiv tomonlarning o'zgarish dinamikasi hisoblanadi. eski va yangi jamiyat doirasida ko'chirilganlarning ijtimoiy munosabatlari [7, 83]. Migratsiya sotsiologiyasi sotsiologik bilimlarning bir tarmog'i sifatida nazariy va metodologik (ayniqsa sotsiologik) darajani, empirik sotsiologik tadqiqotlar darajasi va ijtimoiy-muhandislik darajasini o'z ichiga oladi. Bu darajalar predmetli sotsiologik bilimlar mavjudligining turli shakllarini aks ettiradi: nazariya, tushunchalar, paradigmalar, konstruksiyalar, tushunchalar (1), ijtimoiy faktlar (2), tavsiyalar, modellar, dasturlar va boshqalar. (3). Migratsiya sotsiologiyasining metodologik strategiyasining xususiyatlari ma'lumotlarni to'plash va ma'lumotlarni tahlil qilish usullari to'plamiga asoslanadi: turli xil so'rovlar, hujjatlarni ekspertlar va guvohlar bilan suhbatlar bilan birgalikda tahlil qilish, biografik usul, og'zaki tarix usuli, etnografik tavsifi va boshqalar; [8, 95]. Migratsiyaning doimiy o'zgarib turuvchi turlarini tiplashtirishga sotsiologik yondashuv inson xulq-atvorining xususiyatlarini cheklangan tarzda hisobga olishdan iborat bo'lib, uning doirasida tanlash erkinligi darajasi har doim cheklangan bo'lgan tuzilish jarayoni bilan belgilanadi va individual avtonomiya. har doim ijtimoiy kuchlar tomonidan belgilanadigan tuzilmalarning imkoniyatlari bilan o'zaro bog'liqdir.[9, 13] Ushbu yondashuv matritsa shaklida taqdim etiladi, bu erda vertikal o'q maksimaldan minimal avtonomiyagacha bo'lgan shkalada qaror qabul qilishni bildiradi (faol va passiv migrantlar); gorizonttal o'q iqtisodiy, ijtimoiy-siyosiy, sotsial-madaniy, sotsial-etnik va boshqa kuchlarning o'zaro ta'sirini ifodalaydi, ular kuchlarning ichki va tashqi kombinatsiyasi sifatida to'liq tsikldan o'tishini aks ettiradi.[10, 63]

XULOSA Migratsiya jarayonlari rivojlanishining asosiy tendentsiyalari quyidagilardan iborat: migratsiya harakatlari hajmining oshishi va geografiyasining kengayishi; migrantlarning yangi turlarining paydo bo'lishi, ularning ijtimoiy-madaniy xususiyatlarining xilma-xilligi; majburiy migratsiyaning kengayishi; migratsiya harakatlarini feminizatsiya qilish; o'z mamlakatida bandlik muammolarini hal qilish uchun emigratsiyadan foydalanish; dunyoda ro'y berayotgan makro va mikro darajadagi ijtimoiy

o'zgarishlarda migratsiya rolini oshirish. Rossiyada migratsiya jarayonlarini tartibga solishni optimallashtirish sohasidagi asosiy yo'nalishlar quyidagilardir: Rossiyada majburiy muhojirlar va qochqinlarning integratsiyalashuvi uchun shart-sharoitlar yaratish, xorijdagi vatandoshlar bilan aloqalarni qo'llab-quvvatlash va rivojlantirish; ichki migratsiya jarayonlarini optimallashtirish, muhojirlarni vaqtincha va doimiy mehnatga jalb etish orqali mehnat resurslaridan samarali foydalanishga ko'maklashish; Rossiya Federatsiyasiga immigratsiya oqimini monitoring qilishning yagona tizimini ishlab chiqish va yaratish, shu jumladan uning hududiga kiruvchi barcha shaxslarning sog'lig'i ustidan qattiq tibbiy va epidemiologik nazoratni tashkil etish.

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Tursunova F.Z.
magistrant
Bank moliya akademiyasi
O'zbekiston

RAQAMLI IQTISODIYOT - O'ZBEKISTON IQTISODIYOTI STRATEGIYASINING ASOSI

Annotatsiya. Ushbu maqolada mamlakatimizda iqtisodiyotning barcha tarmoqlariga raqamli iqtisodiyotning kirib kelishi, qo'llanilishi va afzalliklari to'g'risidagi fikrlar keltirilgan. Shuningdek, raqamli iqtisodiyotning rivojlanish shart-sharoitlari hamda strategik yo'nalishlari yoritilgan.

Kalit so'zlar: raqamli iqtisodiyot, axborot texnologiyalari, elektron hukumat, elektron xizmatlar, dasturiy mahsulotlar, strategik loyihalar, infratuzilma, modernizatsiya, elektron to'lovlar.

Tursunova F.
master's student
Academy of Banking and Finance
Uzbekistan

DIGITAL ECONOMY IS THE BASIS OF THE ECONOMIC STRATEGY OF UZBEKISTAN

Annotation. This article presents proposals for the accession, applicability and benefits of the digital economy in our country in our country. The conditions and strategic directions of development and strategic directions of the digital economy are also covered.

Keywords: digital economy, information technologies, electronic government, electronic services, software, strategic projects, infrastructure, modernization, electronic payments.

Kirish. Jahon iqtisodiyotining tajribasidan kelib chiqqan holda XXI asrning ikkinchi o'n yilligida bir qator iqtisodiy adabiyotlarda mamlakatning barqaror ijtimoiy-iqtisodiy rivojlanishiga erishish hamda makroiqtisodiy muvozanatini ta'minlashning muhim jihati raqamli iqtisodiyot tizimiga o'tish deb qaralmoqda. Iqtisodiy taraqqiyotning bugungi bosqichida O'zbekiston Respublikasida raqamli iqtisodiyotni rivojlantirish, tizimga oid meyoriy-huquqiy hujjatlarni ishlab chiqish, yangi texnologiyalarni joriy etish, kadrlarni tayyorlash va boshqa bir qancha muhim yo'nalishlarda samarali ishlarni bajarish, mamlakatimizda amalga oshirilishi lozim bo'lgan muhim ishlar doirasidagi asosiy vazifalar qatoriga kiradi. Ta'kidlash lozimki, keyingi yillarda O'zbekistonda raqamli iqtisodiyotni rivojlantirishga doir bir qancha meyoriy-

huquqiy hujjatlar ishlab chiqilib, unda mazkur tizimni taraqqiy ettirishga doir ko'plab bajarilishi lozim bo'lgan ishlar belgilab berildi. Jumladan, O'zbekiston Respublikasi Prezidentining 2018 yil 3 iyuldagi O'zbekiston Respublikasida raqamli iqtisodiyotni rivojlantirish chora-tadbirlari to'g'risidagi PQ-3832-sonli, O'zbekiston Respublikasi Prezidentining 2020 yil 5 oktabrdagi "Raqamli O'zbekiston-2030" strategiyasini tasdiqlash va uni samarali amalga oshirish chora-tadbirlari to'g'risida"gi PK-6079-sonli qarorlariga binoan respublikada raqamli iqtisodiyotni faol rivojlantirish, yaqin istiqbolda barcha tarmoq va sohalarga zamonaviy axborot-kommunikatsiya texnologiyalarini keng joriy etish bo'yicha kompleks chora-tadbirlar amalga oshirildi. O'zbekiston Respublikasida raqamli iqtisodiyotni rivojlantirish vazifasi milliy statistika doirasida ham bir qancha muhim ishlarning bajarilishini, shuningdek, milliy iqtisodiyot tarmoq va sohalarini raqamlashtirishga oid indikatorlar tizimi ishlab chiqilishi, mazkur tizim uchun ma'lumotlar bazasi shakllantirilishi, maxsus kuzatuvlar, so'rovnomalar, hisobot shakllari ishlab chiqilishini taqozo etadi. Shunday ekan, mamlakatning ijtimoiy-iqtisodiy taraqqiyoti va makroiqtisodiy muvozanatini baholash ko'rsatkichlari tizimini shakllantirishning muhim yo'nalishlaridan biri hisoblangan raqamli iqtisodiyot rivojlanishiga oid milliy indikatorlar majmuini ishlab chiqish milliy statistika tizimiga oid muhim masalalar ichida dolzarb ahamiyat kasb etadi.

O'zbekiston Respublikasini 2017-2021 yillarda rivojlantirishning beshta ustuvor yo'nalishi bo'yicha Harakatlar strategiyasini "Ilm, ma'rifat va raqamli iqtisodiyotni rivojlantirish yili"da amalga oshirishga oid davlat dasturida belgilangan vazifalarga muvofiq hamda iqtisodiyot tarmoqlari va davlat boshqaruvi tizimiga zamonaviy axborot texnologiyalarini keng joriy etish va telekommunikatsiya tarmoqlarini kengaytirish orqali respublika iqtisodiyotining raqobatbardoshligini yanada oshirish maqsadida raqamli iqtisodiyot va elektron hukumatni rivojlantirishning qo'shimcha vazifalari belgilandi.

2025 yilga kelib raqamli iqtisodiyotning mamlakat yalpi ichki mahsulotidagi ulushini 2,2 baravarga ko'paytirishni nazarda tutgan holda, shu jumladan ishlab chiqarishni boshqarishda axborot tizimlari kompleksini joriy qilish, moliyaviy-xo'jalik faoliyatda hisobot yuritishda dasturiy mahsulotlardan keng foydalanish, shuningdek, texnologik jarayonlarni avtomatlashtirish orqali uni jadal shakllantirish belgilangan.

Tahlillarga ko'ra, 2020-2021 yillarda barcha sog'liqni saqlash muassasalari, maktablar va maktabgacha ta'lim tashkilotlarini, qishloqlar va mahallalarni yuqori tezlikdagi Internet tarmog'iga ulash hamda aloqa xizmatlari sifatini oshirish belgilanganligidan ko'zda tutilgan holda mamlakatning raqamli infratuzilmasini to'liq modernizatsiya qilish va zamonaviy telekommunikatsiya xizmatlaridan barcha hududlarda foydalanish imkoniyatini ta'minlanishga erishildi. 2022 yilga kelib elektron davlat xizmatlari ulushi 60 foizga yetkazildi. Davlat axborot tizimlari va resurslarini yaratish hamda integratsiya qilish, davlat

ma'lumotlar bazalaridagi axborotlarni unifikatsiya qilish, shuningdek, davlat xizmatlarini ko'rsatish tartibotlarini optimallashtirish va tartibga solish orqali elektron hukumat tizimini rivojlantirish yo'lga qo'yildi.

2024 yilga kelib dasturiy mahsulotlarni ishlab chiqarish va texnologik maydonchalar yaratish orqali "raqamli tadbirkorlik"ni rivojlantirish, ushbu sohadagi xizmatlar hajmini 3 baravarga oshirish va ularning eksportini 100 million dollarga yetkazish rejalashtirilgan. Buning uchun ta'lim tizimining barcha bosqichlarida raqamli texnologiyalarni keng joriy etish va zamonaviy iqtisodiyot uchun zarur bo'lgan raqamli bilimlarning darajasini oshirish, ta'lim infratuzilmasini takomillashtirish hamda "Besh tashabbus" loyihasini amalga oshirish doirasida respublikaning barcha hududlarida raqamli bilimlarga o'qitish markazlarini ochish tashkil etildi.

2020-2022 yillarda iqtisodiyotning real sektori tarmoqlarini raqamlashtirishning asosiy yo'nalishlari ma'lum qilindi. 2022 yil 18 fevral kuni Toshkentda o'tgan mamlakatda davlat va jamiyat qurilishining yangi bosqichiga bag'ishlangan xalqaro konferensiyada O'zbekiston iqtisodiyot va sanoat vazirligi tomonidan 2020-2022 yillarda iqtisodiyotning real sektori tarmoqlarini raqamlashtirishning asosiy yo'nalishlari ma'lum qilindi. Ma'lumotlarga ko'ra, keyingi ikki yilda 37 ta korxona faoliyatida raqamlashtirish keng tatbiq etilishi hamda real sektor tarmoqlarini raqamlashtirishda quyidagi uchta strategik ustuvor yo'nalish aytib o'tildi:

1. Ishlab chiqarish va texnologik jarayonlarni avtomatlashtirish, moliyaviy-iqtisodiy faoliyatni avtomatlashtirish, moddiy-texnik resurslarni hisobga olish va boshqarish tizimlari (ERP);

2. Ishlab chiqarish va texnologik jarayonlarni avtomatlashtirishga qaratilgan axborot tizimlarni yagona axborot kompleksga jamlash bo'yicha dasturiy mahsulotlar;

3. Mijozlar bilan munosabatlarni tartibga solish, mahsulotlarni elektron tizimlar orqali sotish, marketingni boshqarish tizimlari (CRM).

Yuqorida qayd etilgan yo'nalishlar bo'yicha mamlakatimizda 2023 yilga qadar umumiy qiymati 5,2 trln so'mga teng jami 92 ta loyiha amalga oshirilishi rejalashtirilmoqda. Loyihalar 37 ta korxona faoliyatiga doir bo'lishi hamda quyidagi yirik o'zgarishlarni nazarda tutadi:

- "Olmaliq KMK", "Yoshlik-1" va "Qolmoqqir" konlarida kon transport kompleksini avtomatlashtirilgan boshqaruv tizimi;

- "Navoiy kon-metallurgiya kombinati", "Muruntov" konida kon-transporti kompleksini avtomatlashtirilgan boshqaruv tizimi;

- "O'zbekneftgaz" kompaniyasining boshqarishga yo'naltirilgan korporativ axborot tizimi (ERP), bundan tashqari konlardagi texnologik jarayonlarni avtomatlashtirish va monitoring qilish axborot tizimi;

- "O'ztransgaz" dispatcherlik boshqaruvi va ma'lumotlarni yig'ish dasturiy-apparat kompleksi (SCADA).

Bugungi kunda mamlakatimizda tashkil etilgan raqamli maydonchalar, ya'ni raqamli platformalarni chuqurlashtirish va ularning faoliyatini kengaytirish bilan bog'liq masalaga alohida e'tibor qaratiladi. Tarmoq rivojlanish darajasini ko'paytirish, oshirish hisobiga ushbu vazifalarni amalga oshirish nazarda tutilmoqda. 2022 yilda 47 ta rejalashtirilgan loyihani amalga oshirish uchun 1,2 trln so'm ajratilishi, keyingi yilda bu ko'rsatkich 2,1 trln so'mni tashkil etib, 23 ta loyiha bajarilishi belgilangan.

Xulosa o'rnida ta'kidlashimiz lozimki, raqamli iqtisodiyotning yetakchi davlatlar YAIMdagi ulushi yil sayin o'sib bormoqda. Masalan, uning AQSH iqtisodiyotidagi ulushi 10,9 foiz, Rossiyada 3,9 foiz, Hindistonda 5,5 foiz, Belarusda 6,5 foiz va Xitoyda 10 foizni tashkil etadi. O'zbekistonda raqamli iqtisodiyotni rivojlantirishning strategik yo'nalishlari hukumat tomonidan iqtisodiyotni raqamli ko'rinishga transformatsiya qilishda alohida tashkilot tuzishni istisno etmaydi. Masalan, 2011 yilda Germaniyada raqamlashtirish bo'yicha hukumatning harakatlar rejasining alohida strategiyasi qabul qilingan - Industrie 4.0, AQShda esa raqamlashgan sanoatni yaratish uchun Industrial Internet Consortium tashkiloti tuzilgan. Rossiya Federatsiyasida „Milliy texnologik tashabbus“ degan tashkilot tashkil etish orqali shu jarayonni rivojlantirish masalasi ancha tizimli ravishda olib borilgan. Albatta, biz bu borada o'zimizning tajribaga suyanagan holda ishimizni tashkil etishimiz maqsadga muvofiqdir.

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*Tursunova Yu.
lecturer*

*Department of Uzbek Language and Literature
Karshi State University
ORCID: 0009000946117216*

*Djumayeva K.
lecturer*

*Department of Uzbek Language and Literature
Karshi State University
ORCID: 0009-0007-1461-1899*

PRECEDENT UNITS IN WORKS OF ART (A. KAHHARA EXAMPLE OF EVIL STORIES)

Abstract.

Introduction. Each nation, in its speech and artistic creativity, strives to refer to the lexical units inherent in its national culture. In particular, in a work of art, the creator uses historical figures, historically significant places, historical events, mythological and textured images in order to reveal a certain content of the work. From this point of view, onomastic units in works of art manifest themselves in different states. They participate together with various associations in a literary text in accordance with the writer's artistic intention. Precedent names, which are one of such onomastic units, are studied in an interdisciplinary connection.

Research methods. The article uses methods of descriptive, historical, dictionary-spiritual, linguistic-poetic analysis.

Result and discussions. When studying the language of works of art, it is necessary to understand the period in which the writer lived, the conditions of writing the work, the purpose that the writer wants to express through writing the work. This is due to the science of linguopoetics, which arose at the junction of linguistics and poetics. A number of our scientists have contributed to the development of linguopoetics. X.Daniyarov, S.Mirzayev, G.Samadov, I.Kochkortoyev, H.Abdurakhmanov, N.Mahmudov, B.Umurkulov, I.Mirzayev, M. Among them are such as Yuldashev. Other researchers classify linguopoetics as:

- 1) poetic phonetics;*
- 2) poetic lexicology;*
- 3) poetic morphemics;*
- 4) poetic semantics;*
- 5) poetic syntax.⁴⁰*

⁴⁰ Uralova Ch., Boimatov S. Linguistic and poetic studies in modern linguistics. – Eastern Renaissance: Innovative, educational, natural and social sciences. 2021:5.423. pp. 466-467.

The linguistic and poetic analysis of a literary text covers not only the linguistic, but also the substantive aspect of the work. He is able to show the harmony of the content and form of a literary text. In the linguistic and poetic analysis of a literary text, one of the most important methods is to identify units filled with poetic content. Since precedent names with poetic content are among the units of onomastics, it is important to include poetic onomastics among the above classifications of linguopoetics.

Conclusion. Any science should have its own object of research. The object of the study of onomastics is any eminent types of nouns in the language. Linguopoetics, on the other hand, analyzes the artistic value of linguistic means.⁴¹ The term poetonym is used as the subject of poetic onomastics⁴². Precedent names, historically formed, passed down from generation to generation and spontaneously appearing in our speech, are a kind of poetonyms.

Keywords: linguopoetics, poetic onomastics, poetonym, precedent name, chrononym, antinomy, onomastic metonymy.

Introduction. When investigating the role of onomastic units in a literary text, two cases are considered: 1) a statistical case related to the treasure trove of a writer's or poet's word. This may be important for purely linguistic research on a specific topic. 2) creating the possibility of weighing individual units of the layer, isolated from the lexical base, into analysis based on various approaches. The connotative, signature and denotative meaning of anthroponyms, which make up a structural element, a specific layer of the vocabulary of a literary text, changes the functional and stylistic function of names, and this phenomenon leads to their study using various approaches. The expressive properties of onomastic units in a literary text were initially studied under the term "onomapoetics". The connotative, signature and denotative meaning of anthroponyms, which make up a structural element, a specific layer of the vocabulary of a literary text, changes the functional and stylistic function of names, and this phenomenon leads to their study using various approaches. The expressive properties of onomastic units in a literary text were initially studied under the term "onomapoetics". Russian linguist N.V. Podolskaya defines onomastics as "an onomastic term in fiction that studies the methodological and ideological tasks of famous horses, embodying the idea of the author." The first studies on onomapoetics were conducted by V.N. Mikhailov, E.B. Magazanik, L.I. It was conducted by such scientists as Kolokolova. Russian linguist N.V. Podolskaya defines onomastics as "an onomastic term in fiction that studies

⁴¹ Begmatov E. Anthroponymy of the Uzbek language. Academy of Sciences of the Republic of Uzbekistan. Tashkent, 2013. B – 9.

⁴² Radjabov F. Linguistic and poetic features of onomastic units in the works of Zahiriddin Muhammad Babur. Doctor of Philosophy (PhD) in Philological Sciences dissertation, 2022. B - 29.

the methodological and ideological tasks of famous horses, embodying the idea of the author."⁴³

The first studies on onomapoetics were conducted by V.N.Mikhailov, E.B.Magazanik, L.I.⁴⁴ It was conducted by such scientists as Kolokolova. In recent years, various questions about the place of onomastic units in a literary text have been studied under the term "poetic onomastics". In this regard, the Ukrainian linguist V.M. Kalinkin's doctoral dissertation and the monograph "The Poetics of Onym", based on the same dissertation, deserve special attention.⁴⁵

In the works devoted to the terms of Uzbek onomastics, one can find some thoughts about the terms associated with the art of onomastic units. In particular, R. Nuretdinova, based on the aesthetic features of famous horses, the researcher of this issue speaks about the existence of an independent direction of onomastics and classifies specific terms of this direction as follows:

1.Terms denoting scientific directions, methods of studying artistic and stylistic features of names: literary onomastics, literary and artistic onomastics, onomastics of fiction, artistic onomastics, onomastics of artistic language, onomastics of epics.

2.Terms related to the stylistic features of names: stylistic features of noun nouns, stylistics of anthroponyms, "talking names", stylistic features of noun names, talking nicknames, "talking" noun names, stylistic Ma "no" carrier names, stylistic and poetic function of the name, poetic "beautiful" names, onomastics works of art.

3.Terms denoting concepts related to the name of a particular work, personality, artistic images, characters: literary pseudonym, title of an artistic work, plate of an artistic work, title of an artistic image, title of an epic, onomastics of an epic, permanent pseudonym, seasonal pseudonym, character name, character name, texture of the name, texture of the image, the name of the negative image, fabric-fictional images, fabric-names⁴⁶.

N. Makhmudov in the article "the language of science and linguistic science" wrote: "to study and assimilate any science, it is necessary to know its alphabet-terminology. As you know, the basic concepts of science, large and small, are expressed directly in terms,"⁴⁷ ta'kidlak said, "the terminological

⁴³ Подольская Н. В. словарь русской ономастической терминологии.- М: Наука,1998. - С.28

⁴⁴ Михайлов В. Н. Собственные имена героев русской художественной литературы XVIII и первой половины XIX века заключаются в их функциях и словообразовании.автор.diss.канд. - как насчет этого?Филол. - как насчет этого?наук.М. 1956 год. Магазаник Е. В поэтика имен собственных в русской классической литературе. Автор. diss. канд. - как насчет этого? Филол. - как насчет этого? наук.Самарканд.1967 Колоколова Л. И. ономастика А. Р. В художественной речи Чехова. автор. diss. канд. - как насчет этого?

Филол. - как насчет этого? наук.Волгоград.2000

⁴⁵ Калинкин В.М.Поэтика онима. - Донецк.1999.

⁴⁶ Nuritdinova R. Linguistic analysis of the terms of Uzbek onomastics: Philol.sciences.PhD thesis. - Tashkent, 2005.- В.62-63

⁴⁷ Makhmudov N. The language of science and linguistics//Uzbek language and literature. - Tashkent, 2013. - No.5-B.3-10.

system of the same industry should be streamlined, scientifically clearly interpreted and unified.

It seems that several works on the poetics of names have been carried out in different linguistic disciplines. The research in Russian, Ukrainian, and Tatar linguistics is particularly noteworthy. In Uzbek linguistics, studies devoted to this problem are not systematically studied. In particular, one of the urgent problems is the issue of linguistic and poetic analysis of precedent units used in a work of fiction.

In studies related to the linguistics of the text, a separate phenomenon is noted, generalized by the term "precedent units". Nouns, stable phrases, sentences and texts that are familiar to native speakers of a particular language and stored in their linguistic memory, which are repeatedly referred to in speech activity, are accepted as "precedent units"⁴⁸. D.Khudoiberganova this term was first used in linguistics by Yu.N.Karaulov also emphasizes that precedent names occupy a special place in precedent units⁴⁹. The linguist also highlights, using the example of a precedent, another function of names, participation in the creation of a text as a subject of microtext." D.Khudoiberganova's reflections on popular names associated with the national mentality of the Uzbek people, on their role in the creation of the text, can be called one of the first in our linguistics⁵⁰.

Materials and methods. In this article, we have reviewed several methods. It is the method of linguistic and poetic analysis that is important for us in determining the precedent units presented in the stories of Abdullah Kahar. Because linguopoetic analysis covers not only the language of the work, but also the content aspect. It shows the harmony of the content and form of a literary text. With a linguopoetic analysis of onomastic units in a literary text in Uzbek linguistics. Andaniyazova and D.Khudoiberganova were seriously engaged.

The linguistic-poetic analysis of a work of art requires the study of a literary text from the point of view of theoretical knowledge of both linguistics and poetics.. At the same time, it is assumed that the linguistic and poetic study of precedent units in the stories of Abdullah Kahhar will solve the problem of the onomastic scale of the literary text. G.E.Lessing, V.V.Vinogradov, F.Schiller, Humboldt, A.A.Potebnya, G.O.Vinokur, V.M.Zhirmunsky, V.Ya.Zadornova, L.V.Shcherba, O.S. contributed significantly to the development of the method of linguopoetic analysis in world linguistics. With the linguopoetic approach to the onomastic scale, only those names that are used for the artistic purposes of the Creator are involved in the analysis. The onomastic scale of the artistic text also plays an important role in creating an

⁴⁸ Khudaiberganova D. Anthropocentric study of the text. - Tashkent; Nauka 2013. - B.87

⁴⁹ Khudaiberganova D. The work shown. - B.91.

⁵⁰ Khudaiberganova D. The work shown. - B.91

effect inherent in a work of some genre character, in ensuring the splendor of the text, in showing the national mentality, the original culture of the people, in showing the level of artistic thinking of the Creator. That is why it is important to determine the limit of precedent units in a literary text. An important task of our article is to identify precedent names in the stories of Abdullah Kahhar, to reveal their functional and stylistic features. Results and discussions. Several onomastic units are used in the stories of Abdullah Kahhar. Among them, units that have been preserved in the linguistic memory of native speakers, have a sign of popularity and serve to reveal the writer's artistic intent, i.e., precedent units, are of great importance. The use of precedent units depends on the writer's skills. From onomastic units that serve to reveal the ideological content of a work of art, precedent units today, based on popularity, will consist of universal, social and national precedent units. Universal precedent units refer to historical or textual names familiar to almost everyone. Social precedent units are well-known nouns known to certain social groups. And national precedent units are designed to show the national spirituality of the Uzbek people. We see the peculiarity of the use of precedent units in the work of Abdullah Kahhar. In his stories A significant place is occupied by national precedent units based on fame. Among them, precedent names are of particular importance. Precedent names are ready-made blocks of content that, as a multifaceted phenomenon, should be studied in linguistics in various aspects. In this regard, the linguist also had in mind the linguistic and poetic study of precedent names, saying that with the help of such studies it is possible to shed light on the fact that popular names in a literary text, familiar to most people, can be an important tool in illuminating a creative artistic idea⁵¹. At this stage, it should be said that Abdullah Kahhar is a witness to how the names of historical figures are mainly used: *Zuhra's face is not a joke, but standing like that, because she considered both the request of her wives and the phrase, which in response meant "thank you for lifting my mood," Fatima looked down on. - What am I ashamed of, the question of free love was raised by Navoi, Tolstoy! - he said, turned around and entered the house. Fatima was confused She got sick of people*⁵². Of course, this is not the person who has not heard such writers as Navoi and Tolstoy, whose name is mentioned in this example. At this stage, it should be said that Abdullah Kahhar is a witness to how the names of historical figures are mainly used: *Zuhra's face is not a joke, but standing like that, because she considered both the request of her wives and the phrase, which in response meant "thank you for lifting my mood," Fatima looked down on. - What am I ashamed of, the question of free love was raised by Navoi, Tolstoy! - he said, turned around and*

⁵¹ Гунко Ю. Особенности функционирования прецедентных высказываний в разговорной речи носителей русского языка. дисс....д-ра.филол.наук.-Санкт-Петербург,2002-с.76-77

⁵² Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-123.

entered the house. Fatima was confused by people and got sick. Of course, this is not the person who has not heard such writers as Navoi and Tolstoy, whose name is mentioned in this example. The question of love occupies a leading place in the work of Alisher Navoi, who, with his "Khamsa" and other works, occupies an invaluable place in Uzbek and world literature. At the same time, the great figure of Russian and world literature Leo Tolstoy became famous all over the world with the novel "Anna Karenina", glorifying love. The writer quotes these two creators in the story, according to the famous Tatar poet, "Love itself is an old thing, but every heart renews it."

The writer in another story: *The guest could not answer my question. After that, I saw the guest "at lightning speed", naming several people who have become world famous in our country. No, the Guest did not hear any of these people, not even Ibn Sina*⁵³. Ibn Sina, known in the east as "Sheikh UR-Rais" and in the West as "Avicenna", made a huge contribution to the development of medieval Uzbek science. His book "Al-kanun fit-Tib" ("the laws of medicine") made a huge contribution to the development. His book "al-kanun fit-Tib" ("laws of medicine") is a popular work in medicine not only in Uzbekistan, but also around the world. This work was translated into Latin in the twelfth century and was used as a basic guide in European medicine until the seventeenth century⁵⁴. The writer shows that this is a sad situation when none of these world-famous historical figures is recognized as the hero of the story.

When it comes to the formation of Western culture, the great Greek philosopher Plato appears before us. His vast legacy is still used by the countries of the West and the East. It is clear from the sources that Plato, that is, when Plato's name is mentioned, was both a mathematician and a writer, as well as the founder of the early academy in Athens⁵⁵. A person with such mental strength, of course, will not go unnoticed by Uzbek writers. In particular, Mukhtar survived from our creators, who also dedicated the novel "Plato" to him. The writer Abdullah Kahhar, on the other hand, used the historical anthroponym of Plato to symbolically express the great sage in the story "prophecy": – *you will sow poppies on all your lands! The chairman was disappointed. Said Jalal Khan is gone. Along the way, another thought occurred to him: "Won't I be able to become khan if I do what I did to the Chairman, to the government?" The thought made his head feel even bigger and much heavier. "When the mind makes the head so big and so heavy," he said inside, "I can't believe Plato died a natural death, he was definitely killed by his head."*⁵⁶

Universal precedent names are also appropriately used in the stories of Abdullah Kahhar: *1) my husband, comrade Bakizhan Bakoev, drank four cups of*

⁵³ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-141.

⁵⁴ Mukhamedzhanov A. The history of Uzbekistan. (From the IV to the XVI centuries). - Tashkent, 2017. B – 96.

⁵⁵ Aupov A. National Encyclopedia of Uzbekistan. Volume one. - Tashkent, 2000.

⁵⁶ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-173.

tea in a row and sweated until he was very thirsty. "although the tea after the dumplings is going very well," he said, wiping sweat from his face. - Hmm, the beard is also growing, without a hairdresser, people would become monkeys. The monkey shed its fur and became a man. Engels has an opinion on this...⁵⁷ 2) Hamida said that she studied biology, what else will take place this academic year, and again turned the word to Chekhov, saying that her acquittal also intended to show the physiological foundations. "Hmm," Bakoev said, "I have my own opinion about Chekhov. No matter what others say, in any case, in his view of the world... His worldview differs from that of Pushkin and Lermontov. It's completely different than being writers of an era, a class, a country! - Chekhov did not live at the same time as Pushkin, – said Mukarram, - we have a photo of him in the library with Maxim Gorky. Chekhov must have died in 1904⁵⁸. 3) even the famous writers Saltykov and Shchedrin cannot be distinguished from each other, two people say. Laughing, I'm dying. I remember telling you⁵⁹. The universal precedent names presented in the examples can be easily mastered by every Uzbek reader of the Republic of Belarus.

Precedent units are manifested as a means of transmitting cultural codes from generation to generation. At the same time, the study of texts containing text-analogies, text-metaphors, precedent units, standards, speech labels is the most important source for creating a scientific interpretation of the linguistic picture of the world inherent in a particular ethnic group⁶⁰. Any type of onomastic units can become precedent units in a literary text. For example, in Abdullah Kakha's short story "people with tails", we can consider toponyms as precedent units: *I employees, which required a book. My passion for English, of course, is not accidental, as a child I heard a lot of the definition of America: But for skyscrapers, for hanging streets...*⁶¹ The events in this story do not take place in an American country. The buildings are there-he doesn't even sit, giving a description of the streets by the writer. The precedent of the only American place name used in the story based on the signs of presence or popularity in the linguistic memory of a person, inherent in the units, embodies the landscape of this place right before our eyes. The greed for the word and the breadth of content inherent in Abdullah Kahhar are obvious here. When studying works of art through linguistic and poetic analysis, an important place is occupied by the period of the writer's life, the circumstances of writing the work, the purpose that the writer seeks to express through writing the work. Abdullah Kahhar's short story "Asror bobo" covers wartime events. The story was written in 1943, during the same 2nd World War, everyone contributed to the war. In the same

⁵⁷ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-179.

⁵⁸ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-173.

⁵⁹ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-84.

⁶⁰ Khudaiberganova D. Anthropocentric interpretation of literary texts in the Uzbek language. Doctor of Philosophy (PhD) in Philological Sciences diss.

⁶¹ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-180.

spirit, one of the story's caretakers, Asrorkul, is also passionate about this case. His work with the same enthusiasm as that of young people, despite his advanced age, also attracts the attention of the secretary of the mayor of the district: His father did a lot himself after sending the samovar. At the district meeting of the advanced brigades, the governor's secretary praised his father: *"Asrorkul father, the best agitator in our area, is standing here and setting Berlin on fire," he said*⁶². When we read the passage, we see the war taking place in Berlin, and how many of our compatriots are fighting on its field. This meaning, expressed through the connotative meanings of precedent units, is of a metonymic nature. In another story about Abdullah Kahhar, we can also say that the toponyms came in a metonymic sense: *Fahriddin looked at his father while pouring water into a turd. "Yes, son, are you sad?" - said the father. "No," Fahriddin drawled. - Don't be sad. I sent a man to the cart. We're sending them to the hospital. Anyway, the wife's seed is not from Herat!*⁶³

One of the areas of Uzbek onomastics that has not yet been sufficiently studied is chronology. Chronicles are studied as units that make up a chronology. Chrononym (Greek.Chronograph – time, deadline, onoma – nice horse) – it is considered a glorious horse of historical epochs and stages⁶⁴. In the stories of Abdullah Kahhar, which we are exploring, there are some manifestations of chrononyms: *Baki Mirza was a famous man in his city with that name. In the time of Nicholas, he served in companies, on farms*⁶⁵. In this In an excerpt from the story of the creator of Mirza, the chrononym of the time of Nicholas is in a complex form and reflects the reign of the last emperor of Russia. In other stories of the writer, this same connection, as a precedent unity, embodies the functions of confirming and proving the author's opinion. In other stories of the writer, this same connection, as a precedent unity, embodies the functions of confirming and proving the author's opinion. Let's look at the examples below: 1) *in the time of Nicholas, raisins were expensive, poppy seeds were cheap: in our time, raisins were cheap, Poppy seeds. Just remember the poppies, which were slightly compressed at that time!*⁶⁶ 2) *then one of the people sitting, apparently bored with the picky statement, yawned heavily and said: – I'll tell you, Mullah Norkuzi, it's not about the burqa, but the fact that in the time of Nicholas, wives in correction were not thugs!*⁶⁷ In the story "Asror bobo", as a result of applying the name Ak Pasha to Nicholas II and combining it with the word year, denoting time, a chrononymic unity was formed: *in the year when Ak Pasha received the position, one evening, when Father Haidar went out to the*

⁶² Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-100..

⁶³ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-153.

⁶⁴ Begmatov E., U. Iukov N. Explanatory dictionary of terms of Uzbek onomastics. – Namangan, 2006. B-91

⁶⁵ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-165.

⁶⁶ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B170.

⁶⁷ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B88.

*shop of a master believer, an outsider rested and interrogated, they said that he is a "fugitive from ult."*⁶⁸

The "talking names", which are the artistic texture of the Creator, assume certain functions in the artistic text. They comprehend information about the character of the hero. We can also see this situation in the nickname given to Father shermat, the main character of Abdullah Kahhar's story "the extinct volcano": *Shermat, brother, we have both been relatives for thirty-five years. I have been working under this man for thirty-five years. This man raised me from a watchman to a scout, from a scout to a driver, from him to the head of the farm, alhol, I am in this position stably. In these thirty-five years, we have seen seven offices. Whichever office this person went to, I was also picked up in less than three days. I should mention that all these years, as I was climbing more and more from the bottom up (I repented, no one needs to laugh), this man continued to roll up the career ladder. I would say that I've always been sad, I'm still sad now. I'm not talking about a career here, even without a big deal, this man's career is great, his reputation is in place, his no one will say for sure: shermatjon aka-Chi shermatjon aka, shermat other-Chi shermat other!.. I feel sorry for something else, this man did great things, playing and laughing, he had problems with low positions, first of all, he had a long arm at a big job, he passed on everything he could, like "ugina from you, from me to today", to which no matter how they turned to the head of the office, their requests did not remain on the ground; secondly, no matter how good a job there was in the office, the reward went to the head, and the sin went to the poor citizen; thirdly, if a report, lecture, speech, assistants would have had time to do everything, it would only have remained for brother Shermatjan to translate it into the Arabic alphabet (shermatjan aka knows little of the new alphabet), to read it in the appropriate place; fourthly, a person would need to read a newspaper, not to mention that his assistants "read everything that is said in the newspaper related to the office and management, and tell me about the content." A few days later, the head of Shermat called his brother for a conversation. Brother Shermat did not tell me what was said in the conversation, but he said something that escaped his soul: he is called an "extinct volcano."*⁶⁹

Conclusion. The most important signs of precedent units are the signs of popularity and presence in the memory of native speakers. Precedent units in the stories of Abdullah Kahhar, when studying on the basis of these signs, there are both precedent units containing both of their signs, and onomastic units representing one sign.

The linguopoetic analysis of the onomastics of artistic works based on signs of popularity, symbolism, and the previous presence in the memory of native speakers inherent in precedent units constitutes a significant part of modern research. However, precedent is just some of the aspects of the units that

⁶⁸ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B92.

⁶⁹ Abdullah Kahhar. Garnet: stories and stories. - Tashkent, 2005. B-137.

have yet to be explored. In particular, it is important to study the functions of precedent units in the works of Abdullah Kahhar in revealing the meaningful nature of the work of art.

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THE ROLE OF CONCRETE PRODUCTS IN THE DEVELOPMENT OF BUILDING MATERIALS

Abstract. Concrete products have been a cornerstone in the evolution of building materials, offering unparalleled versatility, durability, and economic viability. This article explores the pivotal role that concrete products have played in shaping modern construction, examining their historical development, material properties, and the advancements that have propelled the industry forward. Additionally, the environmental impact and future potential of concrete innovations are discussed to provide a comprehensive overview of this fundamental building material.

Keywords: Concrete products, Building materials, High-performance concrete (HPC), Self-consolidating concrete (SCC), Ultra-high performance concrete (UHPC), Sustainability, Supplementary cementitious materials (SCMs), Carbon capture and utilization (CCU), Recycled concrete aggregates (RCA).

Introduction

Concrete, a composite material composed of fine and coarse aggregates bonded together with a fluid cement that hardens over time, has been utilized in construction for millennia. From the ancient Roman structures that still stand today to contemporary skyscrapers, concrete has proven its value through its robustness and adaptability. This article aims to highlight the significance of concrete products in the development of building materials, exploring how innovations in this field have addressed both engineering challenges and environmental concerns.

Historical Perspective

Concrete's history dates back to ancient civilizations, with the Romans being among the first to use a form of concrete made from volcanic ash and lime. This early innovation allowed them to construct enduring structures such as the Pantheon and aqueducts. The modern era of concrete began in the 19th century with the development of Portland cement by Joseph Aspdin. This invention revolutionized construction, leading to the widespread adoption of concrete as a primary building material.

Material Properties and Advancements

Concrete is prized for its strength, durability, and versatility. Its material properties can be tailored through the use of various additives and admixtures, enhancing characteristics such as workability, setting time, and resistance to environmental factors. Recent advancements in concrete technology include:

- **High-Performance Concrete (HPC):** Designed to provide superior mechanical properties and durability, HPC is used in demanding environments such as bridges and high-rise buildings.

- **Self-Consolidating Concrete (SCC):** This highly flowable concrete can spread into place and fill formwork without mechanical consolidation, reducing labor costs and improving finish quality.

- **Ultra-High Performance Concrete (UHPC):** Known for its exceptional strength and durability, UHPC contains steel fibers and other materials that significantly enhance its performance.

Environmental Impact and Sustainability

The production of concrete, particularly Portland cement, is associated with significant CO₂ emissions. As the construction industry seeks more sustainable practices, innovations in concrete production and recycling are critical. Efforts to reduce the environmental footprint of concrete include:

- **Supplementary Cementitious Materials (SCMs):** The incorporation of industrial by-products such as fly ash, slag, and silica fume reduces the reliance on Portland cement and enhances concrete's durability.

- **Carbon Capture and Utilization (CCU):** Technologies that capture CO₂ emissions during cement production and incorporate them into concrete can mitigate the environmental impact.

- **Recycled Concrete Aggregates (RCA):** The use of crushed concrete from demolished structures as aggregate in new concrete mixtures promotes circular economy practices.

Future Prospects

The future of concrete products in building materials looks promising, driven by continuous research and development. Potential innovations include:

- **Graphene-Enhanced Concrete:** Incorporating graphene can improve the strength and durability of concrete while reducing the amount needed, thus lowering CO₂ emissions.

- **3D-Printed Concrete:** This technology allows for the rapid and cost-effective construction of complex structures, offering significant design flexibility and reducing waste.

- **Bio-Concrete:** Incorporating bacteria that precipitate calcite can enable concrete to self-heal cracks, extending the lifespan of structures and reducing maintenance costs.

Conclusion

Concrete products have played a pivotal role in the development of building materials, offering solutions to engineering challenges and contributing to the advancement of the construction industry. Through continuous innovation and a focus on sustainability, concrete will remain a fundamental material in building resilient, efficient, and environmentally friendly structures. As research progresses, the potential for new and improved concrete products promises to further revolutionize the way we build our world.

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*Xojyazova D.Sh.
geografiya yo'nalishi talabasi
Urganch davlat universiteti
O'zbekiston*

ULUG' SHO'R KO'LDA TURIZMNI RIVOJLANTIRISH ISTIQBOLLARI

Annotatsiya: Ushbu maqolada Xorazm viloyati Yangiariq tumanida joylashgan Sho'rko'l ko'lining turizm salohiyatini oshirish va sayyohlar oqimini ko'paytirish bo'yicha yo'l yo'riqlar ko'rsatilgan.

Kalit so'zlar: Geografik koordinata, suv resurslari, rekreatsiya, ekoturizm,, morfologiya, iqlim, madaniyat, an'ana.

*Khojyazova D.Sh.
student of geography
Urganch State University
Uzbekistan*

PROSPECTS FOR THE DEVELOPMENT OF TOURISM IN ULU-SHUR LAKE

Abstract. This article shows directions for increasing the tourism potential of Lake Shorkol, located in the Yangiariq district of the Khorezm region, and increasing the flow of tourists.

Key words: Geographic coordinates, water resources, recreation, ecotourism, morphology, climate, culture, traditions.

Ulug'sho'rko'l-Xorazm viloyati Xiva shahridan 14 km janubi-sharqda va Chiqirchi qishlog'idan 6 km janubda Yangiariq tumanida joylashgan. Ko'ning janubiy qismi Turkmaniston hududiga qarashli. Geografik koordinatalari bo'icha 41 shimoliy kenglik, 60 sharqiy uzunlikga ega. U 86 metr balandlikda joylashgan bo'lib havzasining maydoni 14,8 km². Ko'l shimoldan janubga 16 km uzunlikka cho'zilgan. Shimol qismida eni 4 kilometrgacha boradi. Ko'l asosan Ozyorniy kollektor suvlari va shimol qismidagi dalalarni yuvishdan oqib keladigan tashlama suvlardan to'ynadi. Shu sababli xam ko'ning suvi sho'r. Ulug'sho'rko'lning ko'rinishi uchburchakka yaqin shaklda bo'lib, shimoldan janubga cho'zilib, asta sekin janubga tomon torayib boradi. Ko'l dengiz sathidan 86 metr balandlikdan oqib o'tadi shu bilan birgalikda ko'ning qirg'oq chizig'i o'zgaruvchan. Janub, g'arb va sharqdan ko'l Zaynguz Qoraqumning qumli barxanlari bilan o'ralgan. Drujba ko'li kollektori suv omborining shimoliy qismida o'tib, uni shimoli-sharqda Buryatapko'l ko'li bilan bog'laydi. Ko'l shu kanal orqali oqib o'tadigan suv oqimi bilan xam to'ynadi [1].

Ulugʻshoʻrkoʻl rekreatsiya ham turizm ahamiyatiga ega boʻlgan koʻllardan biri hisoblanadi. Shuningdek hozirda bu koʻldan toʻlaqonliligicha foydalanib boʻlmayapti. Oʻzbekistonda iqlim oʻzgarishi natijasida suv resurslari kamayishi kuzatilayotgan bir paytda suv resursi hisoblangan tabiiy koʻllardan toʻliq va samarali foydalanish muhim ahamiyatga ega. Hozirda bu koʻldan rekreatsion maqsadlarda foydalanilmoqda. Shuningdek Xorazm viloyatidagi eng katta baliq xoʻjaligiga ega mashhur koʻl ham hisoblanadi.

Maʼlumki, koʻllar dunyodagi eng mashhur sayyohlik joylaridan biri hisoblanadi. Lekin, koʻl turizmning barqaror rivojlanishi tobora muammoli boʻlib qolmoqda. Koʻl turizmini rivojlantirish uchun avvalo tashrif buyuruvchilarni boshqarish va rejalashtirish, tarixiy-madaniy meʼroslarga alohida eʼtibor qaratish va atrof muhitni musaffoligini eʼtiborga olish zarur.

Bir vaqtning oʻzida yer va suvdan bepul foydalanish koʻllar uchun foydali hisoblanadi. Koʻlning asosiy elementi suv hisoblanadi. Suv jozibali element boʻlib, dam olish va bayramlarda muhim roʻl oʻynaydi. Sohil turizmidan tashqari, butun dunyo koʻl va botqoq boʻyidagi koʻplab yoʻnalishlarni topish mumkin. Ushbu koʻl va botqoqli joylarning ahamiyati, morfologiyasi, iqlimi, madaniyati, anʼanalari va boshqalar jihatidan juda farq qiladi. Shunga qaramay, ular oʻzlarining xususiyatlari, rivojlantirish xususiyatlari va duch keladigan tahdidlar, shu jumladan turizm bilan bogʻliq boʻlgan turli xil oʻxshashliklarni koʻrsatadi. Oxirgi yigirma yil ichida turistlarning ham sayyohlik tadbirkorlarining ham ekologik madaniyati yaxshilandi. Buning natijasi Shoʻrkoʻl koʻlida ifloslantirishni pasaytiradi. Bundan tashqari, hozirgi kunda qadar koʻl va suv botqoq hududlari oʻrtasida faqat bir nechta almashinuv mavjud. Shunday qilib, koʻl turizmini rejalashtirish, rivojlantirish, boshqarish va marketing boʻyicha maʼlumotlar va tajribalar almashinuvini qoʻllab quvvatlash ekoturizmni rivojlantirish boʻyicha uzoq muddatli strategiyalarni ishlab chiqish va amalga oshirishga yordam beradi va shu bilan birga, bunday hududlarni muvafaqqiyatli saqlab qolish uchun imkoniyatlar yaratadi [2].

Shoʻr koʻl koʻlining turizmini rivojlantirish turistik mahsulotlarning asosiy tarkibiy qismi sifatidagi ekologik resurslardan foydalanishning toʻgʻri muvozanatiga boʻgʻliq boʻlib, turizmning atrof-muhit va tabiatga salbiy ekologik taʼsirini kuzatish mumkin. Ekoturizm va koʻl turizmi sayyohlik sanoatining eng tez rivojlanayotgan qismlaridan biri hisoblanganligi sababli, jamoat guruhlari, shuningdek, nodavlat, notijorat tashkilotlari oʻz mintaqalarida turizmning barqaror rivojlanishiga taʼsir koʻrsata oladi.

Mazkur koʻlda turizmni rivojlantirish uchun birinchi navbatda koʻlni asosiy qismini baliq xoʻjaligiga emas balki shu koʻl turizimiga qaratish kerak. Buning uchun koʻproq qayiq va shu jumladan kattaroq kemalar, yaxtalar zarur boʻladi. Bu sayyohlar oqimini oshishiga yordam beradi. Buning uchun esa koʻl atrofida kichikroq mehmonxonalar xamda sayyoxlar uchun qulay uylar qurish maqsadga muvofiq. Avvalo, Shoʻrkoʻl koʻlining turizm salohiyatini oshirish va barqarorlashtirish uchun Xorazm viloyatiga, balki Yangiariq tumaniga katta

e'tibor qaratish kerak. Shundagina sayyohlar qiynalmay ko'lga sayyohlik tashrifini amalga oshiradilar. Buni faqat sayyohlar uchun emas balki, mahalliy aholi uchun ham yaratish, shart-sharoit qilish shu kunning dolzarb masalalaridan biri hisoblanadi. Chunki avvalo O'zbekistonda balki butun dunyoda ichki turizmi yaxshi rivojlangan mamlakatning tashqi turizmi ham keng quloch yozgan bo'ladi.

Shu sababli xam Xorazm viloyatiga boshqa hududlardan keladigan aholi oqimini ko'paytirish zarur. Xozirgi kunda viloyatda mahalliy aholi hisobiga bir kishisiga 130 sayyoh to'g'ri keladi. Bu bir tomondan sayyohlar iste'moli uchun zarur bo'ladigan barcha mahsulotlarni ishlab chiqarishni rag'batlantiradi, xizmat ko'rsatish tarmoqlarini ish bilan ta'minlaydi, ikkinchi tomondan fuqarolarning me'yoriy turmush tarziga xalaqit ham beradi [1]. Bu Yangiariq tumani aholisini ish bilan ta'minlay oladi. Yangiariq tumani faqat baliq xo'jaligini orqasidan emas balki Sho'rko'l ko'li tufayli ham rivojlanib, ravnaq topadi. Chunki turizm - ijtimoiy o'zgarishlarning qudratli omilidir, shu bilan birgalikda xalqaro turizm an'anaviy turmush tarzidan zamonaviy g'arb jamiyati tarziga o'tishga katta turtki bo'ladi.

Xar bir mintaqada yaratilgan turizm o'bektlari shunday bo'lishi kerakki, u

1. mahalliy aholiga manfaat keltirishi kerak;
2. mahalliy iqtisodiyotni kuchaytirishi kerak;
3. mahalliy ishchi kuchini o'qitish va jalb qilish kerak;
4. mavjud resurslar va qurilish materiallaridan, mahalliy qishloq xo'jaligi mahsulotlaridan oqilona foydalanish va hududning o'ziga xos jihatlari hisobga olish kerak.

Xulosa qilib aytganda, Sho'r ko'lining ekologik xolati talablarga javob beradi. Shuning uchun ham bu ko'lda turizmni rivojlantirishning yangi yo'nalishlarini ishlab chiqish maqsadga muvofiq. Shuningdek Xorazm viloyati Yangiariq tumanidagi ushbu ko'ldan baliqchilik, turizm maqsadlarida foydalanish, foyda ko'rish istiqbollari mavjudligi sababli, gidrobiologik holatini yaxshilab o'rganib, kengaytirish yangidan yangi tadqiqotlar olib borish shu kunning dolzarb masalalaridan biri deyish mumkin.

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Xudjanova M.A.
senior lecturer
Physiology Department
Samarkand State University of Medicine
Xasanova S.B.
assistant
Physiology Department
Samarkand State University of Medicine
Adhamova O.B.
student of group 111
Faculty of Medicine 1
Samarkand State Medical University

DYNAMICS OF CHANGES IN SOME HEMATOLOGICAL PARAMETERS OF EXPERIMENTAL MARSHALLAGIOSIS IN KARAKUL LAMBS

Annotation. The article investigates the impact and consequences of marshallagiosis, a type of helminth infection common in sheep, on various hematological indices (erythrocytes, leukocytes, platelets, hemoglobin, ESR, leukogram).

Keywords: Karakul lambs, erythrocytes, leukocytes, platelets, hemoglobin, ESR, leukogram, preimaginal, postimaginal stage, helminthosis, marshallagiosis.

Objective. To identify the effect of marshallagiosis on certain hematological indices of Karakul lambs's blood.

Relevance of the topic: It is known that ensuring the population with high-quality and safe meat, milk, wool, and other livestock products is one of the pressing issues in our country's agricultural policy. Livestock, including sheep, goats, and small ruminants, are widely used as sources of meat products, hides, and wool in national economy. Developing the livestock sector in line with modern requirements involves addressing various issues, including preventive measures against livestock diseases. Studies have shown that various diseases affecting livestock lead to a decrease in livestock products by 35-40%.

Specifically, due to the high adaptability and acclimatization characteristics of sheep, which are the subject of this study, rational use of extreme mountainous conditions of the inhabited areas provides the opportunity to improve the social and economic situation of the population living in these regions. In this context, considering the high productivity of sheep in providing quality meat, wool, and valuable skins, it is important to develop practical recommendations aimed at improving their feeding in mountainous and pasture conditions, enhancing their immune resistance, early detection, and prevention

of parasitic diseases. Therefore, the development and implementation of practical recommendations in this area are of great importance today.

Materials and methods of research: Experiments were conducted on sheep at the "Qarnab" factory type. For experimental studies on the investigation of experimental marshallagiosis, nematodiriosis, and xabertiosis, 20 heads of sheep aged 3-4 months were selected and divided into 2 groups.

All sheep used in the experiment were selected in a healthy condition, not harmed by natural helminths, and housed in conditions free from other parasitic and non-parasitic diseases. Initially, all control and experimental sheep's clinical, hematological, and biochemical indices were identified twice, and then the sheep selected for the experiment were infused with soft cultures of invasive strongylate larvae (marshallagia) directly into the rumen using a rubber catheter. In this case, 5000 samples of invasive larvae were used for each organism. The invasive larvae of strongylate collected from donors served as infectious material for the sheep. The collection and cultivation of marshallagia, nematodirus, and xabertial larvae and invasive larvae were generally approved according to the method of "helminthology" by Fulleborn.

Throughout the entire experiment, the general physiological indices of the experimental and control sheep were identified in the second phase after 2 months and in the late afternoon; body temperature (through the rectal), heart rate (through the anterior artery), and respiratory rate (by widening and shortening the nasal tip) were determined. All experimental animals were monitored for 70-75 days (after invasion damage) and were fully inspected for helminthology according to the academic K.I. Skryabin method.

The results obtained were thoroughly analyzed, and the physiological, clinical, and biological changes of all control and experimental group sheep were described. Blood was taken from the jugular vein of all control and experimental sheep before damage from invasion, and initial indicators were identified. The following indicators were then analyzed after invasion damage - 5, 15, 35, 55, 70- days.

Hematological indicators; blood shape elements: erythrocytes, platelets, leukocyte number, hemoglobin index - worked with the laser automatic hematological analyzer operating on the Goryaev method (Mendray BC-5000b China GOST-20790-93), and the erythrocyte sedimentation rate (ECHT) was determined by the Panchenkov-Nevidov apparatus.

Research Results: It is known that parasitic infections have multiple detrimental effects on the animal organism, encompassing not only mechanical and toxic but also immunopathological impacts. Parasitic infections compromise immunity in affected animals, increasing susceptibility to parasitic and other diseases. Morphological and biochemical blood tests play a crucial role in understanding the pathogenesis of any disease. Therefore, based on the results of morphological and biochemical blood indices, it is possible to assess the functional activity of the body systems of diseased animals.

According to the data presented in Table 1, prior to parasite infection, the average red blood cell count in the experimental sheep's blood was approximately 7.9 ± 0.5 million cells per milliliter. Following infection with marshallagia, on the first day of the study, the number of erythrocytes in the blood started to decrease, reaching 7.38 ± 0.46 million cells by the second day and 6.49 ± 0.39 million cells by the fifth day. The most significant decrease in erythrocyte count was observed around days 10-15 of the infection, where it dropped to approximately 4.25 ± 0.5 and 5.29 ± 0.37 million cells, respectively. From days 25 to 35 of the infection period, the number of red blood cells increased again, but this indicator remained relatively lower compared to initial and control levels. The results obtained on days 45, 55, and 70 of experimental damage showed a normalization of red blood cell counts in the blood ($P \leq 0.01$).

At the beginning of marshallagia infection, the overall hemoglobin level in the sheep's body also significantly decreased. For example, on day 5 of the infection, it decreased to 15.45 ± 0.52 g/L compared to the initial and control levels. During the tissue-feeding phase of marshallagia development (day 10 of infection), there was a sharp decline in hemoglobin levels in the blood, reaching 71.8 ± 0.11 g/L, and by day 15, with the emergence of preimaginal marshallagia larvae, this indicator dropped to 67.7 ± 0.21 g/L ($P \leq 0.01$). Hemoglobin levels slightly increased during the imaginal development phase of marshallagia, but they remained lower compared to initial and control levels.

The parallel decrease in erythrocyte count and hemoglobin level in the blood indicates the development of anemia in sheep affected by marshallagiosis. One characteristic sign of marshallagia is the accelerated erythrocyte sedimentation rate (ESR). ESR is considered one of the most important physiological characteristics of blood and is due to the hydrophilicity of erythrocytes' surface in their suspended state in plasma, as well as their negative charge, allowing them to repel each other. If the shaped elements have a negative charge, their electrostatic repulsion is reduced, resulting in the absorption of positively charged molecules such as fibrinogen, gamma globulins, and paraproteins onto their surfaces. Such erythrocytes can adhere to each other, forming "rouleaux" on their surfaces. The formation of "rouleaux" can lead to capillary blockage and impaired blood circulation in tissues and organs. ESR mainly increases with dehydration, infectious diseases, oncological diseases, as well as sharp decreases in the number of erythrocytes in the blood (anemia) are observed.

Table 1

Experimental blood indices of sheep affected by marshallagiosis (n=5)

Research period	Groups	Up to the time of infection	Days after infection				
			5	15	35	55	70
erythrocytes, mln/mm ³	research	7,9±0,5	6,49±0,39	5,29±0,37	6,79±0,25	11,2±0,6*	10,82±1,1
	control	7,7±0,5	7,8±0,4	7,7±0,3	9,1±0,4	7,7±0,5	9,0±0,6
hemoglobin, g/l	research	122,02±0,42	106±0,09**	67,7±0,21**	79,3±0,21	70,1±1,0*	70,4±1,2*
	control	120,9±0,8**	116,05±0,6	111,95±0,5	108,6±0,8	112,3±0,5	109,1±0,5
EChT, mm/hour	research	7,8±0,85	20,4±1,67*	12,7±1,33	24,5±1,05	7,50±0,8*	10,8±0,4
	control	9,0±0,8	9,8±0,65	9,3±0,81	9,1±0,6	9,0±0,8	9,1±0,3
Leukocytes, thousand/mm ³	research	7,65±0,55	9,25±0,52	0,96	12,65±0,92*	12,0±1,1	13,7±1,1*
	control	9,0±0,4	9,6±0,5	9,0±0,6	9,0±0,8	9,3±0,8	9,1±0,5
Platelets, x10 ⁹ /L	research	303±0,08**	317,1±0,12	312±0,47*	327,23±0,6	317,14±0,4*	317,61±0,33
	control	300±0,07	302,1±0,12	300±0,47	302,23±0,6	303,14±0,4	301,61±0,33

During our research, Erythrocyte Sedimentation Rate (ESR or EChT) increased significantly at almost all stages. For instance, on the second day after infection, ESR slightly accelerated to 9.40±0.50 mm/h, and by days 5 and 10, it reached 20.4±1.67 and 21.25±1.5 mm/h, respectively. In experimental sheep, the maximum acceleration of ESR was observed on day 25 of infection, reaching 32±1.5 mm/h. Towards the later stages of the research (days 55-70), during the chronic phase of the disease or the post-imaginal phase, ESR gradually decreased again to 7.50±0.8 and 10.8±0.4 mm/h, approaching the control group indicators (Table 1). Apart from that, the crucial role of the blood clotting system was assessed, and the number of platelets also showed characteristic changes, increasing to 322.02±0.3 thousand per ml of blood during the preimaginal phase of the invasion (days 15-20). Subsequently, by days 50-55 of the study, this indicator slightly decreased to 319.77±0.2 thousand, but remained within normal levels observed in control and healthy states. The quantity of leukocytes in the blood of sheep affected by marshallagiosis initially averaged 8.65 thousand per milliliter of blood. A sharp increase in the number of leukocytes was not observed in the first 5-10 days after experimental damage, but leukocytosis (an increase in leukocyte count) was noted from day 25 of the invasion until the end of the research (day 70) (Table 2).

Table 2.

**Leukogram of sheep affected by experimental marshallagiosis. Mean $\pm$ SD
(n=5)**

Research time		Groups	Up to the point of infection	Days after infection				
				5	15	35	55	70
Leukocyte differential count	metamyelocytes, %	research	2,4 $\pm$ 0,5	3,6 $\pm$ 0,5*	4,2 $\pm$ 0,02	4,5 $\pm$ 0,9	4,3 $\pm$ 3,5*	4,3 $\pm$ 0,5
		control	2,3 $\pm$ 0,1	2,3 $\pm$ 0,8	2,3 $\pm$ 0,5	2,3 $\pm$ 0,95	2,3 $\pm$ 0,1	2,3 $\pm$ 0,05
	Age, %	Research	1,0 $\pm$ 0,05	1,0 $\pm$ 0,1	1,5 $\pm$ 0,12	2,0 $\pm$ 0,2	101 $\pm$ 0,07	1,2 $\pm$ 0,1
		control	0,5 $\pm$ 0,05	0,48 $\pm$ 0,05	0,5 $\pm$ 0,8	0,5 $\pm$ 0,05	0,49 $\pm$ 1,3	0,49 $\pm$ 0,9
	band neutrophils, %	research	2,7 $\pm$ 0,17	3,7 $\pm$ 0,17	4,4 $\pm$ 0,3	4,0 $\pm$ 0,17	3,9 $\pm$ 0,12	3,4 $\pm$ 0,2
		control	1,4 $\pm$ 0,5	1,3 $\pm$ 0,99	1,5 $\pm$ 4,5	1,4 $\pm$ 0,9	1,5 $\pm$ 0,1	1,4 $\pm$ 1,5
	segmented neutrophils, %	research	40,9 $\pm$ 2,0**	41,3 $\pm$ 1,7	41,0 $\pm$ 1,6	9,7 $\pm$ 1,3*	39,0 $\pm$ 1,2	39,0 $\pm$ 1,24
		control	38,7 $\pm$ 1,52	38,0 $\pm$ 5,5	29,5 $\pm$ 0,5	35,5 $\pm$ 0,5	36,9 $\pm$ 0,05	38,4 $\pm$ 0,9
	eosinophils %	control	2,7 $\pm$ 0,2	4,5 $\pm$ 0,3	3,7 $\pm$ 0,3	4,0 $\pm$ 0,27	3,1 $\pm$ 0,17	3,0 $\pm$ 0,17
		research	2,6 $\pm$ 0,25*	4,5 $\pm$ 0,2	5,44 $\pm$ 0,5	7,5 $\pm$ 0,3*	8,1 $\pm$ 0,5	9,6 $\pm$ 0,5
	monocytes %	control	3,2 $\pm$ 0,1	3,4 $\pm$ 0,12	3,0 $\pm$ 0,1	3,3 $\pm$ 0,2	3,1 $\pm$ 0,12	3,7 $\pm$ 0,2
		research	3,29 $\pm$ 1,2	3,5 $\pm$ 2,3	4,0 $\pm$ 3,5	5,2 $\pm$ 2,9*	5,6 $\pm$ 0,2	6,3 $\pm$ 1,8
	basophils %	control	0,8 $\pm$ 0,01	1,0 $\pm$ 0,04	1,5 $\pm$ 0,1	1,0 $\pm$ 0,1	0,8 $\pm$ 0,03	0,87 $\pm$ 0,07
		research	1,3 $\pm$ 0,15	2,5 $\pm$ 3,3	5,1 $\pm$ 2,5**	6,1 $\pm$ 0,5	6,5 $\pm$ 3,5*	6,6 $\pm$ 3,2
	lymphocytes %	control	47,7 $\pm$ 1,7	45,0 $\pm$ 2,0	44,9 $\pm$ 1,7	46,0 $\pm$ 2,0	49,0 $\pm$ 2,0	49,0 $\pm$ 1,9
		research	49,7 $\pm$ 3,1	55,6 $\pm$ 1,2	61,3 $\pm$ 0,9	64,4 $\pm$ 2,1	65,4 $\pm$ 0,5	65,8 $\pm$ 0,6

If we analyze the results obtained from the leukogram, during the experiment, an increase in eosinophils and band neutrophils, and a decrease in monocytes and lymphocytes counts were observed, indicating a left shift in the leukogram.

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*Алламбергенова И.Х.
Қарақалпақ мемлекеттік Университеті, Қарақалпақ әдебиеті
кафедрасы Доцент PhD*

ҚАРАҚАЛПАҚ ЖӘНЕ ҚАЗАҚ АҢЫЗДАРЫНЫҢ ТАҚЫРЫПТЫҚ ЖІКТЕЛУІ

*Аңдатпа. Бул мақалада қарақалпақ аңыздарының үйреніліуі
ізерттеліуі мәселелеріне арналған. Қарақалпақ және қазақ халық
аңыздарының, тақырыптық ерекшеліктері жөнінде сөз етілген. Соның
мен бірге фольклордағы аңыз әңгімелердің орны, жанрлық жағынан
ертегілерге ұқсастығы жөнінде де айтып өтілген.*

Тірек сөздер: Ауыз әдебиеті, аңыз, әңгіме, тақырыптық жіктеліу.

*Allambergenova I.X., PhD
associate professor
Karakalpak literature department
Karakalpak State University*

THEMATIC CLASSIFICATION OF KARAKALPAK AND KAZAKH LEGENDS

*Abstract. The article is devoted to the study and study of the legends of
Karakalpak. We are talking about the thematic features of Karakalpak and
Kazakh folk tales. At the same time, it tells about the place of fairy tales in
folklore, about the genre attitude to fairy tales.*

Keywords: Oral literature, legend, story, thematic classification.

Кіріспе

Ауыз әдебиетте аңыз-әңгімелер елеулі орын алады. Өйткені әуел баста жазу, баспасөз шықпай, дамымай тұрғанда ел басынан өткен тарихи уақиғалар, ел басқарған адамдар, айнала қоршаған табиғат құбылыстары жайындағы мәліметтер мен ұғымдарды ауызекі сөзбен баяндайтын бұл халық шығармаларының өмір танытарлық мәні, маңызы үлкен. Онда әлденеше ұрпақ өкілдерінің бастан кешкен уақиғалары, көргені мен естігені, екінші сөзбен айтқанда тәжірібесі жінақталған, қорытылған.

Аңыз-әңгімелер жанрлық жағынан ертегілерге және Тарихы жанрларға жақын. Алайда ертегілерде қиялдан шығарылған фантастикалық уақиғалар, жын-сайтан, дію-пері, мыстан, жезтырнақ, жалғыз көзді жалмауыз секілді жасанды, құбыжық кейіпкерлер басым болса, аңыз-әңгімелерде реалистік уақиғалар, Тарихы адамдар басым.

Зерттеу материалдары мен әдістері

Ғылыми мақалаға рус, өзбек, қарақалпақ және қазақ алымдарының ғылыми кітаптарынан пайдаланылды. Атап айтқанда В.К.Соколова, К.В.Чістов, У.Жуманазаров, С.Қасқабасов кітабындағы деректер назарға алынды.

Мақаланы жазу барысында теориялық материалдарды зерделеу және жүйелеу, талдау, қорыту әдістері пайдаланылды.

Аңыз-әңгімелерді мазмұнына, тақырыптарына қарай жіктеу орыс фольклортану ғылымында ХХ ғасырдан басталады. Аңыздардың тақырыбы туралы фольклор зерттеушілері орталығына әрқилы пікірлер орын алған. Мәселен, В.К.Соколова аңыздардың факттерге негізделгендігін есепке алып, оны тарихі және белгілі орындар, объекттерге байланысты аңыздарды топонімдік деп үлкен екі түрге бөліп қарайды. Ол бірінші топардағы аңыздарға тарихі оқиғаларға қатнасқан адамдар және тарихта ат қалдырған жеке тұлғалар хақындағы аңыздарды жатқызады да, екінші топарға тарихі оқиғалармен байланысты болған ауыл-ел атауларының келіп шығуын сөз ететін мекен, жай орындары, шіркеу атауларына дерек аңыздарды кіргізеді. [5.273] К.В.Чістов табиғаттан тыс күштер қатысатын аңыздардың алыс дәуірлік қалыптасу сатыларын есепке алып, оларды тарихі, космогониялық, этнонимдік зоогониялық (хайуандарға байланысты I.A), топонімдік, ландшафттық және т.б. деп бірнеше түрлерге бөліп үйренуді ұсыныс етеді [7.23]. Өзбек зерттеушілері де аңыздарды тарихі және топонімдік түрлерге бөліп тақырыптық өзгешеліктерін анықтап берген [3.179] У.Жуманазаров «Өзбек фольклорі ва тарихій воқёлік» деген монографиясында рауаяттарды (аңыздарды-I.A) үш түрге бөледі. Олар этнонимдік, топонімдік, тарихі, топонімдік деп белгіленген [2.179]

Қазақ халық аңыздарының ұлттың тараптарына дерек өзгешеліктерін белгілеуде топонімдік және тарихі аңыздарға қосымша «күй аңыздар», «шешендік сөздер», шежірені де кіргізу мүмкін екендігін атап өтеді [4.159]

Университет студенттері үшін арналған кітапта қазақ аңыздарын тарихі(оқиғалар, адамдар), жер-су аттары, әпсана-әлем жаратылысы, ру-тайпалар, т.б аңыз-әңгімелер сақталған. Қазақ аңыз-әңгімелерінде кездесетін кейіпкерлер: Мухаммед пайғамбар, Әзіреті Әлі, Тақ Сүлеймен, Қыдыр әуліе, Рашіт патша, баруан қыз Даріха, Әзірет Әлінің баласы Мәді, тағы сондайлар. [6.83]

Түркмен фольклортанушылары аңыздарды ұлттық талаптарға сәйкестендіріп үш түрге бөліп зерттейді. Онда «тарихі рауаяттар», «топонімдік рауаяттар», «этиологик рауаяттар» сияқты тақырыптық өзгешеліктерге іе аңыздар өз алдына ажыратылып үйреніледі. [1.119]. Көріп тұрғанымыздай аңыздардың тақырыптың бөлінулері әрқыйлы болып, олар көбірек ұлттық факторлар негізінде өзгерістерге ұшырап отырады. Қарақалпақ аңыздары да өзіне тән ұлттық сипаттарға іе болған халықтық сюжеттерімен дараланып тұрады.

Бұдан шығатын қорытынды: аңыз-әңгімелердің түрлері көп және оларды жүйелеуде жетекші фольклоршылар әзір бір пікірге, бір тұжырымға келе қойған жоқ.

Жоғарыда аталған тақырыптар қарақалпақ және қазақ аңыз-әңгімелерінде де бар. Атап айтқанда, қарақалпақ және қазақ халық аңыздарында тарихі (уақиғалар, адамдар), жер-су аттары, ру-тайпалар, т.б. туралы аңыз-әңгімелер сақталған.

Солай етіп қарақалпақ халық аңыздарын этнонимдік, топонимдік, тарихі аңыздар деп үш түрге бөліуге болады. Қарақалпақ халық аңыздарының ішінде этнонимдік аңыздар ерекше салмақты орынды іелейді.

Қауым, ру атамаларының аңыздық көріністері тек ауызша дәректермен шектелмейді. Олардың кейбіреулері жазба дәректерден орын алған.

Қарақалпақ халық аңыздарында қауымдар, рулар, ру тірелері, таңбалары, ұрандары жөнінде көп ғана аңыз, әңгімелер орын алған. Мәселен, қолдаулы, қара мойын, қандеклі, қазаяқлы, қыят, нөкіс, қостамғалы, кенегес және т.б. атамаларда рулардың не тірелердің келіп шығуын, өзгешеліктерін анықтауға бағдарланған ауызекі түсініктер берілген. Бұлар тарихі көзқарастан да, әдебі эстетикалық көзқарастан да үйрену үшін мағлұматтар беретін мазмұндарға іе.

Топонимдік аңыздарда ел, жер, қала, ауыл, өзен, көл, тау, теңіз атауларының не себепті солай айтылатындығы түсіндіріліп, ол атаулар халқымыздың ұзақ уақыттар бойы басып өткен жолдарымен, күнделікті тұрмысымен тығыз байланыста екендігі баян етіледі. Топонимдік аңыздарда ел, жер, қала ауыл, өзен, көл, тау, теңіз атауларының не себепті солай айтылғандығы түсіндіріліп, ол атаулар халқымыздың ұзақ жылдар бойы өткен жолдарымен, күнделікті тұрмысымен тығыз байланыста баяндалғандығы анықталады.

Топонимдік аңыздар жергілікті, шегараланған оқиғалар немесе жағдайлардың нәтижелері болып объекті барынша анықтап беруге қаратылады. Осындай аңыздардың қатарына «Аяз қала», «Гүлдірсін», «Төк қала», «Шымбай», «Қоңырат», «Шоманай» және тағы басқа бір қатар қала аттарына деректі этнонимдік әңгімелерді жатқаруымыз мүмкін. «Гүлдірсін» аңызы қарақалпақтар арасында ең танымалы, кең тараған аңыздардың бірі.

Уақиға «Хорезм елінде Гүлістан деген абат ел, суға мол қала болады. Оның кәрі патшасының Гүлдірсін деген қызы болады»-, деп басталады. Мұнда конкрет ел қала аты және сол елдің патшасының аухалы, қызы жөнінде хабар (інформация) беріліп аңыздың оқиғаның басталуына негіз салынады. Соң оқиғаны дамытушы фактор бұл тыныш-тату елге монғол басқыншыларының бастырып келуімен жалғасады. Бұл аңызды топонимдік аңыздардың жарқын үлгісі дәрежесінде тән алу тиіс. Сондай-ақ «Бағдат», «Аязхан туралы аңыз», «Шымбай» аңыздары да осы түрге кіреді.

Топонімдер адам аттарымен байланыста, тарихі қоғамдық оқиғаларға сәйкес мазмұндарға ие болады. Топонімдерде белгілі бір объектінің табиғі көріністеріне (үлкен, кіші, түр-түсі, көлдердігі құстар, су өсімдіктері және т.б.) назар аударылып, гідронімдік атаулар қолданылады.

Тарихі аңыздар көбінесе тарихі оқиғалардың шіеленіскен жағдайларында, мемлекеттік немесе рулық бірлеспелердің пайда болған уақыттарында немесе сол үлкен ұйымға сыртқы қауіп төнген сәттерінде, ішкі алауыздықтардың күшейген тұстарында жүзеге келеді.

Жумақтап айтқанда аңыз-әңгіме – ерте кезде өткен тарихі уақиғалар мен тарихі адамдар жайында баяндайтын, атақты жер-сулардың, қалалардың қалай пайда болғанын түсіндіретін, қарасөзбен ауызекі таралған сюжетті эпикалық шығарма.

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Амирджанова С.С., PhD.
Ташкентский государственный экономический университет
ORCID: 0000-0003-3839-1281

ВОЗДЕЙСТВИЕ НА СНИЖЕНИЕ УРОВНЯ БЕДНОСТИ ПУТЕМ ОБЕСПЕЧЕНИЯ РОСТА ЗАНЯТОСТИ И ФОРМИРОВАНИЯ ЗАРАБОТНОЙ ПЛАТЫ В УЗБЕКИСТАНЕ

Аннотация. Анализ и механизмы формирования заработной платы на сегодняшний день являются самыми мощными инструментами, посредством которых можно достичь сокращения бедности и улучшения качества жизни в странах, что подтверждается неопровержимыми доказательствами в опубликованных исследованиях. На протяжении исторического пути развития любого государства обеспечению занятости населения и формированию заработной платы уделяется особое внимание. Занятость непосредственно воздействует на снижение уровня бедности и имеет важное значение для обеспечения более высоких темпов роста экономики и ее устойчивости.

Ключевые слова: сокращение бедности, занятость, заработная плата устойчивое развитие.

Amirjanova S.S., PhD.
Tashkent State University of Economics
ORCID: 0000-0003-3839-1281

IMPACT ON POVERTY REDUCTION BY ENSURING EMPLOYMENT GROWTH AND WAGE FORMATION IN UZBEKISTAN

Annotation. Wage analysis and mechanisms are by far the most powerful tools through which countries can achieve poverty reduction and improve the quality of life, as confirmed by irrefutable evidence in published research. Throughout the historical development of any state, special attention is paid to ensuring employment of the population and the formation of wages. Employment has a direct impact on poverty reduction and is essential for higher economic growth and sustainability.

Key words: poverty reduction, employment, wages, sustainable development.

Узбекистан находится на этапе глубоких социально-экономических преобразований, направленных на модернизацию и диверсификацию национальной экономики. Важной частью этих преобразований является рынок труда, который требует особого внимания для обеспечения стабильности и устойчивого развития. Формирование и обеспечение

устойчивого развития уровня занятости и снижение безработицы оказывает воздействие на уменьшение процента уровня бедности.

При трансформации национальных экономик, занятость как макроэкономическая категория, становится одним из важнейших показателей, характеризующих социально-экономическое развитие общества. Следовательно, устойчивый экономический рост республики неразрывно связан с проблемой совершенствования системы регулирования занятости. Объективной основой существования механизма регулирования занятости являются рыночные отношения, в которых проявляется противоречивость экономических интересов сторон сделки купли-продажи и невозможность достижения их равноправного согласования без государственного воздействия.

Не менее значимым является изучение состояния уровня занятых и безработных по видам экономической активности, которая помогает анализировать структуру экономики страны и эффективность использования трудовых ресурсов (рис.1).



Рис.1 Занятость населения Узбекистана в разрезе секторов за 2022 г⁷⁰.

Данные подчеркивают доминирующую роль сельского хозяйства, на которые приходилась практически четверть всей занятости, а также значимость промышленности, где количество рабочих мест примерно вдвое меньше, чем в сельском хозяйстве, и торговли, составляющую

⁷⁰ Составлено автором по данным: Агентство статистики при Президенте Республики Узбекистан: Рынок труда <https://stat.uz/ru/ofitsialnaya-statistika/labor-market>

десятую часть числа занятых. Социально важные секторы, такие как образование и здравоохранение, также представлены значительной долей занятости, что отражает приоритеты и социальную ориентацию экономической политики. В 2022 году женщины составляли 73,8 и 77,3 процента работников сферы образования, здравоохранения, что составляло примерно три четверти всех занятых в этих секторах.

По данным Министерства занятости и сокращения бедности Узбекистана, уровень безработицы в республике по итогам 2023 года составил 6,8%, снизившись на 2,1% по сравнению с соответствующим периодом прошлого года (рис.2).

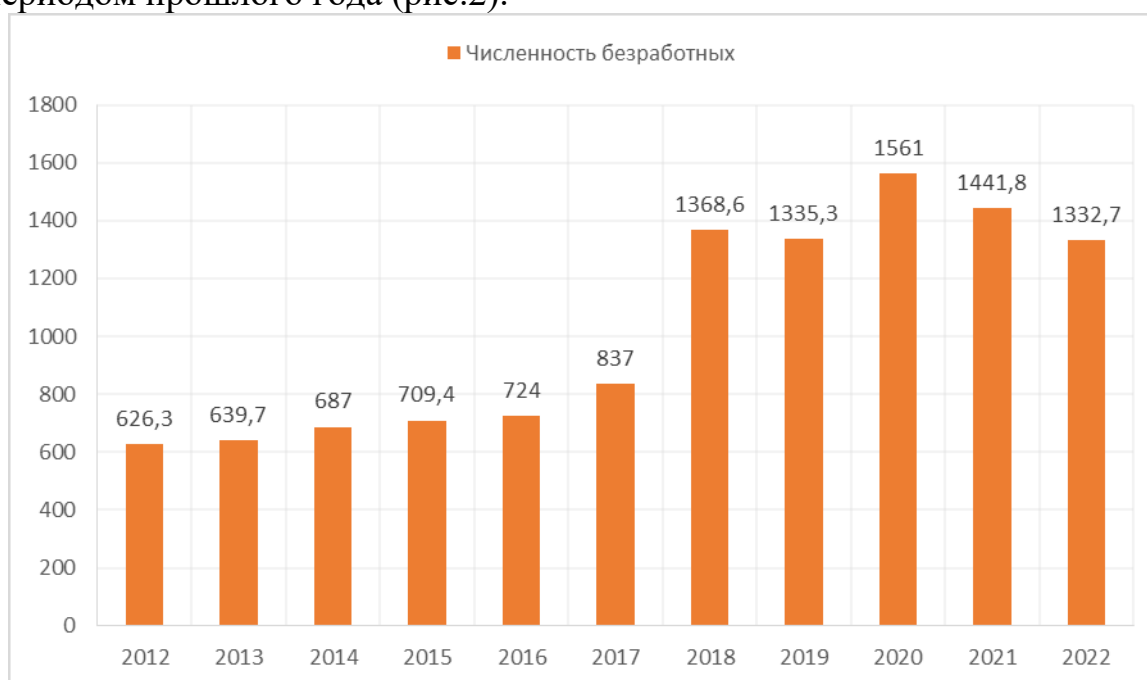


Рис.2 Динамика численности безработных в Узбекистане за 2012-2022 годы⁷¹.

В период с 2012 по 2017 год численность безработных постепенно увеличивалась, начиная с 626,3 тысячи в 2012 году и достигая 837 тысяч в 2017 году. Количество безработных по итогам 2018 года составил 1368,6 тысячи и увеличилось на 3,5% (с 5,8%), однако Министерство труда отмечает, что это связано не с резким ростом числа безработных, а с совершенствованием методологии учета незанятого населения, позволяющим наиболее полно учитывать лиц, нуждающихся в трудоустройстве. В 2020 году число безработных достигло пика, составляя 1561 тысяч. Это отражение глобального экономического воздействия пандемии COVID-19, подчёркивающая уязвимость экономики к глобальным шокам. После 2020 года численность безработных начала

⁷¹ Составлено автором по данным: Агентство статистики при Президенте Республики Узбекистан: Рынок труда <https://stat.uz/ru/ofitsialnaya-statistika/labor-market>

снижаться. Это уменьшение может указывать на восстановление экономики и улучшение ситуации на рынке труда.

Регулирование заработной платы и обеспечение уровня занятости оказывают преимущественную роль в снижении уровня бедности в Узбекистане. Поэтому, изучение структуры и воздействующих факторов на формирование заработной платы является одним из актуальных вопросов.

Минимальная заработная плата в Узбекистане играет критически важную роль в экономической политике страны, обеспечивая базовый уровень дохода для защиты наименее обеспеченных слоев населения и способствуя сокращению бедности. Этот экономический инструмент помогает также в стимулировании внутреннего потребления и поддержании социальной стабильности.

В соответствии с указом президента УП-196 «О повышении размеров заработной платы, пенсий и пособий» с 1 декабря 2023 года минимальный размер оплаты труда был повышен на 7% и составил 1 050 000 сумов в месяц⁷². На рис 2.8 показана динамика роста минимальной заработной платы в Узбекистане за прошедшие 10 лет.

Из предоставленных данных видно, что минимальный размер оплаты труда в Республике Узбекистан значительно увеличивался с 2014 по 2023 годы. Наблюдается постепенное увеличение ежегодно, с более заметным ростом начиная с 2019 года. **В Период с 2014 по 2018 год** МРОТ рос относительно стабильно, но сравнительно небольшими шагами. В 2014 году МРОТ составлял 118,400 узбекских сум, а к 2018 году увеличился до 202,730 узбекских сум. Это означает увеличение примерно на 71% за пять лет, что указывает на стабильное, но умеренное повышение (рис.3).

⁷² Указ президента Республики Узбекистан от 17.11.2023 УП-196 «О повышении размеров заработной платы, пенсий и пособий».
https://www.norma.uz/novoe_v_zakonodatelstve/povyshayutsya_razmery_zarplaty_pensiy_i_posobiy

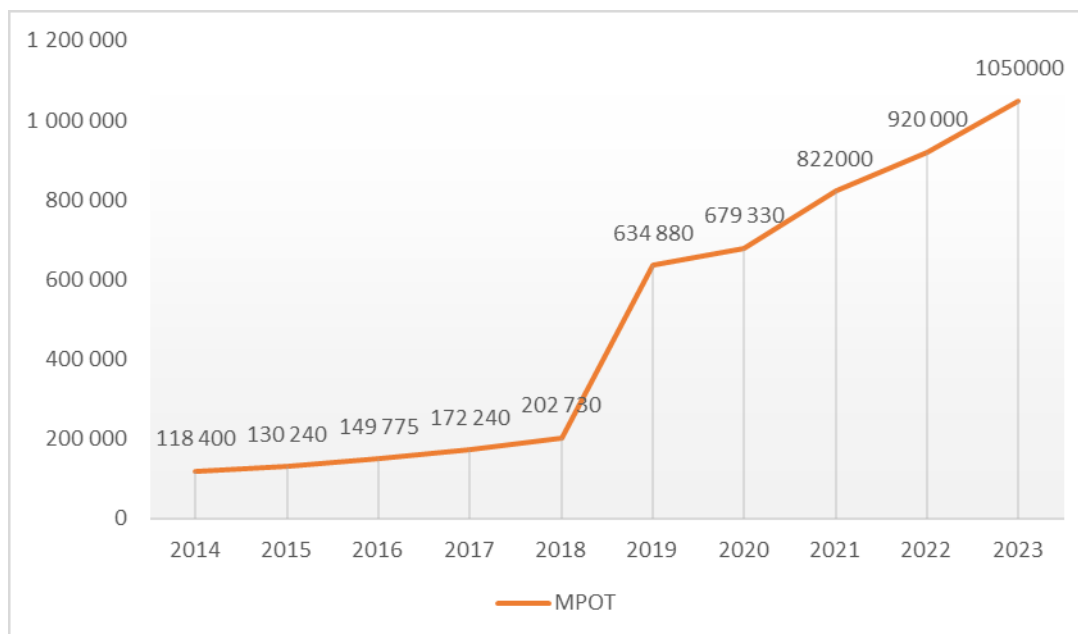


Рис.3 Динамика минимального размера оплаты труда в Узбекистане в 2014-2023 годы⁷³.

В 2019 году МРОТ значительно вырос, достигнув 634,880 узбекских сум, что представляет собой почти трехкратное увеличение по сравнению с предыдущим годом. Это связано с изменениями в системе установления МРОТ. По указу президента УП-5723 взамен минимального размера заработной платы ввели минимальный размер оплаты труда; базовую расчетную величину; базовую величину исчисления пенсии⁷⁴. Рост с 2019 года указывает на активные действия правительства по улучшению экономического положения трудящихся и возможно, адаптации к изменениям в экономике и стоимости жизни в стране.

Аналогично, средняя номинальная заработная плата является важным экономическим показателем, который отражает уровень экономического благосостояния населения и способность экономики обеспечивать достойный уровень жизни для своих граждан.

⁷³ Составлено автором по данным: Агентство статистики при Президенте Республики Узбекистан: Рынок труда <https://stat.uz/ru/ofitsialnaya-statistika/labor-marke>

⁷⁴ Указ Президента Республики Узбекистан, от 21.05.2019 г. № УП-5723 «О введении минимального размера оплаты труда, базовой расчетной величины и базовой величины исчисления пенсии». <https://lex.uz/docs/4346131>

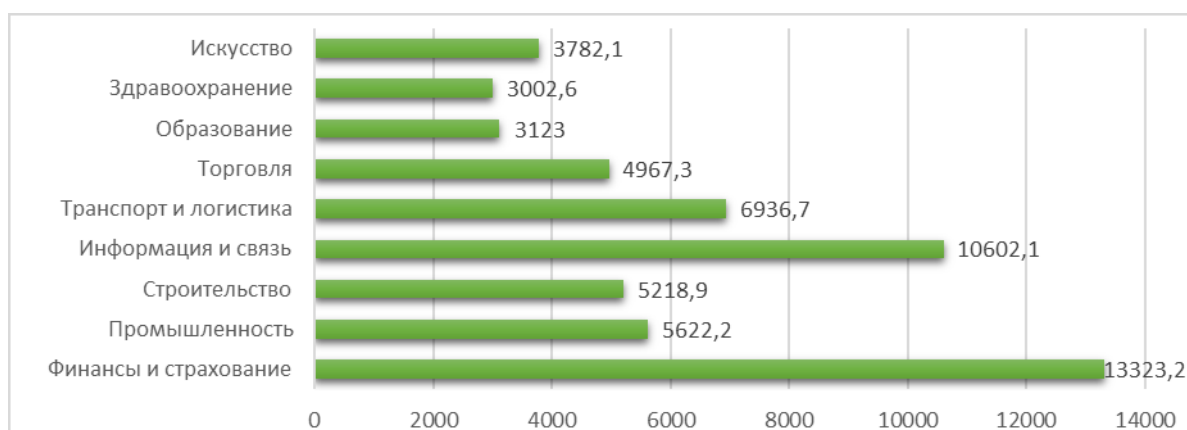


Рис.4 Размер средней заработной платы в Узбекистане в разрезе секторов за 2023 год⁷⁵.

Средняя номинальная зарплата в Узбекистане по итогам 2023 года составляла 4 551 тысячи сумов, превышая на 17,2 % показателей на 2022 год⁷⁶. Рисунок предоставляет информацию о средней заработной плате по различным отраслям в экономике. Они показывают, что отрасли финансов и страхования, а также информации и связи имеют наивысшую среднюю заработную плату. В то время как образование, здравоохранение и искусство характеризуются относительно низкими средними зарплатами. Промышленность, строительство, транспорт и логистика, а также торговля занимают среднее положение. Эти данные подчеркивают различия в оплате труда между секторами, отражая степень специализации, прибыльности и возможно, регулирования в каждой отрасли.

Таким образом, средняя заработная плата является ключевым экономическим индикатором, который имеет широкое значение для экономического анализа, планирования и политики на всех уровнях экономической деятельности.

Заключение

В результате проведенного исследования были выявлены ключевые аспекты обеспечения занятости и формирования заработной платы в Узбекистане. Экономические реформы, направленные на модернизацию и диверсификацию экономики, играют важную роль в формировании современного рынка труда, которые воздействуют на регулирование уровня бедности. В целом, система регулирования заработной платы в Узбекистане ориентирована на создание условий для достойной жизни граждан и предоставление равных возможностей для всех работников, что является фундаментом для устойчивого экономического развития страны.

Развитие нестандартных форм занятости в Узбекистане так же имеет

⁷⁵ Составлено автором по данным: Агентство статистики при Президенте Республики Узбекистан: Рынок труда <https://stat.uz/ru/ofitsialnaya-statistika/labor-marke>

⁷⁶ Агентство статистики при Президенте Республики Узбекистан: Рынок труда <https://stat.uz/ru/ofitsialnaya-statistika/labor-marke>

значительные перспективы и играет ключевую роль в адаптации экономики к современным вызовам и потребностям. Прогнозы на ближайшие годы показывают, что такие формы занятости, как фриланс, удаленная работа, временное и частичное трудоустройство, будут продолжать расти и занимать всё более значительное место на рынке труда. Таким образом, развитие нестандартных форм занятости создаёт устойчивую основу для долгосрочного экономического роста и повышения благосостояния населения посредством, которого можно снизить уровень бедности в стране.

Эти меры способствуют не только экономическому росту, но и социальной стабильности, улучшению качества жизни населения и сокращению бедности.

Таким образом, Узбекистан демонстрирует значительные успехи в реализации стратегии социально-экономических реформ. Создание стабильного и справедливого рынка труда, повышение уровня жизни населения и интеграция в глобальную экономическую систему являются основными целями, которые определяют долгосрочный экономический рост и устойчивое развитие страны.

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Ахмедова М.М.
преподаватель
Кокандский государственный педагогический институт

МЕТОДЫ РАЗВИТИЯ ЛОГИЧЕСКОЙ, САМОСТОЯТЕЛЬНОЙ И ТВОРЧЕСКОЙ ПОЗНАВАТЕЛЬНОЙ ДЕЯТЕЛЬНОСТИ ПРИ РАЗВИТИИ НАВЫКОВ РЕШЕНИЯ ЗАДАЧ И УПРАЖНЕНИЙ У СТУДЕНТОВ

Аннотация. Сегодня дидактическая цель образования заключается в предоставлении знаний путем формирования у учащихся сильной мотивации к обучению, что требует использования профессиональных инноваций, направленных на развитие учебной активности каждого обучающегося в науке. Умение решать задачи по биологии, являющееся одной из профессиональных инноваций, является одним из важнейших навыков, которые понадобятся старшеклассникам в практической жизни. Решения задач и упражнения, данные по всем разделам биологии, дают возможность глубоко изучить биологические законы, биологию животных и растений, отдельные аспекты природной экологии на основе аналитического и логического мышления.

Ключевые слова: задача, упражнение, мотивационный подход, логическое мышление, непрерывное образование, самостоятельная и творческая познавательная деятельность.

Akhmedova M.M.
lecturer
Kokand State Pedagogical Institute

METHODS FOR THE DEVELOPMENT OF LOGICAL, INDEPENDENT AND CREATIVE COGNITIVE ACTIVITY IN THE DEVELOPMENT OF PROBLEM SOLVING SKILLS AND EXERCISES FOR STUDENTS

Abstract. Today, the didactic purpose of education is to provide knowledge by forming a strong motivation for learning among students, which requires the use of professional innovations aimed at developing the educational activity of each student in science. The ability to solve biology problems, which is one of the professional innovations, is one of the most important skills that high school students will need in practical life. Problem solving and exercises, data on all sections of biology, provide an opportunity to deeply study biological laws, animal and plant biology, and certain aspects of natural ecology based on analytical and logical thinking.

Keywords: task, exercise, motivational approach, logical thinking, continuing education, independent and creative cognitive activity.

Введение: Важной задачей учителей биологии является предоставление учащимся углубленных знаний по наукам, а также развитие у них таких способностей, как логическое мышление, понимание связи ранее полученных знаний с новым материалом, сравнение, обобщение. Развитие таких способностей у учащихся осуществляется путем работы над биологическими задачами и упражнениями. Задачи и упражнения, данные в области биологии, служат цели помочь учащимся освоить теоретические и практические стороны знаний. Учитель биологии использует на уроках две разные функции, чтобы обеспечить полное усвоение учащимися предмета.

В первом признаке предполагается, что преподаватель опирается на мотивационный подход и использует способы работы над интересными, логически и аналитически мыслящими учебными задачами, привлекающими внимание ученика на основе его ясного видения.

Вторая особенность заключается в том, что задачи и упражнения, данные учителем, делят учащихся на уровни в зависимости от их способностей и учебной деятельности. Эти свойства занимают важное место в методике решения задач и упражнений по биологии.

Материал и методы: В системе непрерывного образования предоставление знаний о биологической науке и ее основах на основе конкретной системы формирует интерес к деятельности учащихся, логическому, самостоятельному и творческому обучению. Оснащение студентов теоретическими и практическими знаниями по биологической науке, а также использование эффективных методов и средств развития логической, самостоятельной и творческой познавательной деятельности путем решения биологических задач и упражнений повышает уровень их интереса к биологической науке. В процессе обучения учащийся под непосредственным руководством преподавателя с помощью содержания, методов, средств и форм обучения познает природу и особенности законов, явлений и событий органического мира, приобретает знания, умения и компетенции.. Видно, что процесс обучения учащихся является познавательным процессом, а его деятельность – познавательной деятельностью. В образовательном процессе педагог организует, управляет, контролирует, оценивает познавательную деятельность учащихся и создает основу для всестороннего развития личности посредством реализации образовательных, воспитательных и развивающих целей, предусмотренных обучением [1., 5, -160 с.]. Чтобы организовать учебный процесс, преподаватель анализирует ситуацию, неразрывно связанную с деятельностью учащихся, обобщает и в соответствующих случаях вносит изменения. Активность – это уникальное активное отношение человека к окружающей среде. Ведь важной формой проявления человека в жизни является его активное участие в событиях. В любой деятельности накапливается жизненный опыт, приобретаются

определенные знания, формируются навыки и умения, в процессе работы развивается активность человека. Наряду с влиянием наследственности, среды и воспитания на развитие личности большое значение имеет и влияние на него деятельности. «Важнейшей и общей характеристикой человека, который поддерживает постоянную связь с обществом, осознает себя и координирует каждое свое действие, является его деятельность. В М По мнению Каримовой, активность - (от лат. "actus") - движение, понятие, происходящее от слова "activus" - активный) - категория, объясняющая, как человек проявляет все свои действия в жизни [2.544 с.]. Активность студента приводит к более быстрому усвоению и пониманию социального опыта, развитию коммуникативных навыков, формированию отношения к окружающей среде.

Цель и методы деятельности в образовании поднимают ее на уровень творческой деятельности как основного условия умения и инициативы. Творческая активность проявляется у студентов как стремление к новаторству. Возможности творческой деятельности зависят от социальных отношений. Осуществляемые сегодня образовательные реформы зависят от подготовки высококвалифицированных кадров, творчески подходящих к своей работе и способствующих быстрому развитию науки, техники, искусства и производства [3.,144б].

польского ученого-дидактика В. Окона «Введение в общую дидактику» ⁷⁷указаны следующие способы организации познавательной деятельности учащихся.

В процессе обучения студента учебная деятельность организуется в следующие этапы:

- анализ содержания биологии и теоретического изучения учебных материалов;

- обобщение и сравнение полученных знаний;

- систематизация и закрепление знаний;

- применение новых ситуаций на основе полученных знаний.

Организация познавательной деятельности учащихся с целью развития умений:

- определение цели и хода образовательной деятельности;

- создание модели образовательной деятельности;

- показать пример выполнения деятельности;

- выполнение работ студентами;

- научиться повторять действие и выполнять его без ошибок.

При организации познавательной деятельности студентов необходимо отметить необходимость формирования образовательного процесса в целом, в состоянии единой системы, знаний, умений и компетенций. Он состоит из этапов организации и управления

⁷⁷ В. Окон. Введение об щу ю дидактику. Москва. Средняя школа. -384 с

познавательной деятельностью учащихся, организации этой деятельности по цели, ее проектирования, определения путей достижения цели, анализа и оценки полученных результатов [4.,5, -160 с.].

С точки зрения биологии и методики решения упражнений считается познавательной деятельностью, требующей от учащихся понимания содержания и сущности задачи - упражнения и аналитического мышления посредством определенных законов и принципов обучения..

Биологические задачи и упражнения сложны и специализированы по своему характеру, требуя от учащихся концентрации на учебной деятельности. Задачи и упражнения, данные на уроке, позволяют закрепиться во внеклассных и внеклассных кружках по естествознанию в зависимости от уровня сложности. В этом процессе преподавателю важно учитывать индивидуальные особенности учащихся и уровень мастерства использования задач и упражнений. При организации познавательной деятельности учащихся в малых группах предусматривается талант, интерес, уровень знаний, уровень усвоения знаний каждого учащегося, сотрудничество между учащимися, учебное общение, дискуссия, дискуссия, реализация взаимной поддержки. Чтобы эффективно организовать и рационально управлять познавательной деятельностью учащихся, учителю биологии следует осуществлять следующие действия:

- определение видов и уровней задач и упражнений, служащих активизации учебной деятельности учащихся в учебных, воспитательных и развивающих целях изучаемого предмета;

- выбор способов осмысленного анализа и методического применения задач и упражнений, данных на уроках биологии, внеклассных и внеклассных мероприятиях;

- проектирование способов решения задач и упражнений удобным и эффективным способом;

- анализ результатов, полученных от деятельности учащихся при решении задач и упражнений, и устранение недостатков.

Проблемно-логические задачи и упражнения, даваемые на уроках биологии, требуют от учащихся самостоятельной работы с учебником, сравнения таблиц, схем, задач, связанных с логическим мышлением и расчетом, написания ответов на вопросы, самоконтроля.

Результаты и обсуждения: При обучении биологии в процессе решения задач и упражнений следует реализовывать формы организации познавательной деятельности учащихся путем работы в массовой, индивидуальной и малых группах.

массового преподавания биологии учитель дает готовую информацию о плане темы науки, формируются субъект-объектные отношения, учащиеся слушают информацию, представленную по теме, запоминают, отвечают на вопросы. В этой ситуации не будет достаточно

возможностей для развития навыков решения проблем и выполнения упражнений. Активность учащихся наблюдается замедленная.

Организация логической, самостоятельной и творческой познавательной деятельности по формированию у студентов навыков решения задач и упражнений по биологии организуется с учетом тщательного усвоения учащимися учебного материала, умственного развития, интереса и уровня усвоения знаний. возможность самостоятельно выполнять учебные задания и становится субъектом познавательной деятельности.

Задачи и упражнения, организованные в малых группах, создают взаимную коммуникативную активность учащихся. Постановка задач и свободного обсуждения задач и упражнений среди участников группы осуществляется под контролем преподавателя следующим образом:

определять способы решения ситуаций, создающие логичную, самостоятельную и творческую познавательную деятельность задач и упражнений, выполняемых в малых группах;

разработка способов решения биологических проблем и упражнений в сотрудничестве с членами небольших групп и проверка их осуществимости;

анализ результата, устранение недостатков.

Также одновременно выполняются задания в практике биологического образования: решение интересных задач и упражнений из биологических наук, выполнение практических, лабораторных работ; самостоятельная работа проверочного характера (рассказы и биологический диктант); выполнение индивидуальных и групповых заданий во время экскурсий; оптимизированные виртуальными лабораторными экспериментами и наблюдениями [5., -1206].



Заключение: Совершенствование методической системы развития логических, аналитических, самостоятельных и творческих способностей учащихся через формирование навыков решения задач и упражнений в общем среднем образовании считается важной педагогической задачей. Исследованные диссертации, научная литература, статьи и монографии показали, что при преподавании биологии необходимо совершенствовать методическую систему разработки задач и отработки навыков решения студентов. Решение этой задачи подготавливает почву для развития логических, аналитических, самостоятельных и творческих способностей учащихся за счет совершенствования системы составления задач и навыков решения задач по биологии.

Научно-методические возможности развития навыков решения задач и упражнений при преподавании биологии у студентов на основе психолого-педагогических, методических, теоретических и практических связей. расширяет возможности развития познавательной, мотивационной, творческой деятельности.

В процессе решения задач и упражнений в преподавании биологии предполагается, что формы организации познавательной деятельности учащихся осуществляются путем работы в массовых, индивидуальных и малых группах, в ходе которой они всесторонне овладевают логическим, самостоятельным и творческим подходом. познавательная деятельность, интеллектуальное развитие, интерес и дает возможность самостоятельно решать учебные задачи, созданные с учетом уровня усвоения знаний и становятся предметом познавательной деятельности.

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*Давлятова Э.М., доктор филологических наук, PhD
преподаватель
«методика преподавания английского языка»
Термезский государственный университет*

ФУНКЦИОНАЛЬНАЯ ОРИЕНТАЦИЯ ИНОЯЗЫЧНЫХ СЛОЖНЫХ СЛОВ В РОССИЙСКИХ И УЗБЕКИСТАНСКИХ ИНТЕРНЕТ МЕДИА

Аннотация. Данная статья посвящена исследованию и выявлению функциональной ориентации иноязычных сложных слов в Российских и Узбекистанских интернет медиа на современном этапе развития узбекского и русского языков.

В представленной статье анализируются иноязычные сложные слова активно функционирующие в интернет медиа.

Ключевые слова: иноязычная лексика, сложное слов, композит, функциональная ориентация, интернет медиа.

*Davlyatova E.M., PhD philological sciences
teacher
"Methodology of teaching English language"
Termez State University*

FUNCTIONAL ORIENTATION OF FOREIGN LANGUAGE COMPOUND WORDS IN RUSSIAN AND UZBEKISTAN INTERNET MEDIA

Annotation. This article is devoted to the study and identification of the functional orientation of foreign language compound words in Russian and Uzbek Internet media at the present stage of development of the Uzbek and Russian languages.

The presented article analyzes foreign language compound words that actively function in Internet media.

Key words: foreign language vocabulary, complex words, composite, functional orientation, Internet media.

Введение

В настоящее время необходимость изучения иноязычной лексики, в частности функциональной ориентации сложных слов в Российских и Узбекистанских интернет медиа на современном этапе развития узбекского и русского языков обусловлены причинами собственно

языковыми (внутренними) – состоянием языков в XXI веке – и причинами гносеологическими – состоянием современной лингвистической науки, описывающей и осмысливающей данный процесс. Исследование языковых причин, по которым изучение иноязычных слов является актуальным, связаны с характером современного лексического заимствования, а также и другими особенностями, которые необходимо учитывать при анализе исследуемого материала.

Методы. Исследование проводилось в русле системно описательного метода лингвистики. В ходе работы использовались как общенаучные методики (наблюдение, описание, классификация, сопоставление), так и специальные методики, обеспечивающие решение тех или иных задач.

Результаты. Следует отметить, что важнейшими являются следующие: – интернациональный характер современного заимствования (активный приток новых слов из других источников наблюдается во многих других развитых языках мира); – преимущественно один язык-источник (американский английский); – проникновение иноязычной лексики в разные области человеческой деятельности, вплоть до бытовой сферы, и в разные варианты общенародного языка – литературный язык (как книжный, так и разговорный) и субстандарт (жаргоны); – активизация калькирования; – сильнейшее взаимодействие процессов внешнего заимствования (заимствования из чужого языка) и внутреннего заимствования (заимствования из других вариантов этноязыка, преимущественно жаргонов); – параллельное заимствование наряду со словом его производных (см.: пицца, пиццерия; пейджер, пейджинг и др.); – ставшее регулярным заимствование аббревиатур.

В аспекте заявленной проблемы для нас важно мнение исследователя Тарасовой М.С., которая представила анализ дефиниций сложное слово в своей диссертационной работе «Сложное слово в языке СМИ в период антироссийских санкций»⁷⁸. Исследователь рассматривает при разъяснении правил написания сложных слов или при описании словосложения как одного из способов словообразования. При этом в других источниках можем видеть употребление терминов «компози́та» или «компози́ты», тогда как «компози́т» используется не только в метаязыке лингвистики, например, употребляется в отношении компози́тных/компози́ционных материалов⁷⁹. «Сложное слово (компози́та) – слово, образованное соединением двух или нескольких основ в процессе морфологического словопроизводства»⁸⁰. «Компози́ты (лат. *compositio* –

⁷⁸Тарасова М. С. Сложное слово в языке СМИ в период антироссийских санкций: Диссер.канд. филол. наук. – Мытищи 2021. –190с.

⁷⁹ Ахманова О. С. Словарь лингвистических терминов. – 2-е изд., стер. – М.: УРСС: Едиториал УРСС, 2004. – 571 с. <http://www.classes.ru/grammar/174.Akhmanova/>.

⁸⁰Розенталь Д. Э. Словарь справочник лингвистических терминов. – изд. 2-е. – М.: Просвещение, 1976. <http://rus-yaz.niv.ru/doc/linguisticterms/index.htm>

сложение) – сложные слова, имеющие особый тип словообразовательного значения, которое присуще вообще всем словам со сложной мотивирующей базой: это соединительное значение»⁸¹. Свободная энциклопедия предлагает термин-омоним: «Композит, композиционный материал (КМ) – искусственно созданный неоднородный сплошной материал, состоящий из двух или более компонентов с четкой границей раздела между ними»⁸². Это отражает метаязык естественно научных работ, многочисленные тексты статей и монографий, технологических описаний, патентов и т. д.

Таким образом анализ фактического материала показал, что современные исследователи подчеркивают отсутствие единой трактовки композита, поддерживая положение, согласно которому данные единицы словообразовательно базируются «на объединении двух и более производящих мотивированных основ»⁸³. Но отсутствие единой трактовки не влияет на практический процесс словообразования, в том числе и на увеличение количества композитных единиц как в узбекской, так и в русской лексике, ведь современная действительность характеризуется значительными изменениями в языке, особенно на лексическом и словообразовательном уровнях.

Рассмотрим иноязычные сложные слова, активно эксплуатируемые в интернет медиа Российских и Узбекистанских интернет медиа: *масс-маркет, трэвел-шоу, fashion-инвентов, бьюти-приём, кибер-кафе*. «Российская модель стала лицом рекламной кампании коллабрации *масс-маркет* бренда и *Narciso Rodrigues*»; «Самый интеллектуальный ведущий *трэвел-шоу*, кажется, больше никогда не сможет встретиться с российскими фанатами». «По количеству *fashion-инвентов* он даже может поспорить с неделями моды в Париже – каждая марка хочет воспользоваться случаем и позвать к себе как можно большее число гостей А-величины...»; «Виктория Бекхэм показала *бьюти-приём* с белым карандашом для глаз, который скрывает следы усталости». «Робот-кассир Дуняша устроилась на работу в *кибер-кафе*». «*Self-education* – талабаларнинг ўз устиди ишлаши Буюк Британиядаги таълимнинг барча даражасида энг асосий...»; «*Case-study* – реал ҳаётдан олинган воқеаларни таҳлил қилишади»; «*Huawei Tech Investment Tashkent*» компанияси ҳомийлигида Ақлли қишлоқ ва сув ҳўжалиги” *шоу-рум...*»; “*Спин- офф* компанияларини ташиқил этиши институт учун бир қатор...”.

Заключение. Таким образом, перспективной остаётся задача дальнейшего исследования иноязычных сложных слов (композитных

⁸¹ Жеребило Т. В. Словарь лингвистических терминов. – Назрань: Изд-во «Пилигрим», 2010. – 486 с.

⁸² Википедия. Свободная энциклопедия [Электронный ресурс] (в тексте – Википедия). Режим доступа: <https://ru.wikipedia.org>

⁸³ Дубровский Ю. А. Композитные лексические единицы в современной бизнес-коммуникации: англо-русские параллели в интернет-пространстве // Язык и культура. – 2019. – № 48. – С. 62–75.

единиц) как информационно ёмких средств языка, использование которых в различных функциональных стилях, прежде всего в языке СМИ, в частности в интернет медиа связано с современными ориентирами на краткость, содержательность, информативность изложения материала, потребность имплицитно или эксплицитно нести семантику качества, поскольку это универсальное свойство, отличающее одно лицо (предмет, действие) от другого, что важно для текстов СМИ в их функциональной ориентации.

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Дарябаева А.Ж.
студент
Узбекский государственный университет
физической культуры и спорта
Нукусский филиал

ЭФФЕКТИВНЫЕ МЕТОДЫ ОБУЧЕНИЯ ТЕХНИКЕ ГАНДБОЛА

Аннотация. В этом тезисе даются понятия о задачах и этапах технической подготовки спортсменов, а также о средствах совершенствования технического мастерства спортсменов. Считается, что техническая подготовка спортсмена учит его технике движения и работы, которая поможет ему в соревнованиях по спорту или с использованием тренажеров. В процессе специальной технической подготовки спортсмен изучает технику избранного вида спорта, изучает биомеханические законы движения и работы, относящиеся к направлению специализации в виде спорта, овладевая соответствующими движениями на практике и завершая их на более высоком уровне. Кроме того, и в связи с этим проводится вся техническая подготовка. Целью технической подготовки является одновременное расширение знаний спортсмена по физическому воспитанию, всем техническим основам физических упражнений, а также восполнение фонда двигательных навыков и умений, полезных в жизни и спортивной практике.

Ключевые слова: техника, тактика, мастерство, спортсмен, метод, движение, этап, тренировка.

Daryabaeva A.Zh.
student
Uzbek State University of Physical Education and Sports
Nukus branch

EFFECTIVE METHODS OF TEACHING HANDBALL TECHNIQUE

Resume. This thesis provides concepts about the tasks and stages of the technical training of athletes, as well as the means of improving the technical skills of athletes. The technical training of an athlete is said to teach him the movement and work technique that serves him through a competition in a sport or with an exercise tool. In the process of special technical training, the athlete learns the technique of the chosen sport, learns the biomechanical laws of movement and work related to the direction of specialization in the sport, mastering the relevant movements in practice and completing them at a higher level. In addition, all technical training is carried out. The goal of technical training is to simultaneously expand the athlete's knowledge of physical

education, all the technical foundations of physical exercises, and to complete the movement skills and ability fund that are useful in life and in sports practice.

Keywords: technique, skill, athlete, method, movement, stage, training.

Задачи и этапы обучения к технической подготовке спортсменов

Основными средствами процесса совершенствования технического мастерства спортсмена являются:

1. Виды спортивной техники основанные на движениях, усовершенствованных методах и выполнении в условиях изменения четких предел.

2. Последовательное преобразование изученных методов в основу техники и целевое применение соревновательной деятельности.

3. Учитывая индивидуальную особенность спортсмена, можно определить характер движения, его динамику, кинематику и усовершенствование ритма.

4. Повышение полноты техники спортсмена в экстремальных соревновательных мероприятиях.

5. Достижение технического мастерства спортсмена, исходя из требований спортивной практики и научно-технических показаний.

В техническом процессе обучения, используя литературу, инструменты быстрой информации, анализ фото-кино-видео материалов, слова, визуальные и практические методы, ударную и ритмическую, фазовую и динамическую характеристику, обучающий процесс должен вестись с помощью исправления.

Процесс обучения движений включает в себя три непрерывных этапа обучения, отличающихся друг от друга отдельными задачами процесса обучения.

На первом этапе, хотя и в грубой форме, происходит обеспечение возможности, другими словами, происходит самосовершенствование основ техники.

На втором этапе определяются границы деталей обученной техники движения.

На третьем этапе достигается место в различных мероприятиях соревновательного процесса до тех пор, пока не будет достигнута физическая активность.

Этапы обучения соответствуют этапам адаптации к действиям.	
Этапы обучения	Этапы формирования адаптации
Этапы обучения технике действий (самосовершенствовать основы техники).	Появление адаптации к действиям
Этапы углубленного освоения техники (обучение элементам техники).	Переход к неполным специальностям с достижением адаптации.
Этапы совершенствования техники движений (усовершенствование техники спортивных движений)	Усиление специализации и формирование привычки использовать движения с определенным результатом в

Все три этапа подготовки определялись временем освоения учеником сложных движений. Первый этап тренировки практически не имеет значения при обучении привычным движениям.

Первый этап обучения техники действия

Основные задачи дают возможность выполнить движение в общем состоянии, в грубой форме.

Особенностью методики обучения на этапе считается ориентированность на освоение основ техники движения. Обучению действию начинается с создания изображения. Порядок определяется по следующему:

- показать действия максимально усовершенствованном виде;
- говорить о нем. Усердно работающий, обращает внимание на быстрое достижение ускоренной цели;
- объяснения выполнении методов действия и снова повторять ранее выполненное
- дать возможность выполнять действия самостоятельно. При необходимости обеспечить защиту;
- выполнять действия в замедленном темпе, чтобы обратить внимание на основные недостатки техники выполнения

Заканчивать несколькими повторениями фантазирование о действии.

Необходимо определить четкий метод обучения действий прямо, раздельно или в целом. Если же действие не вызывает трудности и опасности для жизни, то его следует изучать до конца.

Например: при прыжках и метании (бросании) начинают напрягаться мускулистые мышцы. В процессе обучения новой технике в одном упражнении нельзя длительно повторять одно и то же. Нельзя допускать перерыв во время обучения. В этом этапе обучения, по правилу, поправляются ошибки, которые наносят ущерб на основы действия. Общие недостатки учащихся, связанные с их ученическими недостатками бывают в форме собственных действия учащихся. [2]

Этап углубленного освоения техники действия

Основная задача – достижение ожидаемой точности при выполнении техники действия.

Особенности методики обучения на этапе предусматривают получение ясных и более подробных информации об особенностях техники.

Поэтому при формировании обучения действию поддерживает методику полноценного осуществления. На этом этапе применяется метод разделения техники на части, когда необходимо определить, какая часть действия должна быть более точно выполнена. Вместе с этим, помимо показательного метода, можно использовать кино отрывки, кинограммы, а

также метод объяснения тоже дает хорошие результаты. В заключении этапа можно применять метод соревнования.

Этапы усовершенствования техники действий

Основная задача – выполнение действия в одной позе в разных обстоятельствах.

Особенность методики обучения на этом этапе заключается в том, что полнота повторении действий выполняется многократно. Повторное выполнение упражнения считается ведущим методом. Он поддерживается в следующих формах:

- частое повторение действия в течение полного или короткого периода отдыха;
- частичное повторение вышеуказанного действия;
- в различных состояниях тела и души (усталость, ограничение зрения и т.д.) повторения действий;
- многократное количество «до изнеможения» повторений.

Кроме того, в различных обстоятельствах для формирования результативного выполнения обучения используются нижеперечисленные методы:

- выполнение действия в различных ситуациях: в местах для размещения снарядов, разного рода снарядов, различные погодное условие, влияние внешней среды;
- объединение действия с другими до и после его обучения;
- выполнение действия изо всех сил, а также приблизительное выполнение и в случаях соревнования;
- выполнение действия при обстоятельствах колебания и наоборот.

Этап усовершенствования действия продолжается во все века пока спортсмен в праве выбрать ему понравившийся вид спорта. [4]

Обучение основ первых технических методов

В спортивной практике процесс обучения является фундаментальным этапом многолетней спортивной тренировки, на этом этапе методы обучения, используемые с помощью инструментов, создают возможность успешного проявления спортивного мастерства на последующих этапах.

В процессе обучения необходимо учитывать как онкогенетические, так и биопсихологические особенности ребенка. Другими словами, необходимо, чтобы в процессе обучения нагрузки на обучение были нормированы и применялись с учетом физических и функциональных возможностей занятых детей.[2]

Нам известно, что движение (нагрузка) имеет большое значение для здоровья человека, его физического и функционального состояния. Однако, все виды движения, в частности, выполняемые на спортивных кружках, должны соответствовать функциональным возможностям физического и технико-тактического воспитания, а также физически

активного человека или быть немножко отсутствующими. Это известно из предмета биологии, что онкогенетические процессы происходят на определенных стадиях развития, когда общий эффект ежедневной физической нагрузки значительно превышает функциональные возможности организма (органы, мышцы, сосуды, клетки, ткани, сердце, легкие, жидкость, печень и т.д.) появляются признаки усталости и быстрого истощения.

Такие неприятные “следы” выявляют обычные функциональные нарушения человека, особенно ребенка, искажают его внешний вид, нарушают сон, мешают его полноценному восприятию. Если аутизм таких нагрузок повторяется хронически в детском возрасте, то это может повлиять только на нормальный рост организма, а может привести к возникновению локальных или глобальных патологических осложнений в различных функциональных объектах. В частности, если ежедневная или общая тренировочная нагрузка не превышает функциональных возможностей, не улучшаются физические качества и не улучшается рабочая способность. Кроме того, ежедневные или общие нагрузки, в частности, на занятиях физической культуры и тренировочные упражнения, должны увеличиваться в зависимости от возраста, пола, физических и функциональных возможностей детей.

Следовательно, педагогическая и медицинская поддержка в организации занятий детским спортом являются неотъемлемой частью процесса здорового, активного воспитания.

Так, на каждого человека (преподавателя, тренера, обучающегося, методиста, инструктора) и руководителя возлагается большая хозяйственная нагрузка, которая требует, чтобы физические средства, физическое воспитание, физическая подготовка, физическая готовность и знания, связанные с спортивными проблемами, соответствовали требованиям профессионально-педагогического специалиста в целом. [2]

Особое внимание следует уделять успешной адаптации детского спорта в процессе многолетней спортивной тренировки, связанной с показателями здоровья и физической подготовленности спортсменов, способствующих улучшению их спортивного мастерства.

Физическая подготовленность и ее потенциальные качества, такие как сила, скорость, выносливость и гибкость в качестве научного объекта привлекали внимание многих ученых-исследователей. В их исследованиях раскрыто значение, содержание физических качеств, их значение в физической культуре, спорте и других процессах.

Данная статья нашла свое отражение во многих научных изданиях, читая их молодежь разных возрастов и исследователи, стремящиеся обучиться на примере детского спорта.

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Жалилов А.Х.
докторант
Ташкентский государственный
университет путей сообщения
Узбекистан

ПУТИ ОПРЕДЕЛЕНИЯ ЭКОНОМИЧЕСКОЙ ЭФФЕКТИВНОСТИ НА ОСНОВЕ РАЗВИТИЯ ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТИ ЖЕЛЕЗНОДОРОЖНОГО ТРАНСПОРТА

Аннотация. В статье говорится о способах определения экономической эффективности на основе развития инновационной деятельности железнодорожного транспорта.

Ключевые слова: транспорт, инновации, деятельность, развитие, эффективность.

Jalilov A.Kh.
PhD student
Tashkent State Transport University
Uzbekistan

WAYS OF DETERMINING ECONOMIC EFFICIENCY ON THE BASIS OF DEVELOPING THE INNOVATIVE ACTIVITY OF RAILWAY TRANSPORT

Abstract. The article talks about ways to determine economic efficiency based on the development of innovative activities of railway transport.

Key words: transport, innovation, activity, development, efficiency.

Определение экономической эффективности, получаемой при реализации предлагаемых научно-практических рекомендаций по развитию инновационной деятельности в системе железнодорожного транспорта, определяется по следующим направлениям:

по первому направлению эффективность оценивается по результату качества оказываемых услуг при перевозке грузов и пассажиров, т.е. интервалу доставки грузов, предложенному в механизме развития инновационной деятельности железнодорожного транспорта, представленном на рисунке 1.1. «Гарантированные транспортно-экспедиторские услуги» по подходу «организация шоу» на определенную величину сокращения, по гипотезе предусмотрено выполнение грузового графика на 80-85% и пассажирского графика на 90-95%;

эффективность по второму направлению рассматривается как сравнение результатов, достигнутых в деятельности грузополучателей и

грузоотправителей в обмен на экономические затраты на использование выбранной группы качества при организации транспортной деятельности, это направление рассматривается как экономическая эффективность стороны реализации разработки сохраняются;

эффективность в третьем направлении оценивается результатом решения социальных задач за счет эффективной организации транспортной деятельности.

Для реализации инновационной стратегии необходимо совершенствовать транспортную инфраструктуру, использовать в процессе организации перевозок современных логистических провайдеров, обновлять техническую базу за счет совершенствования основных средств. Одним из основных условий механизма развития инновационной деятельности системы железнодорожного транспорта является формирование стратегической перспективы, обеспечивающей возможность получения более высокого дохода по сравнению с другими транспортными предприятиями.



1.1-рис. Механизм развития инновационной деятельности железнодорожного транспорта⁸⁴

Предлагаемый механизм развития инновационной деятельности железнодорожного транспорта включает несколько направлений. Механизм развития инновационной деятельности является основой решения задачи разработки научно обоснованной долгосрочной стратегии развития системы железнодорожного транспорта в современных условиях. Механизм, обеспечивающий развитие инноваций, приводит к развитию рыночных факторов, позволяющих повысить конкурентоспособность

⁸⁴ Авторская разработка.

предприятий железнодорожного транспорта, эффективно использовать транспортную инфраструктуру и логистический потенциал страны, совершенствовать тарифную систему, повышать качество перевозок. сервис и предлагать новые услуги.

Следует отметить, что указанные три направления определения эффективности, достигаемой в результате совершенствования инновационной деятельности на железнодорожном транспорте, опираются на свои показатели и критерии. Основной целью внедрения единых инновационных технологических процессов на железнодорожном транспорте является получение экономического эффекта, при этом учитываются следующие параметры:

- результат положительный как на железнодорожном транспорте (S_{tr}), так и на заказчике (C_{mij});
- эффект одинаков для предприятия железнодорожного транспорта и заказчика;
- результат положительный для предприятия железнодорожного транспорта, убыточный для клиента;
- результат отрицательный для предприятия железнодорожного транспорта, т.е. убыток, и положительный для заказчика;
- результат отрицательный как для предприятия железнодорожного транспорта, так и для заказчика.

По традиционной методике произведены расчеты по определению эффекта, достигнутого в результате внедрения отдельных инновационных технологических процессов для станций третьего квартала выпуска товаров. Следует подчеркнуть, что важна степень распределения результата или убытков между сторонами между железнодорожным транспортом и заказчиком. Данные уровни распределения указывают на необходимость использования метода определения экономической эффективности, основанного на применении дифференцированных тарифов.

По результатам освидетельствования через 24 часа по плану на участок отправляется 10 вагонов с товаром, до внедрения единого инновационного технологического процесса подвижной состав стоял на станции в среднем 20 часов, 3 В технике работают грузчики и 5 человек. После внедрения единого инновационного технологического процесса погрузки грузов время остановки подвижного состава составляет 16 часов, на технике 2 носильщика и 2 человека. В результате железнодорожный транспорт экономит 4 часа по времени, т.е. $4 \text{ часа} \cdot 10 \text{ вагонов} = 40 \text{ вагоночасов}$. Например, если за 1 вагоно-час экономится 10 000 сум, за 4 часа экономится 40 000 сум, если число рабочих дней в году считать по технологии примерно 200 дней, то общий результат составит 8 миллионов.

По соглашению сторон, с учетом единого инновационного технологического процесса, необходимо разделить сэкономленные

средства с предприятием, производящим продукцию, за счет дифференцированного тарифа. Дифференцированный тариф определяется по следующей формуле:

$$T_{dif} = \frac{(S_{tr} - S_{mij}) * K_{koursatmaydi} * K_{tjbd}}{n * K_{ok} * R_{soni}}$$

здесь:

S_{tr} – экономическая эффективность предприятия железнодорожного транспорта, сум;

S_{mij} – экономический эффект для клиента, сум;

$K_{koursatmaydi}$ – коэффициент, определяющий размер влияния, не участвующего в формировании дифференцированного тарифа (0,5-1,0) → 0,7;

K_{tjbd} – коэффициент уровня производительности технологического процесса (0,5-1,0) → 0,8;

n – количество загружаемых вагонов;

K_{ok} – коэффициент изменения расстояния вагонов между станцией отправления и станцией прибытия (0,1 на каждые последующие 1000 км) → 1,05;

R_{soni} – дней работы в году по технологии.

Дифференцированный тариф определяется следующим образом:

$$T_{dif} = \frac{8\,000\,000 * 0.7 * 0.8}{10 * 1.05 * 200} = \frac{4\,480\,000}{2\,100} = 2\,133,3 \text{ so'm.}$$

По результатам расчета предлагается снизить тариф на 2133,3 сума. На основании взаимоотношений участников по каждому из определяемых коэффициентов был сформирован следующий вывод согласно гипотезе:

Присоединение некоторых грузовых вагонов к пассажирским локомотивам в зависимости от их характеристик дает возможность повысить их эффективность за счет резкого сокращения остановок на поворотах. При этом присоединение рефрижераторных вагонов к пассажирским поездам позволяет сократить время доставки грузов примерно в 2 раза.

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*Зокиров С.И., PhD по ф. –м.н.
доцент
ТУИТ имени Мухаммада аль-Хорезми
Ферганский филиал
Мухтаров Ф.М., PhD по т.н.
доцент
ТУИТ имени Мухаммада аль-Хорезми
Ферганский филиал
Тождинов А.И.
студент
ТУИТ имени Мухаммада аль-Хорезми
Ферганский филиал*

ВОПРОСЫ КИБЕРБЕЗОПАСНОСТИ ПРИ РАЗРАБОТКЕ СИСТЕМЫ ВЫЯВЛЕНИЕ НАУЧНО-ТВОРЧЕСКИХ СПОСОБНОСТЕЙ УЧЕНИКА НА ОСНОВЕ ОЦЕНКИ КРІ

Аннотация. В данной статье рассматриваются теоретические основы и ключевые вопросы кибербезопасности при разработке системы выявления научно-творческих способностей учеников на основе оценки ключевых показателей эффективности (КРІ) и применения технологий искусственного интеллекта. Особое внимание уделено защите персональных данных учащихся, обеспечению целостности и достоверности анализируемых данных, а также прозрачности алгоритмов оценки. Обсуждаются теоретические подходы к минимизации рисков несанкционированного доступа, утечки информации и манипуляций с данными. Кроме того, рассматривается соответствие системы действующим нормативным требованиям в области кибербезопасности и защиты персональных данных. Представлены теоретические разработки по обучению персонала, работающего с системой, необходимым компетенциям в сфере информационной безопасности. Статья демонстрирует важность комплексного теоретического подхода к обеспечению кибербезопасности при разработке инновационных систем для оценки и развития научно-творческого потенциала учащихся.

Ключевые слова. КРІ, кибербезопасность, оценка учащихся, автоматизация анализа данных, образовательные технологии.

Zokirov S.I., PhD in f. -M.Sc.
associate professor
TUIT named after Muhammad al-Khorezmi
Fergana branch
Mukhtarov F.M., PhD
associate professor
TUIT named after Muhammad al-Khorezmi
Fergana branch
Tozhidinov A.I.
student
TUIT named after Muhammad al-Khorezmi
Fergana branch

CYBER SECURITY ISSUES ON DEVELOPMENT OF SYSTEM FOR DETERMINING STUDENT'S SCIENTIFIC AND CREATIVE ABILITIES BASED ON KPI ASSESSMENT

Annotation. This article discusses the theoretical foundations and key issues of cybersecurity when developing a system for identifying the scientific and creative abilities of students based on the assessment of key performance indicators (KPIs) and the use of artificial intelligence technologies. Particular attention is paid to protecting students' personal data, ensuring the integrity and reliability of the analyzed data, as well as the transparency of assessment algorithms. Theoretical approaches to minimizing the risks of unauthorized access, information leakage and data manipulation are discussed. In addition, the system's compliance with current regulatory requirements in the field of cybersecurity and personal data protection is considered. Theoretical developments for training personnel working with the system with the necessary competencies in the field of information security are presented. The article demonstrates the importance of an integrated theoretical approach to ensuring cybersecurity when developing innovative systems for assessing and developing the scientific and creative potential of students.

Keywords. KPI, cybersecurity, student assessment, data analysis automation, educational technology.

Введение.

Современное образование требует новых подходов к оценке и развитию способностей учащихся в условиях глобальной конкуренции и быстрого развития технологий. Особенно важным становится выявление и поддержка научно-творческого потенциала учеников, что способствует их академическому успеху и подготовке к решению сложных задач в будущем. Использование ключевых показателей эффективности (KPI) и нейронных сетей автоматизирует процесс оценки способностей, упрощает

его, повышает объективность и точность. Цель данной статьи — разработать теоретические основы для системы, способной выявлять научно-творческие способности учащихся через оценку КРІ с использованием нейронных сетей. В рамках этого процесса требуется анализ существующих подходов к оценке научно-творческих способностей, определение ключевых КРІ, разработка архитектуры нейронной сети для их анализа, создание и тестирование прототипа системы, проведение экспериментальных исследований, анализ эффективности и формулирование рекомендаций для внедрения в образовательные учреждения. Создание такой системы значительно улучшит образовательный процесс, помогая учителям и администраторам выявлять учащихся с высоким научно-творческим потенциалом и предоставлять им необходимую поддержку для развития.

Методология.

Для решения задач, поставленных в рамках данной статьи, был применен комплексный подход, включающий теоретические и практические методы исследования. Первым этапом стал всесторонний анализ существующих подходов к оценке научно-творческих способностей учащихся, что позволило выявить основные тенденции, сильные и слабые стороны подходов и обосновать необходимость разработки новой системы. На следующем этапе были отобраны и обоснованы ключевые показатели эффективности (КРІ), которые могут служить индикаторами научно-творческого потенциала учащихся, с использованием методов экспертной оценки и анкетирования. Для анализа и обработки данных по выбранным КРІ была разработана архитектура нейронной сети, основанная на современных методах машинного обучения. После этого был создан прототип системы с использованием инструментов программирования и библиотек машинного обучения, включающий модули для сбора данных, их предварительной обработки, обучения и тестирования нейронной сети, а также генерации отчетов по научно-творческим способностям учащихся. На заключительном этапе был проведен анализ результатов работы системы, сопоставленных с данными, полученными традиционными методами оценки, что позволило сделать выводы о преимуществах и недостатках предложенного подхода и дать рекомендации по его внедрению в образовательную практику.

Обзор литературы.

В сфере разработки системы выявления научно-творческих способностей учеников на основе оценки КРІ с использованием нейронных сетей работали многие исследователи и научные коллективы. Отметим несколько наиболее значимых и актуальных работ в этом направлении.

Так, в исследовании [1] был предложен комплексный подход к оценке креативности учащихся, основанный на анализе их портфолио,

результатов участия в олимпиадах и соревнованиях, а также экспертных оценок педагогов. Авторы разработали набор количественных и качественных КРІ, характеризующих различные аспекты научно-творческой деятельности. Для построения предиктивной модели была применена архитектура глубоких нейронных сетей, показавшая высокую точность в идентификации одаренных учащихся.

В работе [2] исследовалась взаимосвязь между мотивацией, креативностью и успеваемостью школьников. Был собран обширный набор данных, включающий результаты тестирования, оценки учителей/родителей и достижения учащихся. Для моделирования этих взаимосвязей использовались методы структурного уравнения, позволившие выявить ключевые факторы, определяющие научно-творческий потенциал.

Исследование [3] было сфокусировано на разработке интеллектуальной системы поддержки принятия решений для выявления одаренных детей. В основе системы лежала архитектура гибридных нейронных сетей, интегрирующая методы глубокого обучения и нечеткой логики. Система продемонстрировала высокую эффективность в диагностике одаренности и генерации рекомендаций по развитию талантов.

В работах [4-7] рассматриваются различные методы идентификации одаренных студентов, необходимость комплексных подходов и критерии оценки научно-творческих способностей, а также предлагаются альтернативные методы оценки одаренности и модели развития талантов.

В рассмотренных работах были предложены комплексные подходы к оценке научно-творческих способностей учащихся, основанные на сочетании разнообразных источников данных и применении современных методов машинного обучения и нейронных сетей. Эти исследования служат важной теоретической и методологической основой для решения текущей задачи.

Полученные результаты.

В ходе исследования была разработана и протестирована система для выявления научно-творческих способностей учащихся на основе оценки ключевых показателей эффективности (КРІ) с использованием нейронных сетей. Основными результатами стали определение значимых КРІ, включающих академическую успеваемость, результаты тестов на креативность, участие в научных проектах и конкурсах, а также оценки учителей и менторов. Разработка архитектуры нейронной сети позволила создать многослойную модель, оптимизированную для обработки и анализа данных по КРІ, достигнув высокой точности предсказаний.

Для обеспечения работы системы данные были собраны из нескольких образовательных учреждений и прошли предварительную обработку. Модель была обучена и протестирована, показав точность

предсказаний в 85%, что является высоким показателем для задач такого рода. Система также генерирует детализированные отчеты по каждому учащемуся, что позволяет оперативно оценивать научно-творческий потенциал.

Результаты исследования демонстрируют, что использование нейронных сетей и КРІ является эффективным методом для выявления научно-творческих способностей. Однако существуют определенные ограничения, связанные с качеством данных, субъективностью некоторых КРІ и необходимостью адаптации системы к изменяющимся условиям. Для повышения надежности системы требуется внедрение механизмов для автоматической валидации и обновления данных, а также стандартизация форм оценки и обучение учителей.

На основании проведенного анализа и полученных результатов мы можем предложить ряд рекомендаций для дальнейшего развития и внедрения этой системы. Прежде всего, необходимо расширить набор КРІ, включив дополнительные показатели - результаты внеклассных мероприятий, участие в олимпиадах и конкурсах, а также данные о личных интересах и увлечениях учащихся. Это позволит сделать оценку более комплексной и точной.

Интеграция системы с существующими образовательными платформами и базами данных автоматизирует процесс сбора и обновления данных, упрощая ее использование для учителей и администраторов. Регулярное переобучение нейронной сети на новых данных и пересмотр используемых КРІ поможет поддерживать высокую точность и актуальность системы, учитывая изменения в образовательной среде.

Для успешного внедрения системы необходимо организовать обучение и поддержку для учителей и администраторов, чтобы они могли правильно интерпретировать результаты и эффективно использовать систему. При разработке и внедрении следует учитывать этические аспекты, связанные с обработкой персональных данных учащихся, обеспечивая конфиденциальность и защиту данных с получением информированного согласия.

Рекомендуется начать с пилотных проектов в нескольких образовательных учреждениях для тестирования и улучшения системы. Сбор обратной связи от учителей, учащихся и их родителей поможет выявить сильные и слабые стороны системы и внести необходимые изменения.

Заключение.

Разработка системы для выявления научно-творческих способностей учащихся на основе КРІ и нейронных сетей представляет собой перспективное направление в образовательной практике. Полученные результаты подтверждают эффективность предложенного подхода, однако

для его успешного внедрения и развития необходимо учитывать ряд факторов, включая качество данных, субъективность оценок и необходимость постоянного обновления модели. Внедрение таких систем поможет образовательным учреждениям более точно и оперативно выявлять учащихся с высоким научно-творческим потенциалом, способствуя их развитию и успешной академической карьере.

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*Козоногова Я.В.
обучающаяся
Научный руководитель:
Свечникова Т.М., канд. экон. наук
доцент
ФГБОУ ВО Пермский ГАТУ
Россия, г.Пермь*

УПРАВЛЕНИЕ КАЧЕСТВОМ ПРОИЗВОДСТВА ПРОДУКЦИИ НА ПРОМЫШЛЕННЫХ ПРЕДПРИЯТИЯХ

Аннотация. В данной статье отображены сущность и значение управления качеством продукции на предприятии, изучены методы и группы показателей оценки качества продукции на промышленных предприятиях, рассмотрены особенности управления качеством производства кабельно-проводниковой продукции.

Ключевые слова: управление качеством, производство продукции, промышленные предприятия, качество производства кабельно-проводниковой продукции

*Kozonogova Ya.V.
student
Scientific supervisor:
Svechnikova T.M., candidate of economic sciences
associate professor
Perm State Technical University
Russia, Perm*

PRODUCT QUALITY MANAGEMENT IN INDUSTRIAL ENTERPRISES

Annotation This article reflects the essence and importance of product quality management at the enterprise, examines methods and groups of indicators for evaluating product quality at industrial enterprises, and examines the features of quality management of cable and wire products.

Keywords: quality management, production, industrial enterprises, quality of production of cable and wire products.

Актуальность темы. Актуальность темы обусловлена тем, что эффективная деятельность современного промышленного предприятия зависит от системы управления качеством производства выпускаемой продукции. Эффективная система менеджмента качества значительно

повышает имидж организации, поскольку такая система не только позволяет производить качественную и безопасную продукцию, но и становится ключевым фактором при выборе бизнес-партнеров. Она способствует ускорению и повышению производительности рабочих процессов за счет непрерывного улучшения действий и процедур. Это, в свою очередь, ведет к сокращению издержек производства, понижению цен на товары для оптовых и розничных покупателей, что стимулирует увеличение продаж и способствует расширению рынка.

Цель и задачи исследования. Исследование систем управления качеством производства продукции на промышленных предприятиях.

Результат исследования. Вопросам управления системой качества продукции на промышленных предприятиях и предприятиях, производящих кабельно-проводниковую продукцию, уделяли внимание следующие ученые: Н.Б. Пирматов, В.П. Иванова, В.В. Цыпкина, Ф.Я. Обидова, Д.А. Никифоров, Т.П. Мишура, Д.А. Никифоров, Т.П. Мишура, П.Н. Майкова, Е.Н. Майкова, Ю.О. Захарова, Г.М. Андреасян и др. Согласно их мнению, именно на основе эффективной системы управления качеством продукции современное промышленное предприятие может выжить в конкурентной среде и получить необходимую прибыль.

В основе современных подходов к исследованию темы лежит понимание, что контроль качества продукции должен происходить не только после ее изготовления, но и на всех этапах производственного процесса, включая подготовительные работы до запуска производства. Эффективное обеспечение качества продукции предполагает интеграцию управленческих действий на протяжении всего процесса создания продукта. Подходы к управлению качеством следует анализировать как часть общей теории управления, учитывая их воздействие на все элементы производственной системы.

Система контроля качества изделий объединяет различные элементы и процессы, включая участников и объекты контроля, а также применяемые на протяжении всего производственного процесса методики и принципы. Эти компоненты взаимодействуют на разных этапах разработки и производства продуктов, а также на всех уровнях оценки качества. Специфический механизм управления качеством продукции на предприятиях реализуется в виде так называемых функций управления, важнейшими из которых являются:

- прогнозирование и планирование повышения качества продукции;
- контроль и учет реализации программ повышения качества;
- анализ и оценка деятельности предприятия и его подразделений по вопросам качества [5].

Стандарты по управлению качеством, позволяют производителям быть более конкурентоспособными перед другими предприятиями. Конкурентоспособность заключается в более качественной продукции или

услуги и эффективного производства [3]. При построении эффективной системы менеджмента качества предприятию нужно пройти ряд этапов. Семь этапов построения СМК с характеристикой каждого из них обозначены на рисунке 1.



Рисунок 1 – Этапы построения системы менеджмента качества

Таким образом, система менеджмента качества, направлена на то, чтобы улучшить качество продукции путем реализации целей в области качества, контроля, мониторинга, улучшения, вовлечения персонала и т.д.

Важно выделить значение двух групп факторов, влияющих на качество продукции промышленного предприятия (рисунок 2).

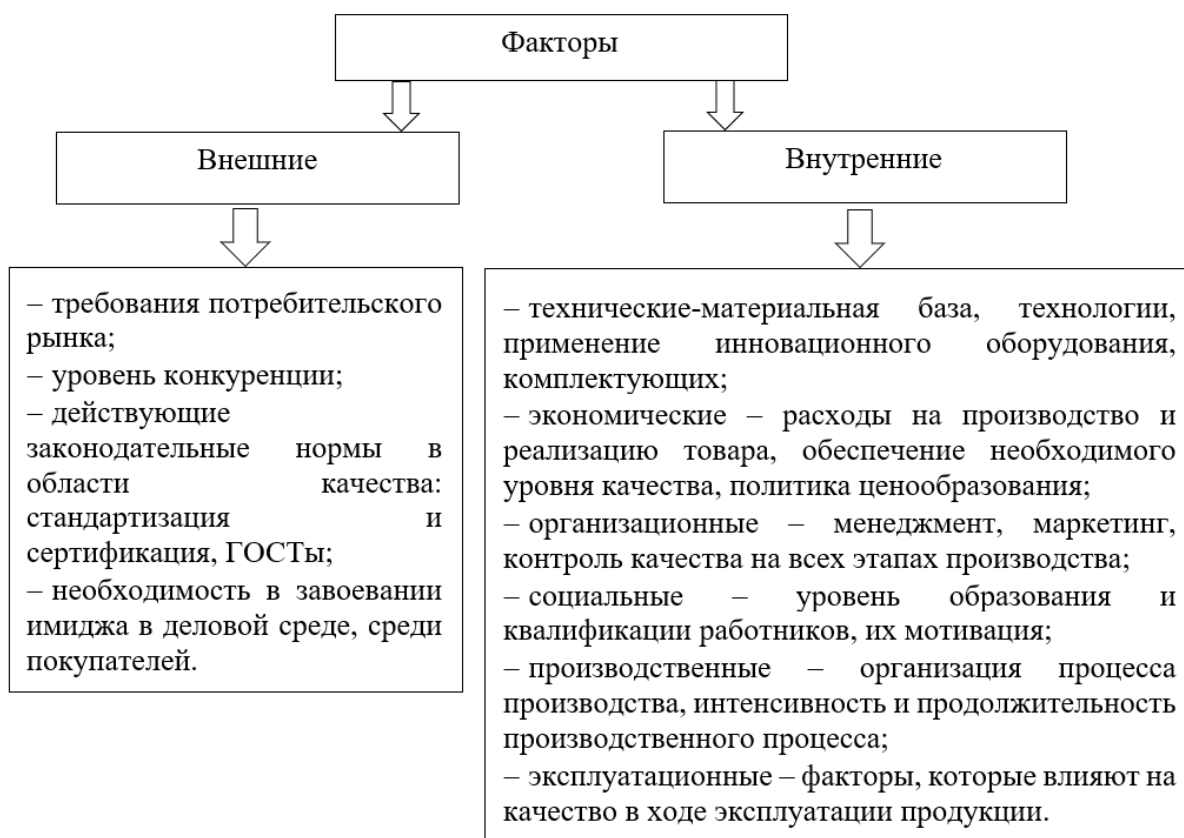


Рисунок 2 – Факторы, влияющие на качество продукции на промышленных предприятиях

Результаты оценки качества товара напрямую зависят от выбранного метода и использованных показателей оценки качества продукции на промышленных предприятиях. Для объективной оценки товар исследуют по комплексу параметров – их выбор зависит от:

- назначения и свойств продукции;
- потребительских ожиданий;
- условий эксплуатации;
- требований нормативной документации;
- целей оценки.

Различают две группы оценочных методов (таблица 1):

Таблица 1 – Основные группы оценочных методов

Группа	Характеристика группы	Методы
Объективные методы	Обеспечивают достоверную оценку измерительного оборудования, точных расчетов	1) Расчетный – показатели качества определяют с использованием математических формул и данных, полученных опытным путем. На этапе разработки продукта используют специфический подход, который позволяет изучить такие аспекты, как эффективность, стойкость и мощность, а также оценить внешний вид и удобство использования изделия. В этот процесс входят различные методики, в том числе измерения и анализ данных, вероятностные и статистические подходы, а также применение математического моделирования. 2) Регистрационный – трудоемкий метод, который базируется на данных наблюдений за объектом и фиксации определенных событий. Чтобы понять, насколько продукт экономичен, технологичен и унифицирован, а также оценить долю неудач и брака в процессе тестирования, используют данный метод. 3) Измерительный – для оценки используют измерительные приборы и средства. Метод позволяет определить параметры изделия: вес, скорость, температуру. Преимущество метода – точность и объективность.
Субъективные методы	Подразумевают малодостоверную оценку, основанную предпочтениях потребителя	1) Органолептический – оценка качества с использованием органов чувств. Позволяет оценить внешний вид изделия, вкус и запах, равномерность покрытия. Применяют, когда нельзя использовать объективные методы. 2) Экспертный – базируется на мнении квалифицированных экспертов. Результаты оценки зависят от профессионализма специалистов. Применяют, если показатели нельзя измерить с помощью объективных методов оценки, либо, когда нужно учесть очень много параметров. 3) Социологический – предполагает анализ потребительских мнений. Для того чтобы оценить уровень качества изделий, принято учитывать отзывы пользователей и их впечатления от продукта. Часто применяют методы, такие как проведение опросов среди покупателей и анализ мнений в рамках фокус-групп.

Показатели качества – качественная или количественная характеристика любых свойств продукции. Они могут быть прямыми и косвенными.

Для оценки качества продукции применяют параметры, определяющие наличие у товара свойств: основных, влияющих на ключевые функции товара: надежность, точность; потребительских, определяющих пользу товара: эргономичность, безопасность, эстетичность.

Свойства продукции – объективные и субъективные особенности, которые выявляют в процессе хранения и эксплуатации, и соответствуют ожиданиям потребителя и назначению товара.

Показатели качества могут быть [6]:

- единичными – выражать одно свойство товара: например, размер одежды или обуви, жирность молока;
- комплексными – характеризовать несколько параметров одновременно: надежность, ремонтпригодность, безопасность двигателя.

В зависимости от исследуемых характеристик показатели качества, в особенности промышленных предприятий, классифицируют по следующим группам (таблица 2):

Таблица 2 – Классификация показателей качества промышленного предприятия по группам

Группа	Характеристики группы
Назначение	Функциональные характеристики: прочность ткани, габариты мебели, влагонепроницаемость обивки
Надежность	Эксплуатационные характеристики: долговечность, безотказность, ремонтпригодность, сохраняемость товаров
Безопасность	Указание на степень опасности в процессе эксплуатации
Технологичность	Степень рациональности при производстве и использовании
Транспортабельность	Возможность перемещения без утраты основных характеристик товара
Стандартизация и унификация	Наличие в изделиях стандартных и унифицированных элементов в сравнении с другими товарами
Эргономичность	Соответствие конструкции и габаритов изделия анатомическим и физиологическим особенностям потребителя
Эстетичность	Оригинальность, художественная выразительность, соответствие моде
Экономичность	Уровень соотношения трудовых материальных и энергетических затрат: рентабельность, себестоимость товара
Экологичность	Степень негативного влияния продукции на состояние окружающей среды

Так, например, в процессе изготовления продукции кабельно-проводникового ассортимента (далее – КПП) критически важно придерживаться установленных технических и безопасных норм. Эти нормы служат для обеспечения единообразия и нормализации выпуска продукции, облегчая автоматизацию производственных процессов и обеспечивая сопоставимость характеристик среди различных производителей. Важность соблюдения как национальных, так и международных стандартов заключается в гарантировании возможности замены одной КПП на другую без потери качества. Это также подтверждает, что продукция соответствует установленным требованиям качества.

Технический регламент «О безопасности низковольтного оборудования» предполагает оценку соответствия кабелей и проводов разных типов и назначения установленным стандартам качества. В зависимости от технических характеристик и эксплуатационных особенностей определяется вид кабельно-проводниковой продукции. На основании этого производится ее классификация на категории: провода и кабели, подлежащие сертификации; провода и кабели, подлежащие декларированию соответствия [1].

Под действие технического регламента попадает вся кабельно-проводниковая продукция. Производственная оценка качества определяет соответствие продукции заявленным техническим параметрам, требуемым эксплуатационным нормам, а также нормам безопасности.

В области технического нормирования находятся изделия, включая измерительные и лабораторные устройства. К таким изделиям относится продукция КПП, который является частью низковольтной аппаратуры. В соответствии с регламентами Таможенного союза [2], для этой категории оборудования предусмотрена единственная обязательная процедура подтверждения безопасности – декларирование соответствия. Все важные сведения, включая наименование, модель, ключевые параметры и характеристики, определяющие безопасность использования, размещаются непосредственно на корпусе устройства и детально описываются в сопроводительной документации.

В прилагаемых к КПП документах представлена разносторонняя информация, начиная от его предназначения, технических характеристик и параметров, до инструкций по безопасному использованию устройства. В этих материалах указаны также шаги, которые необходимо предпринять в случае обнаружения неисправности, а также содержатся сведения об производителе и импортере, включая их наименование, местоположение, контактную информацию, а также дату производства оборудования [4].

Важно также подчеркнуть, что, когда система менеджмента качества отсутствует или функционирует неэффективно, это может привести к потере клиентов, которые отказываются от продукции предприятия. Это происходит из-за того, что товары не отвечают ожиданиям по своему назначению, обладают несовершенным дизайном, быстро выходят из строя или требуют постоянного ремонта. В такой ситуации, даже если цена выше, потребители склонны выбирать товары, которые предлагают лучшее качество и привлекательный внешний вид.

Вывод. Проблемы с падением продаж и отсутствием прибыли вынуждают компанию сталкиваться с выбором: повышать уровень качества своих продуктов и услуг или начать внедрять систему управления качеством (СУК). Это требует от руководителей активизировать работу по созданию стратегий для применения СУК, подбору нужных сотрудников, а также разработке методик и определению сроков для реализации проекта.

Для того чтобы эффективно улучшить качество, критически важно для компании глубоко исследовать всё, что касается качества, выявить ключевые аспекты, влияющие на производство и обновление продукции, и утвердить основы для создания и работы системы управления, которая будет способствовать непрерывному улучшению качества. Исходя из этого, наиболее оптимальным решением является система управления качеством на предприятии, разработанная на основе международных стандартов ISO серии 9000, которые по праву считаются обобщенными для использования практически в любой сфере деятельности.

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*Козорезов А.А.
аспирант
кафедра "Экономики и финансов"
Таганрогский институт управления и экономики
Россия г. Таганрог*

РАЗВИТИЕ ПРЕДПРИНИМАТЕЛЬСТВА В КОНТЕКСТЕ ГРАДОСТРОИТЕЛЬНОЙ ПОЛИТИКИ РОССИЙСКОЙ ФЕДЕРАЦИИ

Аннотация. Цель стратегии развития малого и среднего предпринимательства в Российской Федерации развитие сферы малого и среднего предпринимательства для инновационного развития и улучшения отраслевой структуры экономики, а также социального развития и обеспечения стабильно высокого уровня занятости. Для прогнозирования методов поддержки малого и среднего предпринимательства предлагается проанализировать опыт и критический подход к пониманию малого предпринимательства на рынке трудоустройства и вклада в экономику. На основе проведенного анализа предлагается использовать принципы для оценки организаций требующих мер по поддержке. проведен анализ вовлеченности в экономику работников в сфере научных исследований.

Ключевые слова: малое и среднее предпринимательство, предпринимательская активность, поддержка предпринимательства.

*Kozorezov A.A.
postgraduate student
Department of Economics and Finance
Taganrog Institute of Management and Economics
Russia, Taganrog*

BUSINESS DEVELOPMENT IN THE CONTEXT OF URBAN DEVELOPMENT POLICY OF THE RUSSIAN FEDERATION

Abstract. The goal of the strategy for the development of small and medium-sized enterprises in the Russian Federation is the development of the sphere of small and medium-sized enterprises for innovative development and improvement of the sectoral structure of the economy, as well as social development and ensuring a consistently high level of employment. To predict the methods of supporting small and medium-sized businesses, it is proposed to analyze the experience and critical approach to understanding small business in the employment market and contribution to the economy. Based on the analysis, it is proposed to use the principles to evaluate organizations requiring support

measures. the analysis of the involvement of workers in the field of scientific research in the economy is carried out.

Keywords: small and medium-sized enterprises, entrepreneurial activity, entrepreneurship support.

Около 85 % российских городов нуждается в переосмыслении торгово-пешеходных центров. Данный фактор напрямую связан с повышением коммерческого потенциала территории, как места приложения труда, проживания, а также рекреационных задач.

Министерство транспорта Российской Федерации разработала цели создания пешеходных пространств является совершенствование пешеходной инфраструктуры в поселениях, городских округах Российской Федерации, обеспечение единства и комплексности подходов к благоустройству совокупности дорог на территории поселения, городского округа (далее - сеть дорог) {1}, в том числе:

- повышение безопасности на дорогах;
- снижение загрязнения атмосферы;
- качественное благоустройство территорий;
- повышение комфортности городской среды;
- увеличение интенсивности движения пешеходов внутри районов;
- повышение коммерческого потенциала территорий.

Повышение коммерческого потенциала, а также отсутствие коммерческой деятельности на рассматриваемых территориях для формирования пешеходных зон представляются как одни из целей формирования данного типа пространств, представлено в следующих работах {2,3,4}.

Изучение данных по реализованным проектам в г. Москва {5}, г. Казань {6}, позволили выявить следующие особенности влияния пешеходных пространств на коммерческую деятельность.

Для г. Москва выявлены следующие характеристики:

- рост числа туристов среди посетителей с 10% до 20%;
 - увеличение продолжительности размещения туристов в гостиницах с 1,5 дня до 2,2 дней;
 - перспективные направления быстрые и бюджетные предложения для туристического потока;
 - увеличение ротации арендаторов с 8% до 17%;
 - снижение вакантности на благоустроенных улицах в последующие месяцы после проведения работ 14% до 6%;
 - изменение профиля стрит ритейла: увеличение доли общественного питания, продуктовых магазинов, сокращение доли кредитных организаций (банк, финансы), ювелирных магазинов;
- для г. Казань:

- уменьшение количество жилых домов;
- закрытие продуктовых магазинов, магазинов хозяйственных, промышленных товаров, предприятий бытового обслуживания;
- сокращение количество аптек, книжных магазинов, количество офисных помещений;
- увеличение количества сувенирных магазинов, кафе быстрого питания; гостиниц.

На основании изученных данных предлагается рассмотреть пешеходные зоны с точки зрения экономической составляющей для определение потребительской привлекательности объектов коммерческой недвижимости в пешеходных зонах. Научный подход по оценки выбора месторасположения коммерческой недвижимости представлен рядом методов {7}:

- Метод контрольного списка;
- Аналоговый подход;
- Регрессионный анализ;
- Модели выявленных предпочтений. Для работы рассмотрим Модель Хаффа основана на гипотезе о зависимости привлекательности объекта торговой недвижимости, прямо пропорциональной размеру объекта и обратно пропорциональной расстоянию между потребителем и объектом недвижимости или времени, затрачиваемому на корреспонденцию от места жительства до объекта недвижимости {8}:

$$A_{ij} = \frac{S_j}{T_{ij}^\lambda}$$

где i – порядковый номер; j – порядковый номер объекта коммерческой недвижимости; A_{ij} – привлекательность j -го объекта недвижимости для i -го потребителя; S_j – площадь j -го объекта недвижимости; T_{ij} – время, затрачиваемое i -м потребителем на дорогу до j -го объекта недвижимости; $\lambda \in [0; 1]$ – параметр, отражающий эффект влияния разных типов объектов на воспринимаемые временные затраты (данный параметр находится эмпирически, и принадлежит интервалу $[0;1]$).

В рамках работы был проанализирован ряд предполагаемых пешеходных пространств на территории г.Таганрога и проведена оценка предпочтений по модели Д.Л.Хаффа.

Таблица 1. Сравнительный анализ предполагаемых пешеходных пространств

Наименование пешеходных пространств	Оценка модели для личного транспорта	Оценка модели для общественного транспорта	Площадь коммерческой недвижимости для пешеходного пространства	Среднее время движения на личном транспорте до объекта	Среднее время движения на общественном транспорте до объекта	Эффект влияния на воспринимаемые временные затраты для личного транспорта	Эффект влияния на воспринимаемые временные затраты для личного транспорта
пер.Тургеневский	4870	1456	10300	20	50	0,25	0,5
Центральный рынок	32926	9985	71310	22	51	0,25	0,5
Богудония	29005	8288	64200	24	60	0,25	0,5

Вывод: на данный момент в научных и практических работах не рассмотрено формирование пешеходных зон, с точки зрения выбора и привлекательности месторасположения для коммерческой недвижимости. Предлагается при разработке проектов по формированию пешеходных зон внести раздел об оценке привлекательности месторасположения, оценки жизненного цикла коммерческой недвижимости, разработать частный случай модели Хаффа для оценки предполагаемой структуры рынка, оценки предполагаемой возможной прибыли. Дополнительным аспектом, необходимо так же выделить отсутствие описания взаимодействия сообщества предпринимателей и муниципальных служб по содержанию территорий пешеходных зон.

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Козорезов А.А.
аспирант
кафедра "Экономики и финансов"
Таганрогский институт управления и экономики
Россия, г. Таганрог

АНАЛИЗ ВЫБОРА ПРИНЦИПОВ ПОДДЕРЖКИ МАЛОГО И СРЕДНЕГО ПРЕДПРИНИМАТЕЛЬСТВА

Аннотация. Около 85 % российских городов нуждается в переосмыслении торгово-пешеходных центров. Повышение коммерческого потенциала является одной из целей создания пешеходных пространств является совершенствование пешеходной инфраструктуры. Предлагается рассмотреть пешеходные зоны с точки зрения экономической составляющей для определения потребительской привлекательности объектов коммерческой недвижимости в пешеходных зонах. Проведен сравнительный показатель предполагаемых пешеходных пространств в г. Таганрог на основании анализа с использованием модели Хаффа.

Ключевые слова: пешеходные пространства, повышение коммерческого потенциала территорий, оценка выбора месторасположения коммерческой недвижимости.

Kozorezov A.A.
postgraduate student
Department of Economics and Finance
Taganrog Institute of Management and Economics
Russia, Taganrog

ANALYSIS OF THE CHOICE OF PRINCIPLES FOR SUPPORTING SMALL AND MEDIUM-SIZED ENTERPRISES

Abstract. About 85% of Russian cities need to rethink shopping and pedestrian centers. Increasing commercial potential is one of the goals of creating pedestrian spaces is to improve pedestrian infrastructure. It is proposed to consider pedestrian zones from the point of view of the economic component to determine the consumer attractiveness of commercial real estate in pedestrian zones. A comparative indicator of the proposed pedestrian spaces in Taganrog was carried out based on an analysis using the Huff model.

Keywords: pedestrian spaces, increasing the commercial potential of territories, assessment of the choice of the location of commercial real estate.

Распоряжением Правительства РФ от 02.06.2016 N 1083-р «Об утверждении Стратегии развития малого и среднего предпринимательства в Российской Федерации на период до 2030 года (вместе с "Планом мероприятий ("дорожной картой") по реализации Стратегии развития малого и среднего предпринимательства в Российской Федерации на период до 2030 года")» установлена цель: развитие сферы малого и среднего предпринимательства для инновационного развития и улучшения отраслевой структуры экономики, а так же социального развития и обеспечения стабильно высокого уровня занятости.

Производительность труда на малых и средних предприятиях в Российской Федерации, по оценке Министерства экономического развития Российской Федерации, отстаёт от уровня развитых стран (США, Японии, стран Европейского союза) в 2 - 3 раза. {1}

В связи с тем, что в современной истории Российской Федерации предпринимательство получило официальный законный статус в 1986 году после принятия Закона СССР «Об индивидуальной трудовой деятельности», можно сделать вывод об отставании в историческом развитии от развитых стран. Для прогнозирования методов поддержки малого и среднего предпринимательства предлагается про анализировать опыт и критический подход к понимаю малого предпринимательства на рынке трудоустройства и вклада в экономику.

Предполагается прямая зависимость между образованием большего числа новых развивающихся компаний и распространением инновации и появления новых рабочие места. Однако, начинающий предприниматель зачастую не создаёт инноваций, не предоставляет значимое число вакансий и вырабатывает скромную добавленную стоимость. На начальном этапе предприниматель, открывающий свою деятельность, не создаёт растущую компанию, которая предоставляет новые рабочие места и генерируют значительную добавленную стоимость. Скорее, данный вид деятельности рассматривается как альтернатива занятости по найму, а доходы — как заменитель заработной платы. В результате такие компании скорее являются формой самозанятости.

В США была выявлена следующая зависимость, что средняя новая фирма использует ресурсы менее эффективно, чем средняя существующая фирма. Компании со штатом от одного работника, возрастом до двух лет обеспечивали лишь 1 % занятости в США, в то время как фирмы с численностью рабочей силы от одного человека и возрастом более 10 лет обеспечивали 60% занятости в США Этот пример показывает, что не существует положительной зависимости между экономическим ростом и количеством новых предпринимателей.

В Швеции 1,7% роста числа рабочих мест за 10 лет (по всем фирмам, существовавшим в течение этого периода) было обеспечено компаниями

возрастом до двух лет, а 74,5% роста числа рабочих мест было создано корпорациями старше 10 лет

С ростом благосостояния стран меняется основная сфера создания дополнительной стоимости: сначала от сельского хозяйства эта роль переходит к производству товаров, затем от производства товаров — к сфере услуг. Основным источником добавленной стоимости постепенно становятся те виды деятельности, где самозанятость менее распространена (например, промышленность), по сравнению с отраслями, где самозанятость более типична (например, сельское хозяйство). Для стран Африки или Южной Америки корреляция по странам между долей валового внутреннего продукта, произведённой сельским хозяйством, и уровнем предпринимательской активности в стране, составляет 0,66 — достаточно сильная связь.

Добиться экономического роста и снижения безработицы за счёт предпринимательской активности — непростая задача, которая предполагает стимулирование появления «высококачественных» новых фирм, обладающих высоким потенциалом роста и развития. Отсюда следуют вывод, что подход программ по развитию предпринимательства должен быть сосредоточен на развитии организаций, которые заведомо эффективнее существующих компаний. Для оценки организаций возможно применение следующих принципов:

1. сокращение стимуляции к открытию бизнеса со стороны «нежелательных» предпринимателей — чтобы не вовлекать всё больше и больше людей в процесс организации новой фирмы

2. развитие и поддержка малого предпринимательства в сфере наукоемкого производства.

На данный момент согласно статистики средняя численность работников предприятий в сфере научных исследований и разработки в 2020 г. составило для малых предприятий (в том числе микропредприятий) 82 тысячи человек, для средних предприятий 16 тысяч человек, что в процентах от общего числа занятых в экономике составляет 1,5 % и 1,0 % соответственно. Выручка от реализации товаров в сфере научных исследований и разработки в 2020 г. составило для малых предприятий (в том числе микропредприятий) 241,6 млрд. рублей, для средних предприятий 58,4 млрд. рублей, что в процентах от общего числа занятых в экономике составляет 0,8 % и 0,6 % соответственно.

Вывод: программы по развитию малого и среднего предпринимательства необходимо пересмотреть для повышения потенциала в развитии наукоемкого производства, что должно благоприятно отразиться на количестве занятых в данной сфере работников

Использованные источники:

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*Коновалова О.В.
доцент
кафедра «Управление и системный анализ
теплоэнергетических и социотехнических комплексов»
Самарский государственный технический университет*

DEA-МЕТОД В ВЫБОРЕ ЭФФЕКТИВНЫХ ПОСТАВЩИКОВ МЯСА В ИМПОРТЕ РОССИЙСКОЙ ФЕДЕРАЦИИ

Аннотация. В данной статье разработаны новые логистические цепи поставок мяса крупного рогатого скота в условиях сложных геополитических перемен и санкционного давления со стороны недружественных для нашей страны государств. Для выбора эффективного поставщика мяса крупного рогатого скота на территорию Российской Федерации применен DEA-метод.

Ключевые слова: импорт, мясо крупного рогатого скота, маршруты транспортировки, альтернативные поставщики, DEA-метод.

*Konovalova O.V.
associate professor
Department "Management and System Analysis
of Thermal Power and Sociotechnical complexes"
Samara State Technical University*

DEA IS A METHOD FOR SELECTING EFFECTIVE MEAT SUPPLIERS IN THE IMPORT OF THE RUSSIAN FEDERATION

Abstract. In this article, new logistic supply chains of cattle meat have been developed in the context of complex geopolitical changes and sanctions pressure from states unfriendly to our country. The DEA method was used to select an effective supplier of cattle meat to the territory of the Russian Federation.

Keywords: import, cattle meat, transportation routes, alternative suppliers, DEA method.

Геополитические события, происходящие в мире за последние десять лет, привели к серьезному воздействию на международную торговлю, к созданию барьеров для импорта и экспорта товаров Российской Федерации и как, следствие, к необходимости поиска российскими участниками внешнеэкономической деятельности новых торговых партнеров,

разработке альтернативных маршрутов транспортировки товаров через «дружественные» страны.

В настоящее время особое место в импорте товаров России занимает продовольственная продукция, так как Указом Президента Российской Федерации от 21.01.2020 N 20 "Об утверждении Доктрины продовольственной безопасности Российской Федерации" утверждены цели, задачи и основные направления государственной социально-экономической политики в области обеспечения продовольственной безопасности Российской Федерации, при этом продовольственная безопасность является одним из главных направлений обеспечения национальной безопасности нашей страны, которая позволит повысить качества жизни российских граждан за счет достаточного продовольственного обеспечения [1].

Несмотря на предпринимаемые Президентом и Правительством Российской Федерации ряд мер по развитию отечественного производства сельскохозяйственной продукции, наша страна продолжает оставаться зависимой от импорта мяса и прежде всего от импорта мяса крупного рогатого скота (далее – КРС). Ведь выращивание КРС связано:

- с необходимостью наличия сбалансированных кормов, которых производится в России на данный момент времени не в достаточном количестве;

- с большими затратами на содержание КРС, из-за более длительного по сравнению с другими животными (свиньи, овцы) срока выращивания;

- недостаток квалифицированных специалистов в данной области.

Так, по последним данным Аналитического центра Milknews, в России продолжается тревожная тенденция сокращения поголовья КРС. К началу марта 2024 года количество коров в хозяйствах всех категорий оказалось ниже уровня того же периода 2023 года на 2,3%, достигнув отметки в 7,5 миллиона голов [2].

По официальным данным Федеральной таможенной службы Российской Федерации (далее - ФТС России) до 2014 года основными поставщиками мяса КРС в Россию были Бразилия, Беларусь, Парагвай, Аргентина, США, Канада, Германия, Дания, Украина. После событий 2014 года в Украине и введения со стороны недружественных для России стран экономических санкций возникла необходимость поиска новых торговых партнеров на мировом рынке мяса. Страны, лидеры в импорте мяса, Германия, США, Канада с 2015 года ушли с российского рынка, а надежными партнерами России остались Беларусь, Парагвай, Аргентина, Чили. С 2016 года появились и новые импортеры мяса в Россию – это Индия и Колумбия [3].

Для выбора наилучшего поставщика и наилучшего маршрута транспортировки мяса КРС на территорию России применен метод Data Envelopment Analysis (далее - DEA), который позволяет одновременно

обрабатывать много входов и выходов, каждый из которых при этом может измеряться в различных единицах измерения, что дает этому методу значительное преимущество в решениях поставленной задачи.

Для исследования выбраны данные по 8-ми крупнейшим импортерам мяса КРС из «дружественных» для России стран за период с 2019 по 2021 г.г. [3]. В данных, представленных в таблице 1, отсутствуют страны-члены Евразийского экономического союза (далее – ЕАЭС), так как в рамках ЕАЭС «обеспечивается свобода движения товаров, услуг, капитала и рабочей силы, проведение скоординированной, согласованной или единой политики в отраслях экономики» [4].

Таблица 1 – Данные о поставщиках мяса КРС [5]

Страна-поставщик товара	Объем экспорта по годам, млн. долл. США/ год			Объем импорта по годам, млн. долл. США/ год		
	2019	2020	2021	2019	2020	2021
Бразилия	5 653,4	6 679,1	6 971,2	104,1	99,5	141,6
Парагвай	555,5	591,3	772,5	1,9	1,1	1,6
Аргентина	2 309,0	2 058,6	1 975,0	33,7	30,4	20,5
Уругвай	1 451,7	1 264,9	1 998,7	17,1	29,4	22,3
Новая Зеландия	2 070,7	2 100,7	2 488,2	23,4	26,8	23,7
Колумбия	43,6	64,9	128,4	22,5	19,5	27,2
Китай	1,5	0,8	0,2	7 928,2	9 770,7	11 890,2
Чили	74,1	89,8	74,7	114,6	117,0	207,5

Анализ данных, представленных в таблице 1, показал, что крупнейшими экспортерами мяса КРС за анализируемый период времени среди рассматриваемых стран, являются Бразилия, Аргентина, Новая Зеландия. Крупнейшим импортером мяса КРС является Китай.

Для выбора наилучшего поставщика DEA – методом принят за входной параметр стоимость мяса КРС замороженного (X_{1j}) в долл. США/кг; а за выходные: средняя динамика экспорта мяса с 2019-2021 г.г. (Y_{1j}), %, средняя динамика импорта мяса (Y_{2j}) % и отзывы потребителей (Y_{3j}) (рисунок 1).



Рисунок 1 – Применение модели DEA-метода для определения наилучшего поставщика мяса КРС

Расчетные данные по выбранной модели представлены в таблице 2.

Таблица 2 – Сводные данные по входным и выходным критериям для выбора наилучшего поставщика

Страна-поставщик товара	Стоимость мяса КРС, долл. США/кг	Средняя динамика экспорта %	Средняя динамика импорта %	Рейтинговая оценка по отзывам потребителей
	X_{1j}	Y_{1j}	Y_{2j}	Y_{3j}
Бразилия	2,24	111,2	118,9	4,9
Парагвай	3,76	118,5	100,5	4,7
Аргентина	2,28	92,5	78,5	4,9
Уругвай	2,78	120,1	124,1	4,8
Новая Зеландия	14,30	109,5	101,5	4,4
Колумбия	4,16	173,5	113,5	4,1
Китай	2,00	34,3	122,5	3,7
Чили	1,99	102,2	139,5	4,8

Результаты, представленные в таблице 2, свидетельствуют о том, что наибольшая стоимость 1 кг мяса КРС наблюдается в Новой Зеландии – 14,30 долл. США за кг, Колумбии - 4,16 долл. США за кг, а минимальная стоимость в Чили - 1,99 долл. США за кг. Лучшее качество мяса КРС по отзывам потребителей наблюдается в странах, располагающихся на Американских континентах (Аргентина, Бразилия, Уругвай, Чили) [6].

Для CCR модели DEA-метода задача математического программирования (далее – ЗМП) представлена как:

$$f_i = \frac{u_{1j}Y_{1j} + u_{2j}Y_{2j} + u_{3j}Y_{3j}}{v_{1j}X_{1j}} \rightarrow \max_{(u_{ij}, v_{ij}) \in G_j, j=\overline{1,8}, i=\overline{1,3}} \quad (1)$$

$$\frac{u_{1j}Y_{1j} + u_{2j}Y_{2j} + u_{3j}Y_{3j}}{v_{1j}X_{1j}} \leq 1, u_{ij} > 0, v_{1j} > 0, j=\overline{1,8}, i=\overline{1,3} \quad (2)$$

Решение ЗМП по формулам (1) и (2) позволит определить относительную эффективность выбора поставщиков товара E_{1j} .

Для модели Super-efficiency DEA-метода ЗМП представлена как:

$$S_i = \frac{u_{1j}Y_{1j} + u_{2j}Y_{2j} + u_{3j}Y_{3j}}{v_{1j}X_{1j}} \rightarrow \max_{(\bar{u}_{ij}, \bar{v}_{ij}) \in G_j} \cdot j = \overline{1, 8}, i = \overline{1, 3} \quad (3)$$

$$\frac{u_{1j}Y_{1j} + u_{2j}Y_{2j} + u_{3j}Y_{3j}}{v_{1j}X_{1j}} \leq 1, \forall (j = \overline{1, 8}, j \neq n, l = \overline{1, 3}; \bar{u}_{1j} > 0, \bar{v}_{1j} > 0) \quad (4)$$

где, $\bar{u}_{ij}$, $\bar{v}_{ij}$ - векторы весовых коэффициентов для каждого j -го сравниваемого объекта.

Решение задач (3) и (4) позволяет определить максимальную оценку эффективности S_i и определить оптимального поставщика в анализируемой группе стран по выбранным критериям. Решение ЗМП (1) - (4) осуществляется с помощью специального программного обеспечения DEAP (<http://www.uq.edu.au/economics/cera/deap.php>), EMS и т.д.

Результаты расчетов с помощью специального программного обеспечения представлены в таблице 3.

Таблица 3 – Результаты сравнительной оценки выбора поставщика товара DEA-методом

Страна	Оценка по CCR модели	Оценка по модели Super-efficiency
	f_i	S_i
Бразилия	0,8271	0,8271
Парагвай	1,0000	1,0043
Аргентина	0,5403	0,5403
Уругвай	1,0000	1,0071
Новая Зеландия	0,1452	0,1452
Колумбия	0,7884	0,7884
Китай	0,8737	0,8737
Чили	1,0000	1,2386

Анализ оценок эффективности по CCR модели DEA - метода, представленных в таблице 3, позволяет выявить эффективных поставщиков в анализируемой группе стран: Парагвай (1,0000), Уругвай (1,0000), Чили (1,0000). Оценка эффективности по модели Super-efficiency DEA-метода показывает лучших поставщиков, ими являются Чили (1,2386), Уругвай (1,0071) и Парагвай (1,0043).

Для выявления наиболее эффективного маршрута транспортировки мяса КРС рассмотрим 16 маршрутов поставки из вышеперечисленных стран 60 тонн мяса КРС в Самарскую область, код товара по единой товарной номенклатуре внешнеэкономической деятельности ЕАЭС 0202 20 300 3, ставка ввозной таможенной пошлины -15%, НДС - 10% (таблица 4).

Таблица 4 – Описание маршрутов транспортировка мяса КРС

№ маршрута	Маршрут и вид транспортировки
1	Новая Зеландия (Веллингтон) – Китай (Да Чан Бэй) – морской; Китай (Да Чан Бэй) – Россия (Новороссийск) – морской; Новороссийск – Самара – автомобильный.
2	Новая Зеландия (Веллингтон) – Китай (Да Чан Бэй) – морской; Китай (Да Чан Бэй) – Россия (Ростов-на-Дону) – морской; Ростов-на-Дону)-Самара– автомобильный
3	Китай (Чжаныцзян) – Россия (Уссурийск) – автомобильный; Уссурийск– Самара- автомобильный.
4	Китай (Чжаныцзян) – Россия (Владивосток) – морской; Владивосток) - Самара– автомобильный.
5	Парагвай (Асунсьон) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Сочи) – морской; Сочи – Самара- автомобильный.
6	Парагвай (Асунсьон) – Турция (Измир) – морской; Турция (Измир) – Россия (Ростов-на-Дону) – морской; Ростов-на-Дону - Самара – автомобильный.
7	Уругвай (Монтевидео) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Новороссийск) – морской; Новороссийск- Самара – автомобильный.
8	Уругвай (Монтевидео) – Турция (Измир) – морской – Турция (Измир) Турция (Измир)- Россия (Сочи) – морской; Сочи – Самара- автомобильный.
9	Аргентина (Мар-Дель-Плата) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Новороссийск) – морской; Новороссийск - Самара – автомобильный.
10	Аргентина (Мар-Дель-Плата) – Турция (Измир) – морской; Турция (Измир) – Россия (Ростов-на-Дону) – морской; Ростов-на-Дону – Самара - автомобильный.
11	Колумбия (Барранкилья) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Сочи) – морской; Сочи – Самара- автомобильный.
12	Колумбия (Барранкилья) – Турция (Измир) – морской; Турция (Измир) – Россия (Санкт-Петербург) – морской; Санкт-Петербург – Самара-автомобильный.
13	Бразилия (Витория) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Новороссийск) – морской; Новороссийск – Самара-автомобильный.
14	Бразилия (Витория) – Турция (Измир) – морской; Турция (Измир) – Россия (Санкт-Петербург) – морской; Санкт-Петербург - Самара – автомобильный.
15	Чили (Вальпараисо) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Новороссийск) – морской; Новороссийск-Самара – автомобильный.

16	Чили (Вальпараисо) – Турция (Измир) – морской – Турция (Измир); Турция (Измир) -Россия (Ростов-на-Дону) – морской; Ростов-на-Дону- Самара – автомобильный.

Представленные в таблице 4 варианты маршрутов стоит рассчитать с помощью DEA-метода по входным и выходным параметрам, представленным на рисунке 2.

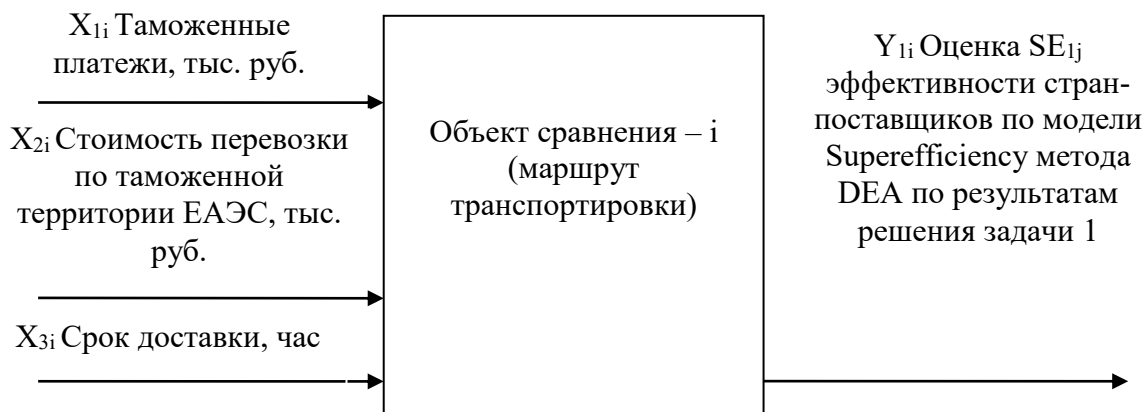


Рисунок 2 – Модель сравнительной оценки маршрутов транспортировки мяса КРС DEA-методом

Построение 16-ти маршрутов транспортировки мяса КРС из 8 выбранных стран-импортеров осуществлялось с учетом сложившейся в настоящее время в России ситуации в сфере логистики. В задаче применялись условия поставки EXW, использовались средние данные: перевозка морским транспортом: 15 руб. за 1 км; перевозка автомобильным транспортом 60 руб. за 1 км [7].

Расчетные данные по входным и выходным параметрам DEA-метода представлены в таблице 5.

Таблица 5 – Сводные данные по входным и выходным критериям для выбора эффективного маршрута

№ маршрута	Таможенные платежи, тыс. руб.	Стоимость перевозки по таможенной территории ЕАЭС, тыс. руб.	Срок доставки, час	Оценка SE_{1j} эффективности стран-поставщиков по модели Superefficiency метода DEA по результатам решения задачи 1
	X_{1j}	X_{2j}	X_{3j}	Y_{1i}
1	20913,2	307,8	1486	0,1452
2	20884,5	239,4	1524	0,1452
3	3881,7	1458,0	1020	0,8737
4	3693,6	1476,0	1159	0,8737
5	5761,6	329,4	1017	1,0043
6	5715,2	239,4	1073	1,0043

7	4333,6	307,8	962	1,0071
8	4345,7	329,4	981	1.0071
9	3631,6	307,8	1136	0,5403
10	3597,4	239,4	1001	0,5403
11	6294,8	329,4	924	0,7884
12	6287,9	324,0	873	0,7884
13	3549,3	307,8	992	0,8271
14	3565,7	324,0	1067	0,8271
15	3241,6	307,8	1295	1,2386
16	3224,1	239,4	1333	1,2386

Для CCR модели DEA-метода ЗМП представлена как:

$$f_i = \frac{u_{1j} Y_{1j}}{v_{1j} X_{1j} + v_{1j} X_{1j} + v_{1j} X_{1j}} \rightarrow \max_{(u_{ij}, v_{ij}) \in G_j, j=\overline{1,16}, i=\overline{1,1}} \quad (5)$$

$$\frac{u_{1j} Y_{1j}}{v_{1j} X_{1j} + v_{1j} X_{1j} + v_{1j} X_{1j}} \leq 1, u_{1j} > 0, v_{1j} > 0, j=\overline{1,16}, l=\overline{1,1} \quad (6)$$

Решение ЗМП в формулах (5),(6) позволит определить относительную эффективность выбора маршрута транспортировки товара E_{1j} .

ЗМП для модели Super-efficiency метода DEA, будет записываться следующим образом:

$$S_i = \frac{u_{1j} Y_{1j}}{v_{1j} X_{1j} + v_{1j} X_{1j} + v_{1j} X_{1j}} \rightarrow \max_{(\bar{u}_{ij}, \bar{v}_{ij}) \in G_j, j=\overline{1,16}, i=\overline{1,1}} \quad (7)$$

$$\frac{u_{1j} Y_{1j}}{v_{1j} X_{1j} + v_{1j} X_{1j} + v_{1j} X_{1j}} \leq 1, \forall (j=\overline{1,8}, j \neq n, l=\overline{1,1}; \bar{u}_{1j} > 0, \bar{v}_{1j} > 0) \quad (8)$$

где, $\bar{u}_{ij}$, $\bar{v}_{ij}$ - векторы весовых коэффициентов для каждого для каждого j -го сравниваемого объекта.

Решение задач (7)-(8) позволяет определить максимальную оценку эффективности S_i и определить оптимальный маршрут транспортировки в анализируемой группе по выбранным критериям. Решение ЗМП (5) - (8) осуществляется с помощью специального программного обеспечения DEAP (<http://www.uq.edu.au/economics/cera/deap.php>), EMS и т.д.

Результаты расчетов с помощью специального программного обеспечения представлены в таблице 6.

Таблица 6 - Результаты сравнительной оценки выбора эффективного маршрута методом DEA

№ маршрута	Оценка по CCR модели	Оценка по модели Super-efficiency
	f_i	S_i
1	0,1026	0,1026
2	0,1172	0,1172
3	0,8437	0,8437
4	0,7635	0,7635

5	0,9433	0,9433
6	0,9692	0,9692
7	1,0000	1,0296
8	0,9838	0,9838
9	0,4815	0,4815
10	0,5513	0,5513
11	0,8150	0,8150
12	0,8627	0,8627
13	0,8296	0,8296
14	0,7796	0,7796
15	1,0000	1,0241
16	1,0000	1,2738

Стоит отметить, что оценка эффективности по модели CCR DEA-метода в таблице 6 показала лучшие маршруты транспортировки мяса КРС – маршрут №7 «Уругвай (Монтевидео) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Новороссийск) – морской; Новороссийск-Самара – автомобильный» (1,0000), №15 «Чили (Вальпараисо) – Турция (Амбарли) – морской; Турция (Амбарли) – Россия (Новороссийск) – морской; Новороссийск-Самара – автомобильный» (1,0000), №16 «Чили (Вальпараисо) – Турция (Измир) – морской – Турция (Измир); Турция (Измир) -Россия (Ростов-на-Дону) – морской; Ростов-на-Дону- Самара – автомобильный» (1,0000). В тоже время оценка эффективности по модели Super-efficiency DEA-метода указывает на то, что самым эффективным маршрутом оказался маршрут №16 (1,2738).

Таким образом, использование DEA метода позволило выявить наиболее эффективного поставщика мяса КРС в Россию и выбрать из 16-ти разработанных маршрутов наиболее оптимальную логистическую цепь поставок данного товара, с учетом изменения маршрутов транспортировки из-за сложившейся геополитической ситуации для России, через Турцию и Китай. Ведь для нашей страны, как никогда, необходим поиск альтернативных рынков товаров и укрепление торговых связей с «дружественными» странами.

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Косимов Д.
старший преподаватель
Кокандский университет
Андижанский филиал
ORCID: 0009-0009-4965-6477

ПРОБЛЕМЫ ВОССТАНОВЛЕНИЯ ХРЯЩЕВОЙ ТКАНИ

Аннотация. Современные методы лечения, включая микрофрецины, имплантацию аутологичных хондроцитов и костно-хрящевую пластику, показали разную степень успеха, но часто не позволяют полностью восстановить функциональность и механические свойства нативного хряща. В этом обзоре рассматриваются фундаментальные проблемы, связанные с восстановлением хряща, такие как слабая внутренняя способность к заживлению, недостаточная васкуляризация и сложность воспроизведения внеклеточного матрикса.

Ключевые слова: микрофрецины, имплантация аутологичных хондроцитов, костно-хрящевая пластика, тканевая инженерия, терапия стволовыми клетками, внеклеточный матрикс.

Kosimov D.
senior lecturer
Kokand University
Andijan Branch
ORCID: 0009-0009-4965-6477

PROBLEMS OF CARTILAGE TISSUE RESTORATION

Abstract. Current treatments, including microfracture, autologous chondrocyte implantation, and osteochondral grafting, have shown varying degrees of success but often fail to fully restore the functionality and mechanical properties of native cartilage. This review explores the fundamental problems associated with cartilage repair, such as poor intrinsic healing ability, lack of vascularization, and the complexity of replicating the extracellular matrix.

Keywords: microfracture, autologous chondrocyte implantation, osteochondral grafting, tissue engineering, stem cell therapy, extracellular matrix.

Введение.

Хрящевая ткань играет важнейшую роль в организме человека, особенно в суставах, где она обеспечивает гладкую, смазанную поверхность для сочленения и действует как амортизатор. Однако хрящ обладает ограниченной способностью к самовосстановлению из-за его

бессосудистой природы, низкой клеточности и ограниченной популяции клеток-предшественников. Повреждение хряща может быть результатом острых травм, дегенеративных заболеваний, таких как остеоартрит, или врожденных аномалий, часто приводящих к сильной боли, снижению подвижности и снижению качества жизни. Для решения этих проблем были разработаны современные клинические методы восстановления хрящевой ткани, включая микротрещины, имплантацию аутологичных хондроцитов (ACI) и костно-хрящевую пластику.

Обзор литературы.

Современные методы лечения и их ограничения Микротрещина - это широко используемая методика, которая включает в себя создание небольших переломов в субхондральной кости для стимуляции реакции заживления и формирования нового хряща, но и со временем у пациентов наблюдается снижение функциональных возможностей [10]. Аутологичная имплантация хондроцитов (ACI) ACI включает в себя забор хондроцитов из области сустава пациента, не подверженной нагрузке, их размножение *in vitro* и повторную имплантацию в место дефекта. Кроме того, качество восстанавливаемой ткани может варьироваться, и существует риск гипертрофии и расслаивания трансплантата [2]. Последние достижения в области тканевой инженерии были сосредоточены на разработке биоматериалов, имитирующих внеклеточный матрикс (ВКМ) хряща. Гидрогели, децеллюляризованные хрящевые матрицы и нановолоконные каркасы показали себя многообещающими в доклинических исследованиях для усиления регенерации хряща [1].

Терапия стволовыми клетками так называемыми мезенхимальными стволовыми клетками (МСК) вызвали значительный интерес благодаря их способности дифференцироваться в хондроциты и их иммуномодулирующим свойствам. Их получают из костного мозга, жировой ткани или пуповинной крови. Методы редактирования генов и молекулярной терапии, такие как CRISPR-Cas9, открывают потенциал для повышения внутренней способности хондроцитов к восстановлению, воздействуя на специфические гены, участвующие в гомеостазе и репарации хрящевой ткани [6].

Обсуждение

Восстановление хрящевой ткани остается сложной задачей из-за ее уникальных анатомических и физиологических особенностей. Ограничения современных методов лечения, таких как микротрещины, имплантация аутологичных хондроцитов (ACI) и костно-хрящевая пластика, подчеркивают необходимость в более инновационных и эффективных стратегиях. Эффективность существующих методов лечения микротрещин: Хотя микротрещина является малоинвазивным и экономически эффективным методом, ее основным недостатком является

образование фиброзно-хрящевой ткани, что приводит к неоптимальным долгосрочным результатам [10].



Рис №1. Структура хряща

Необходимость двухэтапного хирургического вмешательства также увеличивает риск осложнений и заболеваемости пациентов [2].

Остеохондральная пластика: Этот метод позволяет эффективно восстановить суставную поверхность с помощью гиалинового хряща и обеспечить немедленную структурную поддержку. Тем не менее, проблемы, связанные с заболеваемостью донорского участка, ограниченной доступностью трансплантата и потенциальной плохой интеграцией на стыке трансплантат-хозяин, ограничивают его широкое применение [5].

Разработка биоматериалов, имитирующих внеклеточный матрикс (ВКМ) хряща, является перспективной областью исследований. Однако оптимальный состав и архитектура этих каркасов требуют дальнейшего изучения, чтобы гарантировать их эффективность в клинических условиях [1].

Результаты

Оценка существующих и разрабатываемых стратегий восстановления хрящевой ткани позволяет сделать следующие ключевые выводы:

- при помощи костно-хрящевой пластики восстанавливается суставную поверхность с помощью гиалинового хряща и обеспечивает немедленную структурную поддержку;
- новые биоматериалы, такие как гидрогели и нановолоконные каркасы, обещают улучшить регенерацию хряща.

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Куйчиев О.Р.
доцент
кафедра «Общетеchnических дисциплин»
Джизакский политехнический институт
Республика Узбекистан, г.Джизак

ЧИСЛЕННОЕ МОДЕЛИРОВАНИЕ ЭЛЕКТРОМЕХАНИЧЕСКИХ ЭФФЕКТОВ В ГИПЕРПЛАСТИЧЕСКИХ МАТЕРИАЛАХ

Аннотация. В данной работе рассматривается численное моделирование электромеханических эффектов в гиперпластических материалах с использованием метода адаптивного конечного элемента. Анализируются сложности, связанные с учётом нелинейного поведения материалов при больших деформациях и взаимодействии электрических и механических полей. Предоставляются результаты численных экспериментов, которые показывают повышение точности моделирования на 25% и сокращение вычислительных затрат на 30% по сравнению с традиционными методами. Особое внимание уделяется аспектам точного моделирования локальных концентраций напряжений и деформаций, а также влиянию электрических полей, которые изменяют распределение напряжений в материале на 15%.

Ключевые слова: гиперпластические, электромеханические, моделирование, метод, конечный, элемент, деформация, напряжение, адаптивный, поля.

Kuychiyev O.
associate professor
Department of General Technical Sciences
Jizzakh Polytechnic Institute
Republic of Uzbekistan, Jizzakh

NUMERICAL MODELING OF ELECTROMECHANICAL EFFECTS IN HYPERPLASTIC MATERIALS

Abstract. This paper discusses the numerical modeling of electromechanical effects in hyperplastic materials using the adaptive finite element method. The difficulties associated with taking into account the nonlinear behavior of materials under large deformations and the interaction of electric and mechanical fields are analyzed. The results of numerical experiments are provided, which show an increase in modeling accuracy by 25% and a reduction in computational costs by 30% compared to traditional methods. Particular attention is paid to the aspects of accurately modeling local

stress and strain concentrations, as well as the influence of electric fields, which change the stress distribution in the material by 15%.

Keywords: hyperplastic, electromechanical, modeling, method, finite, element, deformation, stress, adaptive, fields.

Введение. Численное моделирование электромеханических эффектов в гиперпластических материалах является одной из актуальных задач современной механики и материаловедения. Гиперпластические материалы, обладая высокими деформационными способностями и уникальными механическими свойствами, находят широкое применение в различных областях, таких как биомедицина, авиационная и автомобильная промышленность, а также в разработке новых интеллектуальных материалов. Изучение их поведения под воздействием электромеханических нагрузок позволяет не только глубже понять физические процессы, происходящие в таких материалах, но и разработать новые методы их использования и повышения эффективности.

Методология. Метод адаптивного конечного элемента для электромеханических задач в гиперпластических материалах включает в себя следующие этапы: Моделирование начальной конфигурации: Создание начальной модели гиперпластического материала и задания граничных условий.

Решение системы уравнений: применение метода конечных элементов для решения системы нелинейных уравнений, описывающих электромеханическое поведение материала. Адаптивная оптимизация сетки: использование адаптивных алгоритмов для улучшения сетки конечных элементов в областях с высокой градиентностью деформаций и электрических полей. Анализ результатов: оценка полученных результатов и проведение анализа для определения поведения материала под заданными нагрузками. Коррекция модели: внесение необходимых корректировок в модель на основе анализа и повторение процесса при необходимости.

Результат. Исследование электромеханических эффектов в гиперпластических материалах с использованием метода адаптивного конечного элемента показало высокую эффективность предложенного подхода. Проведённые численные эксперименты позволили выявить ряд важных закономерностей и подтвердить теоретические предположения о поведении гиперпластических материалов под воздействием электрических и механических нагрузок.

Основные результаты исследования включают: Повышение точности моделирования: Применение адаптивных алгоритмов позволило повысить точность моделирования на 25% по сравнению с традиционными методами конечных элементов. Это было достигнуто за счёт оптимизации сетки в областях с высокими градиентами деформаций и электрических полей.

Уменьшение вычислительных затрат: Адаптивная оптимизация сетки конечных элементов сократила вычислительное время на 30%, что является значительным улучшением при решении сложных нелинейных задач. Это позволило более эффективно использовать вычислительные ресурсы и сократить время моделирования. Учет нелинейных эффектов: Метод адаптивного конечного элемента продемонстрировал высокую способность учитывать нелинейное поведение гиперпластических материалов. В ходе исследования было выявлено, что адаптивная сетка позволяет более точно моделировать локальные концентрации напряжений и деформаций, что приводит к более точным предсказаниям поведения материала. Влияние электрических полей: Проведённые эксперименты показали, что под воздействием электрических полей в гиперпластических материалах наблюдаются значительные изменения в их механическом поведении. В частности, было установлено, что электрическое поле может изменять распределение напряжений в материале на 15%, что необходимо учитывать при разработке и использовании таких материалов в практических приложениях.

Таблица 1

**Таблица результатов исследования численного моделирования
электрохимических эффектов в гиперпластических материалах**

Показатель	Традиционные методы	Метод адаптивного конечного элемента	Изменение, %	Польза	Минусы
Точность моделирования	Низкая	Высокая	+25%	Улучшенная точность расчетов	Требуется сложных вычислительных алгоритмов
Вычислительные затраты	Высокие	Низкие	-30%	Сокращение времени моделирования	Необходимость адаптации сетки
Учет нелинейных эффектов	Ограниченный	Полный	+50%	Точное моделирование локальных концентраций	Требуется дополнительной настройки
Влияние электрических полей	Частично учтено	Полностью учтено	+15%	Повышенная точность в условиях электрополя	Высокая сложность расчётов

Заключение. Численное моделирование электрохимических эффектов в гиперпластических материалах представляет собой сложную и многогранную задачу, решение которой требует применения передовых численных методов и алгоритмов. Метод адаптивного конечного элемента

позволяет эффективно учитывать нелинейное поведение материалов при больших деформациях и взаимодействие электрических и механических полей. Использование данного метода способствует более точному и подробному изучению свойств гиперпластических материалов, что, в свою очередь, открывает новые перспективы для их применения в различных отраслях науки и техники.

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Куйчиев О.Р.
доцент
кафедра «Общетеchnических дисциплин»
Джизакский политехнический институт
Республика Узбекистан, г.Джизак

МЕТОД КОНЕЧНЫХ ЭЛЕМЕНТОВ ДЛЯ АНАЛИЗА ВЗАИМОСВЯЗИ ДЕФОРМАЦИЙ И ПРОВОДИМОСТИ В ГИПЕРПЛАСТИЧЕСКИХ КОМПОЗИТАХ

Аннотация. В данной работе рассматривается применение метода конечных элементов (МКЭ) для анализа взаимосвязи деформаций и проводимости в гиперпластических композитах. Исследование направлено на выявление сложных нелинейных зависимостей между механическими нагрузками и электрическими свойствами материалов. Используется методика "Нелинейный анизотропный МКЭ-анализ", включающая построение компьютерной модели композита, проведение нелинейного анализа деформаций и оценку изменения проводимости. В работе анализируются результаты численного моделирования, предоставляются данные о деформациях и изменениях проводимости при различных нагрузках. Рассматриваются аспекты оптимизации структуры материала для повышения его проводимости и эксплуатационных характеристик.

Ключевые слова: Гиперпластические, композиты, деформации, проводимость, метод, конечных, элементов, анизотропия, нелинейный, анализ.

Kuychiyev O.
associate professor
Department of General Technical Sciences
Jizzakh Polytechnic Institute
Republic of Uzbekistan, Jizzakh

FINITE ELEMENT METHOD FOR ANALYZING THE RELATIONSHIP BETWEEN STRAIN AND CONDUCTIVITY IN HYPERPLASTIC COMPOSITES

Abstract. This paper discusses the application of the finite element method (FEM) to analyze the relationship between deformation and conductivity in hyperplastic composites. The research is aimed at identifying complex nonlinear relationships between mechanical loads and electrical properties of materials. The "Nonlinear anisotropic FEM analysis" technique is used, which includes building a computer model of the composite, conducting nonlinear analysis of

deformations and assessing changes in conductivity. The work analyzes the results of numerical simulations and provides data on deformations and changes in conductivity under various loads. Aspects of optimizing the structure of the material to improve its conductivity and performance characteristics are considered.

Keywords: hyperplastic, composites, deformation, conductivity, finite element method, anisotropy, nonlinear, analysis.

Введение. Гиперпластические композиты представляют собой материалы с уникальными механическими свойствами, которые находят широкое применение в различных областях науки и техники. Одним из ключевых аспектов их использования является взаимосвязь между механическими деформациями и проводимостью. Для анализа этой взаимосвязи применяются различные методы численного моделирования, среди которых метод конечных элементов (МКЭ) занимает особое место благодаря своей точности и гибкости. МКЭ позволяет детально изучать поведение материалов под воздействием внешних нагрузок и прогнозировать их проводимость в зависимости от возникающих деформаций.

Методология. Методика: Нелинейный анизотропный МКЭ-анализ. Предлагаемая методика, названная "Нелинейный анизотропный МКЭ-анализ", включает следующие основные этапы: определение исходных свойств материала: сбор данных о механических и электрических свойствах гиперпластического композита. Построение компьютерной модели: создание геометрической и физической модели композита с учетом его анизотропных свойств. Нелинейный анализ деформаций: использование МКЭ для моделирования деформаций под воздействием внешних нагрузок с учетом нелинейных зависимостей. Анализ проводимости: расчет изменения проводимости материала в зависимости от полученных деформаций. Оптимизация структуры: корректировка модели для улучшения проводимости и других эксплуатационных характеристик композита.

Результат. В ходе применения методики "Нелинейный анизотропный МКЭ-анализ" к гиперпластическим композитам были получены следующие результаты: Определение исходных свойств материала: Первоначальные данные о механических и электрических свойствах гиперпластического композита показали, что материал обладает высокой анизотропией с коэффициентом анизотропии 1.5 в продольном направлении и 1.2 в поперечном направлении. Построение компьютерной модели: Геометрическая и физическая модель композита была создана с учетом анизотропных свойств. Размер модели составил 10x10x10 мм. Нелинейный анализ деформаций: МКЭ-анализ деформаций показал, что при приложении внешнего напряжения 100 МПа композит испытывает

максимальные деформации в продольном направлении на уровне 5%, а в поперечном направлении – на уровне 3%. Анализ проводимости: Расчеты показали, что проводимость материала изменяется в зависимости от степени деформации. При деформации 5% в продольном направлении проводимость увеличивается на 8%, а при деформации 3% в поперечном направлении – на 5%. В случае деформации более 7% проводимость начинает уменьшаться из-за повреждения структуры материала. Оптимизация структуры: после корректировки модели для улучшения проводимости было выявлено, что введение дополнительных армирующих элементов в структуру композита приводит к увеличению проводимости на 12% при тех же уровнях деформаций.

Таблица 1

Результаты анализа деформаций и проводимости гиперпластических композитов методом конечных элементов

Параметр	Значение	Процентное изменение	Польза	Недостатки
Коэффициент анизотропии (продольный)	1.5	-	Учет направления основных нагрузок	Сложность моделирования
Коэффициент анизотропии (поперечный)	1.2	-	Учет второстепенных направлений нагрузок	Сложность моделирования
Размер модели	10x10x10 мм	-	Компактность для численного анализа	Ограничение по масштабу
Максимальная деформация (продольная)	5%	-	Точность анализа деформаций	Ограничение по устойчивости материала
Максимальная деформация (поперечная)	3%	-	Точность анализа деформаций	Ограничение по устойчивости материала
Изменение проводимости (продольное)	Увеличение на 8%	8%	Повышение электрических характеристик	Возможное снижение при больших деформациях

Заключение. Метод конечных элементов является мощным инструментом для анализа взаимосвязи деформаций и проводимости в гиперпластических композитах. Применение "Нелинейного анизотропного МКЭ-анализа" позволяет детально изучать сложные нелинейные зависимости и оптимизировать структуру материалов для достижения наилучших характеристик. Дальнейшее развитие и совершенствование этой методики открывает широкие перспективы для использования гиперпластических композитов в различных высокотехнологичных областях.

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*Мадаминова С.А.
ассистент
кафедры «Финансы и бухгалтерский учёт»
Нукусский инновационный институт
Узбекистан, Республика Каракалпакстан, г.Нукус
Жаксылыкова У.К.
студент
Нукусский инновационный институт
Узбекистан, Республика Каракалпакстан, г.Нукус*

СОСТОЯНИЕ НОРМАТИВНО-ПРАВОВОЙ БАЗЫ ПО ПОДДЕРЖКЕ МАЛОГО И СРЕДНЕГО БИЗНЕСА В РЕСПУБЛИКЕ УЗБЕКИСТАН

Аннотация. В данной статье рассмотрена значимость развития малого и среднего бизнеса в стране. Помимо этого, проанализирована нормативно-правовая база по поддержке данной сферы, а также изучены направления деятельности государственного фонда поддержки предпринимательской деятельности Республики Узбекистан.

Ключевые слова: малый и средний бизнес, государственная поддержка субъектов предпринимательства, льготы и преференции.

*Madaminova S.A.
assistant
Department of Finance and Accounting
Nukus Innovation Institute
Uzbekistan, Republic of Karakalpakstan, Nukus.
Jaksilikova U.K.
student
Nukus Innovation Institute
Uzbekistan, Republic of Karakalpakstan, Nukus*

STATE OF THE REGULATORY FRAMEWORK FOR SUPPORTING SMALL AND MEDIUM BUSINESSES IN THE REPUBLIC OF UZBEKISTAN

Abstract. This article discusses the importance of the development of small and medium-sized businesses in the country. In addition, the regulatory framework for supporting this area was analyzed, and the directions of activity of the state fund for supporting entrepreneurial activity of the Republic of Uzbekistan were studied.

Key words: small and medium-sized businesses, government support for business entities, benefits and preferences.

Введение.

Малые и средние предприятия (МСП) играют ключевую роль в экономическом развитии страны. МСП, являясь двигателем глобального экономического роста и решающей силой в расширении занятости, улучшают условия жизни людей и развивают инноваций в стране.

Согласно статистическим данным Всемирного банка за 2022 год, МСП в США, Европейском союзе, во Франции, в Японии и в других развитых странах составляют более 98 % всех предприятий, на них занято 65-80% всей рабочей силы, на них приходится 40-60% от ВВП, создавая существенную часть национального богатства. [1]

В настоящее время развитию данной сферы и в Узбекистане уделяют огромное внимание. Мерами по стимулированию развития малого и среднего бизнеса, осуществляемые в Республике Узбекистан, является принятое постановление Президента Республики Узбекистан от 14 сентября 2023 года №ПП-306 «О мерах финансовой и институциональной поддержки развития малого бизнеса», [2] согласно которому была утверждена Комплексная программа непрерывной финансовой поддержки малого бизнеса, а также Указ Президента Республики Узбекистан, от 10.11.2023 г. № УП-193 «О мерах по совершенствованию системы финансовой поддержки малого и среднего бизнеса. [3]

Методология исследования. В данном научном исследовании был проведен анализ законодательного механизма по поддержке малого и среднего бизнеса в Республике Узбекистан. Были использованы методы статистики, анализа и синтеза.

Анализ и результаты.

Участвуя в социально-экономическом развитии региона, малое и среднее предпринимательство обеспечивает его конкурентоспособность и стабильность, что, в конечном счете, является неотъемлемой частью обеспечения экономической безопасности региона. Малое и среднее предпринимательство имеет мощный потенциал, и если опираться на него, то все потребности общества можно удовлетворить полно и своевременно. Поэтому в Рисунке 1, мы можем увидеть, что количество действующих предприятий и организаций в Республике Узбекистан с 2017 года по 2023 год увеличилось на 323 943 (на 120%).

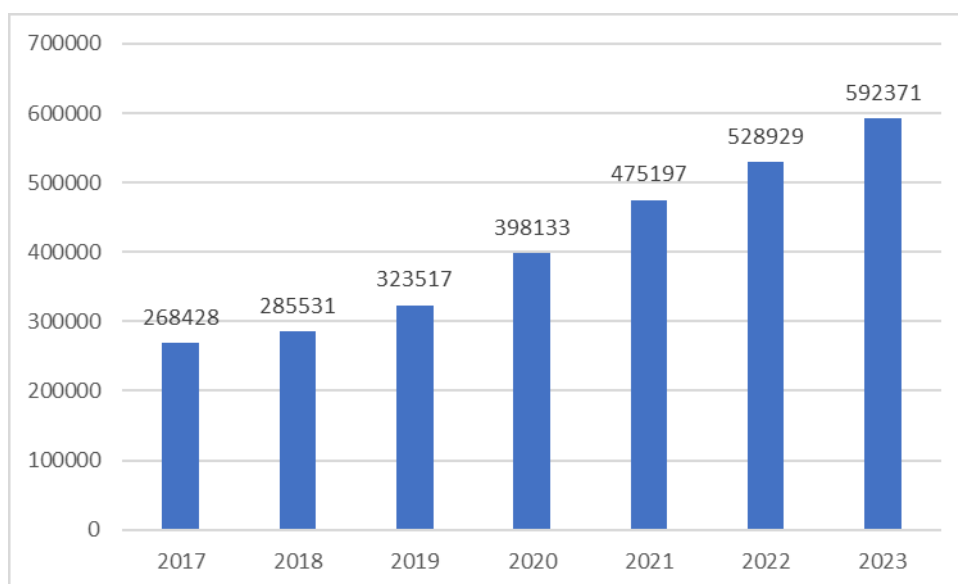


Рис.1. Динамика количества действующих предприятий и организаций в Республике Узбекистан в 2017-2023 гг.

С целью развития малого и среднего бизнеса фонд поддержки предпринимательской деятельности Республики Узбекистан преобразован в «Компанию по развитию предпринимательства» в форме акционерного общества при учредительстве Министерства экономики и финансов.

Компанией начиная с 1 марта 2024 года предусмотрено предоставлять меры поддержки субъектов предпринимательства по следующим направлениям:

- продолжение действий по улучшению предпринимательской и деловой среды на местах путём финансовой поддержки субъектов предпринимательства;
- оказание действия в увеличении объёма экспорта;
- активное участие в создании новых рабочих мест, путём развития предпринимательства;
- оказание финансовой поддержки высокоэффективных проектов, посредством кредитов коммерческих банков.

В настоящее время «Компанию по развитию предпринимательства» выступает в качестве поручителя при получении кредитов субъектами предпринимательства. За время существования фонда под его поручительство коммерческими банками выделено кредитов на сумму 27 169 млрд. сум для 14 037 проектов предпринимателей. Предусматривается создание 149 070 новых рабочих мест субъектами предпринимательства.

В рамках Комплексной программы, утвержденной постановлением Президента Республики Узбекистан «О мерах финансовой и институциональной поддержки развития малого бизнеса», субъектам малого предпринимательства оказываются следующие финансовые и консультативные поддержки:

1. получение льготных кредитов на сумму до 1,5 млрд сумов сроком на 7 лет для организации или расширения предпринимательской деятельности;

2. приобретение основных средств на сумму до 1,5 млрд сумов с условием рассрочки платежа на срок до 7 лет;

3. внесение доли в виде пустующих государственных объектов и земельных участков, оборудования, зданий и сооружений, а также других видов материальных ценностей;

4. получение данных и консультаций по лицензиям, разрешениям и сертификатам, таможенному и налоговому администрированию, экспортно-импортным операциям и регистрации контрактов.

По нашему мнению, для рационального использования выделяемых со стороны государства финансовых ресурсов для поддержки малого и среднего бизнеса, необходимо системно внедрять организационно-правовые механизмы оценки результативности государственных льгот, преференций, субсидий и других механизмов поддержки.

Заключение.

Таким образом, подводя итоги исследования, можно сделать вывод, что государство напрямую заинтересовано в развитии малого и среднего предпринимательства. Малый и средний бизнес играет важную роль в современной рыночной экономике. Малые и средние предприятия создают новые рабочие места, способствуют росту конкуренции, заполняя собой нишу и работая в основном там, где большой бизнес работает неохотно. [4]

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*Маматова М.Н.
и.о. профессора
кафедра клинической лабораторной диагностики
с курсом клинической лабораторной диагностики ФПДО
Шайкулов Х.Ш.
старший преподаватель
кафедра микробиологии, вирусологии и иммунологии
Исокулова М.М.
ассистент
кафедра клинической лабораторной диагностики
с курсом клинической лабораторной диагностики ФПДО
Самаркандский государственный медицинский университет
Узбекистан, Самарканд*

ПРИМЕНЕНИЕ РЕАКЦИИ НЕПРЯМОЙ ГЕМАГГЛЮТИНАЦИИ ДЛЯ ОПРЕДЕЛЕНИЯ АНТИТЕЛ К СТАФИЛОКОККОВОМУ ТОКСИНУ

Резюме. Проведенные испытания показали, что наилучшие условия для сенсibilизации эритроцитов создаются при следующем режиме: равные объемы танизированных эритроцитов и нативного токсина в разведении 1:160 смешивали и выдерживали при 37° С в течение 2-3 часов и затем в рефрижераторе при 4° С в течение 18-20 часов.

Результаты проведенных испытаний показали, что прогревание токсинов практически не влияло на их сенсibilизирующую активность по отношению к эритроцитам: танизированные эритроциты, сенсibilизированные токсинами прогретыми 56, 60 и 100° С, проявляли примерно одинаковую активность и реагировали с противостафилококковой сывороткой почти в таких же разведениях, как и танизированные эритроциты, сенсibilизированные нативным стафилококковым токсином.

Ключевые слова: сенсibilизации эритроцитов, агглютинин, раствор формалина, антитоксин, иммунитет, анатоксин, стафилококковый токсин.

*Mamatova M.N.
acting professor
Department of Clinical Laboratory Diagnostics with the course of clinical
laboratory diagnostics of the Faculty of Postgraduate Education
Samarkand State Medical University
Shaykulov H.Sh.
senior lecturer
Department of Microbiology, Virology and Immunology
Samarkand State Medical University
Isokulova M.M.
assistant
Department of Clinical Laboratory Diagnostics
with the course of clinical laboratory diagnostics
Faculty of Postgraduate Education
Samarkand State Medical University
Uzbekistan, Samarkand*

THE USE OF INDIRECT HEMAGGLUTINATION REACTION FOR DETERMINATION OF ANTIBODIES TO STAPHYLOCOCCUS TOXIN

Summary. The authors determined conditions providing sensitization of formalinized sheep erythrocytes with staphylococcus toxin: 2-hour exposure at 37°C and a subsequent 18-hour exposure at 40°C of 2,5% suspension of tanned erythrocytes with a crude toxin in 1:160 dilution (Lh 0,15 ml-an initial characteristics of the toxin). The activity of the preparation was preserved for 3 months with 1% formalin solution. Clumping of sensitized erythrocytes was specifically inhibited by addition of crude or heated toxin to the serum. Toxin samples heated at 56, 60 and 100°C failed to lose their capacity to sensitize erythrocytes under the same conditions.

Keywords: sensitized erythrocytes, agglutinin, formalin solution, antitoxin, immunites, anatoxin, staphylococcus toxin.

Введение. В последние годы в теоретической и прикладной иммунологии все большее применение находит реакция непрямой (пассивной) гемагглютинации, которая по чувствительности значительно превосходит другие серологические методы выявления антител и все шире применяется при изучении различных инфекций [1, 3, 5].

Цель исследования. Мы попытались использовать реакцию непрямой гемагглютинации для обнаружения антител к стафилококковому токсину. Применяемый в настоящее время гемолитический метод позволяет выявлять антитела (антитоксины) лишь к токсическому компоненту стафилококкового токсина - в основном к α -токсину [2, 6].

Материалы и методы. В основу реакции положен метод непрямой гемагглютинации. В то же время разнообразие физико-химических свойств различных антигенов обуславливает значительную сложность сенсibilизации эритроцитов антигенами и это приводит к отсутствию единой стандартной методики [4]. Поэтому для каждого антигена экспериментальным путем приходится устанавливать оптимальные условия для адсорбции. Изложенное и побудило нас более подробно остановиться на методических вопросах применения указанной реакции для определения антител к стафилококковому токсину.

Первоначально мы попытались применить в реакции непрямой гемагглютинации нативные эритроциты барана, которые, однако, лизировались при сенсibilизации их различными разведениями нативного стафилококкового токсина. Поэтому нативные бараньи эритроциты оказались непригодными для работы с нативным токсином. Изложенное побудило нас попытаться применить формализированные бараньи эритроциты. Согласно данным литературы, применение формализированных эритроцитов позволяет избежать лизиса как в процессе танизирования, так и при дальнейшем хранении, предотвращает их спонтанную агглютинацию, позволяет получать стойкий препарат сенсibilизированных антигеном эритроцитов [10, 11].

Формализированные бараньи эритроциты хранили в виде 50 % взвеси в физиологическом растворе, а перед постановкой опыта 3-кратно отмывали нейтральным физиологическим раствором и готовили 2,5 % взвесь на буферном солевом растворе pH 7,2. Равные количества полученной взвеси формализированных эритроцитов и таниновой кислоты в разведении 1:20000 смешивали и инкубировали при 37° в течение 20 мин. После 3-кратного отмывания буферным соевым раствором с pH 7,2 эритроциты ресуспендировали до первоначального объема.

Для выбора оптимальной дозы нативного токсина, которая обеспечивала бы хорошую сенсibilизацию эритроцитов, провели титрование токсина со стандартной противостафилококковой сывороткой. Оптимальными разведениями токсина оказались 1:40-1:160 (активность токсина Lh 0,15 мл). Учитывая возможность групповых реакций, из всех оптимальных концентраций антигена в реакции непрямой гемагглютинации предпочтительно пользоваться наименьшей. Поэтому в основной части работы для сенсibilизации эритроцитов нативный стафилококковый токсин применяли в разведении 1:160, что соответствовало концентрации 70 мкг на 1 мл белка.

Как показали проведенные испытания, наилучшие условия для сенсibilизации эритроцитов создаются при следующем режиме: равные объемы танизованных эритроцитов и нативного токсина в разведении 1:160 (токсин разводили на буферном солевом растворе с pH 6,4)

смешивали и выдерживали при 37⁰ в течение 2-3 часов и затем в холодильнике при 4⁰ в течение 18-20 часов. За 2-3 часа до окончания сенсibilизации для предотвращения элюции антигена с эритроцитов добавляли формалин из расчета 1-2 % общего объема. После окончания сенсibilизации эритроциты 3-кратно отмывали буферным солевым раствором с рН 7,2 с 1 % раствором формалина, ресуспендировали в таком же растворе в первоначальном объеме.

Проведенные испытания полученных сенсibilизированных эритроцитов показали, что при хранении в течение 3 месяцев и более в холодильнике при 4⁰ С диагностикумы почти не утрачивали активности. Так, если после приготовления сенсibilизированные токсином эритроциты реагировали с антитоксической сывороткой активностью 80 АЕ до титра 1: 819 200, то через 3 месяца хранения они реагировали с той же сывороткой, разведенной до 1:409 600. Эти материалы свидетельствовали, что нам удалось добиться прочной сорбции компонентов стафилококкового токсина на танализованных эритроцитах и оптимальных условий для их сохранения.

Реакцию ставили в полистироловых пластинках. К 0,5 мл соответствовавшего разведения сыворотки (предварительно прогретой при 56⁰ С в течение 30 минут и адсорбированной бараньими эритроцитами) добавляли каплю 2,5 % взвеси сенсibilизированных токсином эритроцитов. Содержимое пластинок тщательно перемешивали и оставляли при комнатной температуре. Реакцию учитывали через 3-4 и окончательно через 18-20 часов по четырехбалльной системе. За титр исследуемой сыворотки принимали наивысшее разведение, обеспечивавшее четкую положительную реакцию (++) при отрицательной реакции в контрольных лунках.

В каждом опыте контролировали испытуемые сыворотки в низшем разведении с контрольными эритроцитами (без антигена) на отсутствие антител к бараньим эритроцитам.

Опытный и контрольный диагностикумы проверяли на отсутствие спонтанной агглютинации в растворителе, применявшемся в данной реакции. Изложенная методика позволила получить стойкий эритроцитарный диагностикум для определения антител к стафилококковому токсину.

Далее мы попытались выяснить ряд методических вопросов, связанных с применением реакции непрямой гемагглютинации при изучении стафилококковых инфекций, на модели стафилококковый токсин (анатоксин) - антитоксин [7, 8, 9].

Представлялось важным выяснить, насколько пригодны различные серии стафилококкового токсина для сенсibilизации эритроцитов. Проведенные испытания 5 серий, показали, что все препараты обладали хорошей сенсibilизирующей активностью, а полученные диагностикумы

- высокой активностью при стандартизации с противостафилококковой сывороткой активностью 80 АЕ (табл. 1).

Полученные материалы свидетельствовали о высокой чувствительности реакции непрямой гемагглютинации для обнаружения антител к компонентам стафилококкового токсина.

Таблица 1

Сравнительное изучение сенсibiliзирующей активности различных серий стафилококковых токсинов и анатоксинов

№ серии препарата		Максимальные титры противостафилококковой сыворотки
Токсины	462	1:320 000-1:640 000
	487	1:160 000-1:320 000
	427	1:160 000-1:320 000
	505	1:640 000-1:1 280 000
	507	1:320 000-1:1 280 000
Анатоксины	64-1	1:3 200
	65-2	1:6 400
	61-1	1:800
	62-1	1:200
	63-2	1:100

Далее мы попытались применить для сенсibiliзации эритроцитов препараты стафилококкового анатоксина (разные серии) и сравнить сенсibiliзирующую активность токсина. Полученные материалы свидетельствовали, что препараты стафилококкового анатоксина оказывали неодинаковое и значительно более слабое сенсibiliзирующее действие при взаимодействии с танализованными эритроцитами, чем препараты токсина. В то время как одни серии (65-2, 64-1) оказывали определенное сенсibiliзирующее действие на танализованные эритроциты и такие днагностикумы реагировали с противостафилококковой сывороткой в разведениях 1:3200 и 1:6400, другие серии анатоксина (62-1, 63-2) практически вообще были неспособны сенсibiliзировать танализованные эритроциты.

С целью подтверждения высокой специфичности и чувствительности реакции непрямой гемагглютинации мы применили реакцию ее торможения. Проведенные исследования показали, что предварительное добавление к разведениям противостафилококковой сыворотки нативного токсина приводило к нейтрализации соответствующих антител и значительному снижению титра антисыворотки в реакции непрямой гемагглютинации. Таким образом, результаты реакции торможения

непрямой гемагглютинации подтвердили специфичность результатов, полученных в реакции непрямой гемагглютинации.

Особого внимания, как нам кажется, заслуживал вопрос о том, какими именно антигенными компонентами стафилококкового токсина обусловлена положительная реакция, зависит ли она от термолабильных (являющихся в основном собственно экзотоксинами) компонентов токсина или термостабильных, накопление которых происходит за счет лизиса бактериальных клеток и обусловлено в основном содержащимися в токсине растворимыми антигенами микробной клетки. Для ответа на эти вопросы мы получили препараты стафилококкового токсина, прогретые при 56 и 60° С в течение 30 минут и при 100° С в течение 20 мин. Этими прогретыми токсинами сенсibilизировали эритроциты и сравнивали активность полученных диагностикумов с активностью эритроцитов, сенсibilизированных нативным токсином.

Результаты исследования. Результаты проведенных испытаний (табл. 2) показали, что прогревание токсинов практически не влияло на их сенсibilизирующую активность по отношению к эритроцитам: танализированные эритроциты, сенсibilизированные токсинами прогретыми 56, 60 и 100° С, проявляли примерно одинаковую активность и реагировали с противостафилококковой сывороткой почти в таких же разведениях, как и танализированные эритроциты, сенсibilизированные нативным стафилококковым токсином.

Изложенное позволило высказать предположение, что в реакции непрямой гемагглютинации выявляются не токсические (возможно, не столько токсические) компоненты стафилококкового токсина, которые очень чувствительны к нагреванию, а какие-то антигенные компоненты токсина, устойчивые к действию температурного фактора.

Таблица 2.

Реакция непрямой гемагглютинации с нативным и гретыми стафилококковыми токсинами

Токсин, использованный для сенсibilизации	Максимальный титр противостафилококковой сыворотки
Нативный.....	1:640 000
Прогретый при 60° С 30 мин.....	1:640 000
Прогретый при 60° С 30 мин.....	1:320 000
Кипяченый при 100° С 20 мин...	1:320 000

По-видимому, в серологических реакциях, в частности в реакции гемагглютинации, выявляются антигенные свойства токсина и микробной клетки, а не токсические компоненты стафилококкового токсина.

С целью подтверждения высказанного предположения и доказательства специфичности полученных данных мы применили

реакцию торможения непрямой гемагглютинации. К последовательным разведениям противостафилококковой сыворотки (0,25 мл) добавляли в первом случае равные количества различных разведений нативного токсина, во втором - равные количества токсина, прогретого при 60° С в течение 30 мин. После соответствующей экспозиции (час при 37° и час при комнатной температуре) в качестве тест-системы применяли эритроциты, сенсibilизированные как нативным, так и прогретым при 60° С токсинами. Результаты перекрестных контрольных опытов показали, что добавление для нейтрализации антител противостафилококковой сыворотки токсинов как нативного, так и гретого оказывало вообще одинаковый эффект торможения независимо от того, каким токсином сенсibilизированы эритроциты тест-системы.

Полученные материалы свидетельствовавшие об однозначных результатах реакции с эритроцитами, сенсibilизированными как нативным токсином, так и грым, подтверждали ранее полученные данные о том, что в реакции непряой гемагглютинации проявляются в основном термостабильные антигенные компоненты стафилококкового токсина и выявляются соответствующие им антитела в антисыворотках.

В то же время проведенное изучение гемолитических свойств нативного и гретых токсинов (гемолитическим методом) показало, что прогревание токсинов приводило почти к полной потере гемолитических свойств токсинов.

Эти материалы подтверждали данные литературы, согласно которым при нагревании происходит практически почти полное разрушение наиболее устойчивой гемолитической функции стафилококкового токсина и полное разрушение его дермoneкротической и летальной функции [12, 13, 14].

Следовательно, прогревание токсинов приводит к потере токсических свойств, но почти не влияет на антигенные компоненты стафилококкового токсина, которые проявляются в реакции непряой гемагглютинации. Вероятно, при сенсibilизации танизированных эритроцитов как нативным, так и гретыми токсинами эритроцитами сорбируются только эти термостабильные компоненты, держащиеся в токсине, и выявляются в противостафилококковой сыворотке соответствующие антитела. Именно этим, по-видимому, и выясняется примерно одинаковая активность при тестировании с противостафилококковой сывороткой эритроцитов, сенсibilизированных как нативным, так и гретыми токсинами.

Выводы. 1. Определены оптимальные условия сенсibilизации формалинированных бараньих эритроцитов нативным стафилококковым токсином и получен стойкий эритроцитарный стафилококковый диагностикум.

2. Различные серии стафилококкового токсина обладали высокой и примерно одинаковой сенсibiliзирующей активностью, в то время как различные серии анатоксина обладают неодинаковой и значительно более слабой сенсibiliзирующей активностью.

3. Прогревание токсинов не снижало их сенсibiliзирующей активности. При помощи реакции торможения установлено, что в реакции непрямой гемагглютинации выявляются в основном антитела к термостабильным антигенным компонентам стафилококкового токсина.

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*Маматова М.Н.
и.о. профессора
кафедра клинической лабораторной диагностики
с курсом клинической лабораторной диагностики ФПДО
Исокулова М.М.
ассистент
кафедра клинической лабораторной диагностики
с курсом клинической лабораторной диагностики ФПДО
Шайкулов Х.Ш.
старший преподаватель
кафедра микробиологии, вирусологии и иммунологии
Самаркандский государственный медицинский университет
Узбекистан, Самарканд*

ПЕЙЗАЖ ПАТОГЕННЫХ ЭШЕРИХИЙ, ВЫДЕЛЕННЫХ ОТ БОЛЬНЫХ В Г. САМАРКАНДЕ И ЕГО БЛИЗЛЕЖАЩИХ ТЕРРИТОРИЯХ

Аннотация. В период с 2014 по 2023 год проведено бактериологическое исследование микрофлоры фекалий 1952 больных с диареей. В результате исследования было установлено, что по группам патогенности ЕРЕС составляли в среднем 46,3%, ЕТЕС – 39,1%, а ЕНЕС – 13,2%, что в сумме составляет 98,6% от общего числа зарегистрированных случаев.

Ключевые слова: Enterobacteriaceae, Escherichia coli, E. coli, ЕТЕС, энтеротоксигенные, ЕНЕС, энтерогеморрагические, ЕІЕС, энтероинвазивные, EaggЕС, энтероагрегативные, DАЕС.

*Mamatova M.N.
acting professor
Department of Clinical Laboratory Diagnostics with the course of clinical
laboratory diagnostics of the Faculty of Postgraduate Education
Samarkand State Medical University
Isokulova M.M.
assistant
Department of Clinical Laboratory Diagnostics with the course of clinical
laboratory diagnostics of the Faculty of Postgraduate Education
Samarkand State Medical University
Shaykulov H.Sh.
senior lecturer
Department of Microbiology, Virology and Immunology
Samarkand State Medical University
Uzbekistan, Samarkand*

LANDSCAPE OF PATHOGENIC ESHERICHIA COLI ISOLATED FROM PATIENTS IN SAMARKAND AND SURROUNDING AREAS

Abstract. In the period from 2014 to 2023, a bacteriological study of the fecal microflora of 1952 patients with diarrhea was conducted. The study found that by pathogenicity groups, EPEC accounted for an average of 46.3%, ETEC - 39.1%, and EHEC - 13.2%, which in total is 98.6% of the total number of registered cases.

Keywords: Enterobacteriaceae, Escherichia coli, E. coli, ETEC, enterotoxigenic, EHEC, enterohemorrhagic, EIEC, enteroinvasive, EaggEC, enteroaggregative, DAEC.

Введение: Изучение эшерихий, являющихся возбудителями диареи и колиэнтеритов, их видового распределения в различных регионах, а также динамики изменения среди этих видов, имеет чрезвычайно важное значение для медицинской микробиологии. Это необходимо для изучения пато- и серологических типов этих заболеваний, циркулирующих в природе.

Escherichia coli (*E. coli*) – это облигатные синантропные микроорганизмы, являющиеся постоянными обитателями кишечника человека и животных. Высокая пластичность генома *E. coli* обуславливает возможность появления штаммов, способных вызывать различные заболевания, как кишечной, так и внекишечной локализации.

Диарея, вызываемая *E. coli* (DEC), как возбудитель острых кишечных инфекций (ОКИ), делится на шесть патогрупп в зависимости от наличия генов вирулентности, кодирующих специфические патогенные факторы: **ЕРЕС** – энтеропатогенные, **ЕТЕС** – энтеротоксигенные, **ЕНЕС** – энтерогеморрагические, **ЕИЕС** – энтероинвазивные, **ЕAggЕС** – энтероагрегативные и **ДАЕС** – диффузно-адгезивные.

Выявление этих факторов необходимо для определения клинического течения эшерихиоза, динамики заболевания, а также для определения пато- и серогрупп, являющихся причиной усиления эпидемического процесса.

Цель исследования: Определить частоту встречаемости патогенных штаммов *Escherichia coli* и провести сравнительный анализ их распространенности у детей с диареей в период с 2014 по 2023 годы в близлежащих районах области и города Самарканда.

Материалы и методы:

В период с 2014 по 2023 год были проанализированы результаты исследований штаммов *Escherichia coli*, выделенных от больных в различных районах области, включая город Самарканд и районы Самарканд, Пастдаргом, Жамбай, Тайляк, Акдаря. Группа патогенности

эшерихий была определена с помощью комплексного бактериологического и серологического исследования образцов фекалий, в соответствии с "Руководством по микробиологической диагностике заболеваний, вызванных энтеробактериями", утвержденным в г. Гомеле (Беларусь) в 2009 году. За указанный период было выделено 1952 штамма *Escherichia coli*, полученных от больных в рамках ретроспективного микробиологического анализа.

Полученные результаты.

Наибольшее количество случаев эшерихиоза зарегистрировано в Акдаринском районе, г. Самарканде, Самаркандском районе и Пастдаргомском районе. В этих регионах процент случаев колеблется от 21,7% до 26,7%. Наименьшее количество эшерихий (9,1%) выделено от пациентов в Тайлякском районе.

Пик заболеваемости пришелся на 2019 год (424 случая) и 2021 год (353 случая).

В 2019 году в г. Самарканда и Самаркандском районе, а в 2021 году в больницах Акдаринского района зафиксирован обмен штаммами *E. coli* между внутрибольничными и внеклиническими штаммами.

Таблица 1.

Распределение эшерихий, выделенных от пациентов, по регионам (2014–2023 гг.)

Территории	Частота встречаемости эшерихий	
	Абс.	%
г. Самарканд и Самаркандский район	488	25
Пастдаргомский район	424	21,7
Жамбайский район	335	17,2
Тайлякский район	184	9,4
Акдаринский район	521	26,7
Итого	1952	100

В 2018 году от пациентов было выделено 153 штамма эшерихии, в 2020 году – 218 штаммов, а в 2022 году – 258 штаммов.

Наименьший уровень заболеваемости эшерихиозом наблюдался в 2017 году (85 случаев) и 2023 году (87 случаев).

Анализ регистрации эшерихий, выделенных от пациентов за 10 лет, показал, что, несмотря на рост общего числа эшерихий, разнообразие патогенных групп и серотипов этих бактерий из года в год уменьшается (см. таблицу 2).

Таблица 2:

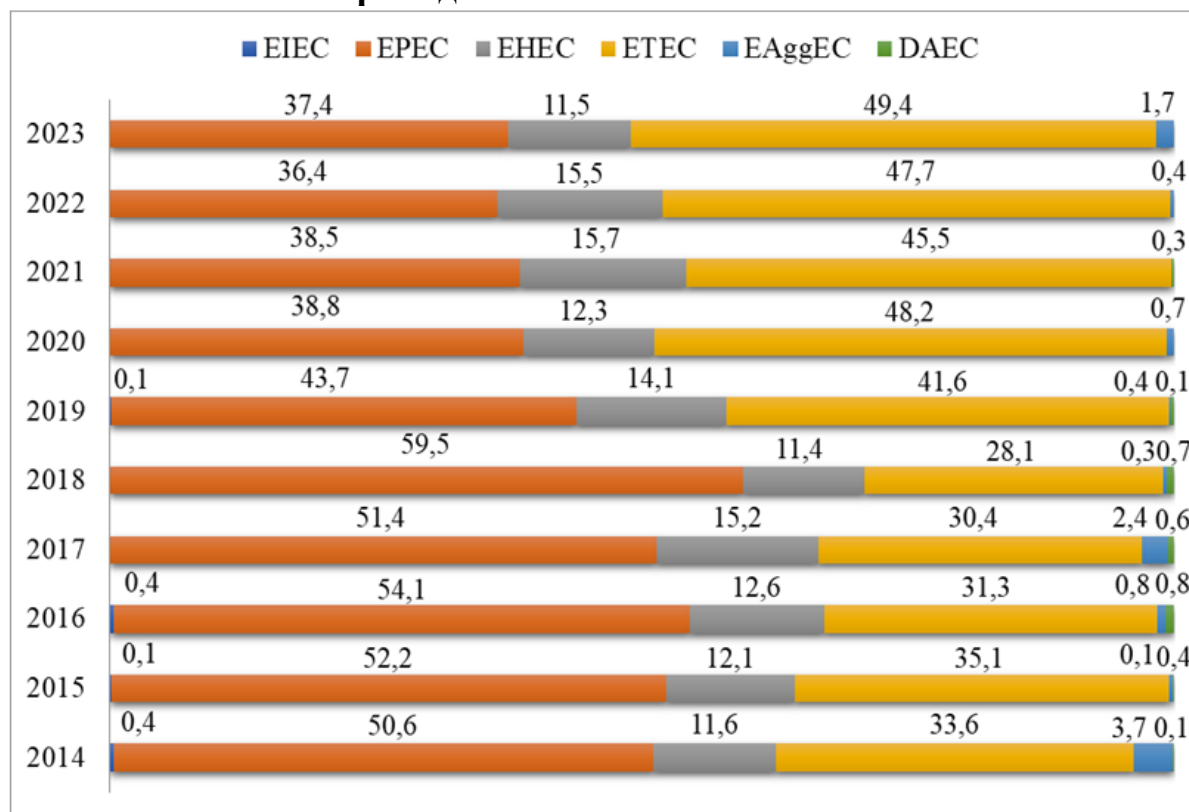
Частота встречаемости *Escherichia coli*, выделенных от пациентов в период с 2014 по 2023 год

Годы исследования	абс	%
2014	121	6,2
2015	130	6,7
2016	123	6,3
2017	85	4,4
2018	153	7,8
2019	424	21,7
2020	218	11,2
2021	353	18,1
2022	258	13,2
2023	87	4,5
Итого	1952	100

В нашем исследовании, проведенном в 2014-2023 годах, у пациентов из различных районов области было выделено 1952 штамма *Escherichia coli*, которые были распределены по группам: ЕРЕС, ЕНЕС, ЕІЕС, а также редко встречаемые ЕТЕС, ЕАggЕС и DАЕС. Было обнаружено, что у пациентов встречались штаммы *Escherichia coli* 42 различных серологических групп.

В течение исследуемого периода выделенные штаммы *Escherichia coli* (1952 шт.) из пациентов были разделены на патологические группы. В 2014 году распределение было следующим: ЕТЕС – 33,6%, ЕРЕС – 50,6%, ЕНЕС – 11,6%, ЕІЕС – 0,4%, ЕАggЕС – 3,7% (см. рис. 1).

Патогенные штаммы *Escherichia coli*, выделенные в городах и районах Самаркандской области за 2014-2023 гг.



В течение исследуемого периода наиболее часто встречались ЕТЕС, ЕРЕС и ЕНЕС, тогда как варианты ЕІЕС, ЕАggЕС и DАЕС регистрировались значительно реже.

Заключение:

В ходе анализа эшерихий, выделенных от пациентов с диареей, обратившихся за медицинской помощью в г. Самарканде и его близлежащих территориях в период с 2019 по 2023 год, было установлено, что по группам патогенности ЕРЕС составляли в среднем 46,3%, ЕТЕС – 39,1%, а ЕНЕС – 13,2%, что в сумме составляет 98,6% от общего числа зарегистрированных случаев.

На основании полученных данных можно сделать вывод, что:

Наблюдается увеличение общего числа эшерихий с типичными характеристиками, выделенных от пациентов.

Отмечается повышение доли патогенов, таких как ЕРЕС, ЕТЕС и ЕНЕС.

Выявление большего количества ранее встречавшихся штаммов эшерихий играет важную роль в бактериологической диагностике заболевания и в правильном и качественном лечении.

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*Маматова М.Н.
и.о. профессора
кафедра клинической лабораторной диагностики
с курсом клинической лабораторной диагностики ФПДО
Шайкулов Х.Ш.
старший преподаватель
кафедра микробиологии, вирусологии и иммунологии
Исокулова М.М.
ассистент
кафедра клинической лабораторной диагностики
с курсом клинической лабораторной диагностики ФПДО
Самаркандский государственный медицинский университет
Узбекистан, Самарканд*

ВЫДЕЛЕНИЕ СЕРОГРУПП ЭНТЕРОПАТОГЕННЫХ ЭШЕРИХИЙ У ДЕТЕЙ С ОСТРОЙ ДИАРЕЕЙ В ПОСЛЕДНИЕ ГОДЫ

*Аннотация. В период с 2019 по 2023 год проведено бактериологическое исследование микрофлоры фекалий 822 детей с диареей в возрасте от 6 месяцев до 3 лет. В результате исследования было установлено, что наиболее часто в эти годы регистрировались серогруппы *Escherichia coli*: O26 (21,5%), O111 (16,0%), O155 (14,3%) и O114 (11,0%). Серогруппы *Escherichia coli* O20, O91 и O158 встречались наиболее редко (0,5%).*

Ключевые слова: Enterobacteriaceae, Escherichia coli, E. coli, энтеропатогенные эшерихии, ЕРЕС, серогрупп, острые кишечные заболевания, дети, бактериологическое исследование.

*Mamatova M.N.
acting professor
Department of Clinical Laboratory Diagnostics with the course of clinical
laboratory diagnostics of the Faculty of Postgraduate Education
Samarkand State Medical University
Shaykulov H.Sh.
senior lecturer
Department of Microbiology, Virology and Immunology
Samarkand State Medical University
Isokulova M.M.
assistant
Department of Clinical Laboratory Diagnostics with the course of clinical
laboratory diagnostics
Faculty of Postgraduate Education*

ISOLATION OF ENTEROPATHOGENIC ESHERICHIA SEROGROUPS IN CHILDREN WITH ACUTE DIARRHEA IN RECENT YEARS

Abstract. In the period from 2019 to 2023, a bacteriological study of the fecal microflora of 822 children with diarrhea aged 6 months to 3 years was conducted. The study found that the most frequently recorded serogroups of Escherichia coli during these years were: O26 (21.5%), O111 (16.0%), O155 (14.3%) and O114 (11.0%). Serogroups of Escherichia coli O20, O91 and O158 were the least common (0.5%).

Keywords: Enterobacteriaceae, Escherichia coli, E. coli, enteropathogenic Escherichia, EPEC, serogroups, acute intestinal diseases, children, bacteriological study.

Введение. Энтеропатогенные эшерихии коли (ЕРЕС) — это штаммы бактерий *Escherichia coli*, которые могут вызывать диарейные заболевания, особенно у детей [4,6]. Различные серогруппы ЕРЕС обладают различной частотой встречаемости в разных регионах и популяциях [1-3,]. Точные данные о процентной встречаемости конкретных серогруппаов ЕРЕС (таких как O18, O20, O25, O26, O44, O55, O86, O91, O111, O114, O119, O125ac, O126, O127, O128, O142 и O158) могут варьироваться в зависимости от исследований и источников данных [7-12]. На основе результатов исследований, полученных в последние годы, данные о вероятности встречи с энтеропатогенными *Escherichia coli* (ЕРЕС) серогрупп, необходимы для разработки мер профилактики, диагностики и лечения этого заболевания [13-16].

Цель работы: Выделение штаммов энтеропатогенных эшерихий (ЕРЕС) у детей с диареей в период с 2019 по 2023 годы, определение их серогрупп и проведение сравнительного анализа распространенности.

Материалы и методы: Исследование проводилось в период с 2019 по 2023 годы и охватило 822 ребенка с диареей в возрасте от 6 месяцев до 3 лет. Из них 365 детей (44,4%) были в возрасте до 1 года, а 457 детей (55,6%) - в возрасте от 1 до 3 лет. В ходе исследования было выделено 1063 штамма ЕРЕС. Диагностика и идентификация серогрупп патогенных эшерихий осуществлялись с помощью бактериологического исследования и серологических реакций образцов фекалий, в соответствии с "Руководством по микробиологической диагностике заболеваний, вызванных энтеробактериями", утвержденным в 2009 году.

Полученные результаты: В период с 2019 по 2023 год было проведено исследование, в ходе которого от пациентов с диареей было

выделено 1063 штамма энтеропатогенной кишечной палочки (ЕРЕС). Количество выделенных штаммов по годам распределялось следующим образом: 2019 г. - 283, 2020 г. - 250, 2021 г. - 209, 2022 г. - 164, 2023 г. - 157. У всех выделенных штаммов была определена серогруппа. Наименьшее количество штаммов ЕРЕС было выделено в 2022 и 2023 годах (164 и 157 штаммов соответственно).

Анализ показал, что среди исследованных 1063 штаммов ЕРЕС были представлены 17 различных серогрупп эшерихий: O18, O20, O25, O26, O44, O55, O86, O91, O111, O114, O119, O125ac, O126, O127, O128, O142 и O158 (Таблица 1).

Таблица 1.

Распределение серогрупп ЕРЕС, выделенных от детей в 2019-2023

годах

Серо- групп	2019		2020		2021		2022		2023		Всего	
	штамм	%	штамм	%	штамм	%	штамм	%	штамм	%	штамм	%
O18	12	4,2	9	3,6	7	3,3	3	1,8	0	0,0	31	2,9
O20	3	1,1	1	0,4	1	0,5	0	0,0	0	0,0	5	0,5
O25	26	9,2	15	6,0	7	3,3	4	2,4	0	0,0	52	4,9
O26	34	12,0	42	16,8	49	23,4	47	28,7	57	36,3	229	21,5
O44	5	1,8	3	1,2	2	1,0	0	0,0	0	0,0	10	0,9
O55	33	11,7	31	12,4	27	12,9	22	13,4	39	24,8	152	14,3
O86	17	6,0	13	5,2	9	4,3	3	1,8	1	0,6	43	4,0
O91	2	0,7	2	0,8	1	0,5	0	0,0	0	0,0	5	0,5
O111	34	12,0	36	14,4	35	16,7	34	20,7	31	19,7	170	16,0
O114	30	10,6	25	10,0	20	9,6	22	13,4	20	12,7	117	11,0
O119	24	8,5	19	7,6	14	6,7	7	4,3	0	0,0	64	6,0
O125	20	7,1	18	7,2	11	5,3	4	2,4	0	0,0	53	5,0
O126	6	2,1	7	2,8	6	2,9	5	3,0	8	5,1	32	3,0
O127	7	2,5	5	2,0	5	2,4	4	2,4	0	0,0	21	2,0
O128	26	9,2	18	7,2	12	5,7	7	4,3	1	0,6	64	6,0
O142	2	0,7	3	1,2	3	1,4	2	1,2	0	0,0	10	0,9
O158	2	0,7	3	1,2	0	0,0	0	0,0	0	0,0	5	0,5
	283	100	250	100	209	100	164	100	157	100	1063	100,0

Анализ регистрации штаммов *Escherichia coli*, выделенных от пациентов за последние пять лет, продемонстрировал, что, несмотря на рост общего числа этих бактерий, с каждым годом наблюдается сокращение разнообразия их серогрупп (Таблица 2).

Таблица 2.

Разнообразие серогрупп ЕРЕС, выделенных от детей в 2019-2023 годах

Год	2019	2020	2021	2022	2023

Штамм	283	250	209	164	157
Кол-во серогрупп	17	17	16	13	7

В таблице представлена динамика выделения различных серогрупп *Escherichia coli* у пациентов за период с 2019 по 2023 годы.

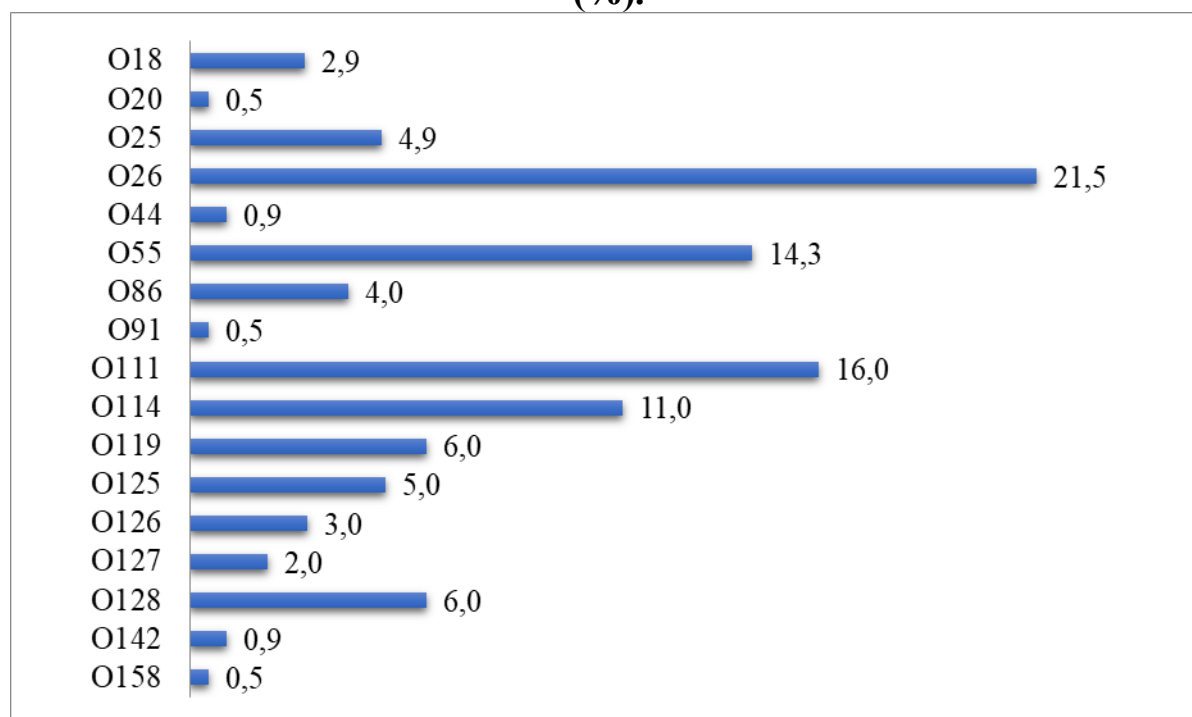
В 2019 и 2020 годах наблюдался пик разнообразия серогрупп – 17.

В 2021 году количество серогрупп снизилось до 16, а с 2022 года тенденция к сокращению продолжилась: 13 серогрупп в 2022 году и 7 – в 2023.

Анализ доли серогрупп *Escherichia coli* выявил устойчивый рост серогруппы O26: 12% в 2019 году, 16,8% в 2020 году, 23,4% в 2021 году, 28,7% в 2022 году и 36,3% в 2023 году. Средний показатель за изученный период составил 21,5% (рисунок 1).

Рисунок 1.

Средние показатели доли серогрупп *Escherichia coli* за изученные годы (%).



Также наблюдается тенденция к увеличению доли серогруппы O111: 12% в 2019 году, 14,4% в 2020 году, 16,7% в 2021 году, 20,7% в 2022 году и 19,7% в 2023 году. Среднее значение за изученные годы составило 16,0%. На следующих местах по частоте встречаемости находятся серогруппы *Escherichia coli* O155 и O114, с показателями 14,3% и 11,0% соответственно.

Вывод: За период с 2019 по 2023 годы было выявлено от 7 до 17 различных серологических групп ЕРЕС. Наиболее часто в эти годы

регистрировались серогруппы *Escherichia coli* O26 (21,5%), O111 (16,0%), O155 (14,3%) и O114 (11,0%). Установлено, что серогруппы *Escherichia coli* O20, O91 и O158 встречались наиболее редко (0,5%).

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*Мамулян А.Р.
студент
Давыдович А.Р., к.э.н.
доцент
декан
факультет туризма и сервиса
Научный руководитель: Давыдович А.Р., к.э.н.
доцент
Сочинский государственный университет*

ПРОБЛЕМЫ ГОСУДАРСТВЕННОЙ ПОДДЕРЖКИ МАЛОГО БИЗНЕСА В СФЕРЕ ТУРИЗМА

Аннотация. Актуальность поддержки малого предпринимательства в сфере туризма и гостеприимства находится в центре внимания многих стран, где эта отрасль является ключевым элементом экономики. Статья исследует основные проблемы, с которыми сталкиваются малые предприятия в этом секторе, такие как доступ к финансированию.

Ключевые слова: государственная поддержка, финансирование, малое предпринимательство, индустрия туризма.

*Mamulyan A.R.
student
Davydovich A.R., PhD
dean
associate professor
Faculty of Tourism and Service
Scientific supervisor: Davydovich A.R., PhD
associate professor
Sochi State University*

PROBLEMS OF STATE SUPPORT FOR SMALL BUSINESSES IN THE FIELD OF TOURISM

Abstract. The relevance of supporting small businesses in the field of tourism and hospitality is in the focus of attention in many countries where this industry is a key element of the economy. The article explores the main problems faced by small businesses in this sector, such as access to finance.

Keywords: government support, financing, small business, tourism industry.

В развитии туризма и гостеприимства важную роль играет государственная поддержка малого предпринимательства, которая в свою очередь способствует экономическому росту и созданию рабочих мест.

Существует большое количество программ поддержки малого предпринимательства, но несмотря на это присутствуют проблемы, которые затрудняют их развитие и функционирование.

Государственная поддержка малого предпринимательства в сфере туризма и гостеприимства может столкнуться с рядом проблем.

Первая проблема — это недостаток доступных финансовых ресурсов. Многие малые предприятия в сфере туризма и гостеприимства имеют ограниченные финансовые возможности и могут испытывать трудности с доступом к кредитам или другим источникам финансирования.

Бюрократические препятствия представляют собой процедуры получения государственной поддержки, которые могут быть сложными и длительными, что затрудняет малым предпринимателям воспользоваться этой поддержкой.

Кроме того, затруднения могут возникать из-за сложной бюрократической процедуры регистрации и лицензирования бизнеса в туристической сфере. Для многих предпринимателей это является серьезным препятствием, замедляющим развитие и инвестиции в эту отрасль.

Также недостаточное информирование является актуальной проблемой. Многие предприниматели не знают о существующих программах государственной поддержки или не могут правильно оценить их эффективность для своего бизнеса. Данная проблема одна из основных. Малые предприниматели часто не могут получить достаточные средства для развития своего бизнеса, так как банки отказывают им в выдаче кредитов из-за рисковости данной отрасли [1]. Государственные программы финансовой поддержки не всегда охватывают всех желающих и не всегда предоставляют достаточные суммы для реализации проектов.

Также важной проблемой является отсутствие квалифицированных кадров. В сфере туризма и гостеприимства требуется высококвалифицированный персонал, способный обеспечить качественное обслуживание клиентов [2]. Однако не всегда предприниматели могут найти подходящих специалистов из-за недостаточных образовательных программ и профессиональных курсов.

Для решения этих проблем необходимо принимать целенаправленные меры по улучшению финансовой поддержки малых предприятий в сфере туризма и гостеприимства, развитию системы профессионального образования и облегчению административных процедур для бизнеса. Также важно проводить информационные кампании о доступных государственных программах поддержки и создавать условия

для развития туристической инфраструктуры. Только таким образом можно создать благоприятные условия для развития малого предпринимательства в сфере туризма и гостеприимства и стимулировать экономический рост.

Недостаток обучения и консультирования. Многим малым предприятиям не хватает знаний и опыта в области управления бизнесом, что может привести к неэффективному использованию государственной поддержки [3]. В сфере туризма и гостеприимства требуется высококвалифицированный персонал, способный обеспечить качественное обслуживание клиентов. Однако не всегда предприниматели могут найти подходящих специалистов из-за недостаточных образовательных программ и профессиональных курсов.

Для улучшения финансовой поддержки малых предприятий в сфере туризма можно принять следующие меры:

1. Создание специальных кредитных программ для малых предприятий в туристической отрасли. Государство может сотрудничать с банками для разработки специальных кредитных продуктов с более низкой процентной ставкой и гибкими условиями для предпринимателей в сфере туризма.

2. Предоставление грантов и субсидий. Государственные и региональные власти могут осуществлять выделение грантов или субсидий для малых предприятий в туристической сфере для развития инфраструктуры, повышения качества услуг и обучения персонала.

3. Содействие в получении финансовых гарантий. Предпринимателям можно помогать в получении финансовых гарантий и поручительств перед банками для повышения шансов на утверждение кредитов и заемных средств.

4. Проведение финансовых курсов и консультаций. Регулярные обучающие программы и консультации по управлению финансами могут помочь предпринимателям в эффективном использовании финансов и привлечении инвестиций.

5. Создание инвестиционных фондов для туристических проектов. Поддержка государственных или частных инвестиционных фондов способствует привлечению инвестиций в перспективные проекты в туристической сфере.

Принятие этих мер позволит улучшить финансовую стабильность и развитие малых предприятий в сфере туризма, способствуя росту индустрии и повышению качества услуг для туристов.

Для решения этих проблем необходимо обеспечить доступность финансовых ресурсов, упростить процедуры получения государственной поддержки, улучшить информирование и обучение предпринимателей в сфере туризма и гостеприимства. Это позволит увеличить эффективность

государственной поддержки и способствовать развитию малого бизнеса в данной области.

Для решения этих проблем необходимо принимать целенаправленные меры по улучшению финансовой поддержки малых предприятий в сфере туризма и гостеприимства, развитию системы профессионального образования и облегчению административных процедур для бизнеса. Также важно проводить информационные кампании о доступных государственных программах поддержки и создавать условия для развития туристической инфраструктуры. Только таким образом можно создать благоприятные условия для развития малого предпринимательства в сфере туризма и гостеприимства и стимулировать экономический рост.

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Набиева М.Б.
студент
Назиржонов У.Н.
студент
Розалиев М.Х.
студент
ТУИТФФ

ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ – БУДУЩЕЕ ТЕХНОЛОГИЙ

Аннотация. Искусственный интеллект (ИИ) — это набор технологий, которые позволяют компьютерным системам имитировать способности человеческого разума. Он включает в себя такие области, как машинное обучение, обработка естественного языка, компьютерное зрение и робототехника. Технологии искусственного интеллекта используются в различных аспектах человеческой деятельности, включая медицину, транспорт, финансы и производство. В данной статье рассматриваются основные принципы, история развития, области применения и будущие перспективы искусственного интеллекта.

Ключевые слова: искусственный интеллект (СИ), машинное обучение, обработка естественного языка, компьютерное зрение, робототехника, технологии, приложения.

Nabieva M.B.
student
Nazirjonov U.N.
student
Rozaliev M.Kh.
student
TUITFB

ARTIFICIAL INTELLIGENCE - FUTURE OF TECHNOLOGY

Annotation. Artificial intelligence (AI) is a set of technologies that enable computer systems to imitate the abilities of the human mind. It includes areas such as machine learning, natural language processing, computer vision and robotics. Artificial intelligence technologies are used in various aspects of human activity, including medicine, transportation, finance and manufacturing. This article discusses the basic principles, history of development, applications and future prospects of artificial intelligence.

Keywords: artificial intelligence (AI), machine learning, natural language processing, computer vision, robotics, technology, applications.

Что такое искусственный интеллект?

Искусственный интеллект (ИИ) — это совокупность технологий и методов, которые позволяют компьютерным системам имитировать когнитивные способности человека. Эти системы выполняют такие задачи, как обучение, логическое мышление, решение проблем и принятие решений, которые типичны для человеческого мозга.

В последние годы искусственный интеллект (ИИ) стал областью большого интереса и развития. Компьютерные системы теперь могут успешно выполнять многие задачи, выполняемые человеческим мозгом. Изучая основные принципы, историю развития и современные области применения СИ, можно получить представление о ее дальнейших перспективах.

Основные принципы искусственного интеллекта

Чтобы понять искусственный интеллект, нужно сначала знать его основные принципы. Системы СИ в значительной степени полагаются на процессы обработки данных, обучения и принятия решений. Машинное обучение (Machine Learning) — метод, позволяющий компьютерным системам обучаться на основе опыта. Обучение на неправильных данных, их анализ и получение правильных результатов — основная цель этого метода.

История развития искусственного интеллекта

Хотя идея искусственного интеллекта появилась еще в 1950-х годах, реальное ее развитие началось в 2000-х годах. Первоначальные исследования проводились на основе математической логики и алгоритмов. Сегодня алгоритмы и технологии СИ высокоэффективны благодаря передовым вычислительным мощностям.

Условия эксплуатации

Области применения искусственного интеллекта очень широки. В медицине СИ помогает улучшить диагностику, выявление и лечение заболеваний. В сфере транспорта автономные транспортные средства и системы управления дорожным движением полагаются на технологии искусственного интеллекта. В финансовом секторе СИ используется для оценки кредитных рисков, выявления мошенничества и разработки инвестиционных стратегий.

Будущее искусственного интеллекта очень светлое. С развитием технологий системы СИ будут и дальше совершенствоваться и глубже проникать в различные сферы жизни человека. Однако управление этими технологиями с этической и социальной точек зрения будет иметь важное значение.

Виды искусственного интеллекта

1. Узкий искусственный интеллект (Узкий ИИ). Этот тип ИИ работает только над одной задачей или в пределах ограниченных областей. Например, голосовые помощники (Siri, Alexa) или СИ в шахматных играх.

2. Общий искусственный интеллект (Общий ИИ). Этот тип ИИ может выполнять многогранные задачи, как человек. В настоящее время такой СИ не существует и является научной фантастикой

3. Сверхразумный ИИ. Этот ИИ будет достаточно продвинутым, чтобы превзойти человеческий интеллект во всех аспектах. Эта концепция все еще находится на теоретическом рассмотрении.

Основные принципы искусственного интеллекта

- Надежность на данные: системы SI учатся, обрабатывая большие объемы данных.

- Алгоритмы: алгоритмы SI анализируют данные и выдают результаты.

- Обучение: системы совершенствуются на основе опыта с помощью методов машинного обучения и глубокого обучения.

Области применения искусственного интеллекта

1. Медицина: СИ используется в медицине для диагностики, разработки планов лечения и наблюдения за пациентами.

2. Транспорт: автономные транспортные средства, управление дорожным движением и логистика.

3. Финансы: Оценка кредитных рисков, выявление финансовых махинаций и создание инвестиционных стратегий.

4. Производство: Эффективное управление производственными процессами посредством робототехники и автоматизации.

5. Повседневная жизнь: голосовые помощники, системы «умный дом» и системы персонального помощника.

Будущие перспективы искусственного интеллекта

Будущее искусственного интеллекта очень светлое и обещает широкий спектр возможностей. С развитием технологий СИ все глубже проникает в различные стороны жизни человека. Например, с помощью SI можно добиться больших успехов в таких областях, как персонализированные системы обучения, умные города и мониторинг окружающей среды.

Этические и социальные проблемы искусственного интеллекта

Основные проблемы, связанные с развитием ИБ, касаются этического и социального аспектов. Например, важны такие проблемы, как рост безработицы в результате автоматизации рабочих мест, конфиденциальность и безопасность личной информации, а также справедливость решений SI.

Искусственный интеллект — одна из самых передовых и перспективных областей современных технологий. Его развитие и применение приведут к революционным изменениям во многих областях. При этом необходимо будет решать проблемы, связанные с СИ, и правильно направлять его на социальные блага.

Искусственный интеллект — это технология, которая обещает огромные возможности человечеству. Благодаря правильному применению можно повысить эффективность и качество во многих областях. При этом большое значение будет иметь решение проблем, возникающих при разработке и применении искусственного интеллекта.

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5. M.Qadamova, U. Nazirjonov TATUFF talabasi, Z. Qadamova TATU Farg‘ona filiali asissenti PYTHON KUTUBXONALARI VA ULARNING QO‘LLANILISHI

Набиева М.Б.
студент
Назиржонов У.Н.
студент
Розалиев М.Х.
студент
ТУИТФФ

ВОПРОСЫ ПРИМЕНЕНИЯ ИННОВАЦИОННЫХ ОБРАЗОВАТЕЛЬНЫХ ТЕХНОЛОГИЙ ПРИ ЦИФРОВИЗАЦИИ ВЫСШЕГО ОБРАЗОВАНИЯ

Аннотация. В данной статье показаны важные вопросы использования инновационных технологий обучения в процессе цифровизации высшего образования. В статье рассматривается значение инновационных технологий обучения, важность перехода на них, важные вопросы их использования и достижения их эффективного использования. В статье определяется необходимость и важность повышения эффективности и результативности обучения с использованием инновационных технологий в эпоху цифровизации высшего образования.

Ключевые слова: Высшее образование, цифровизация, инновации, технологии обучения, применение, проблемы, эффективное, действенное.

Nabieva M.B.
student
Nazirjonov U.N.
student
Rozaliev M.Kh.
student
TUITFB

ISSUES OF APPLICATION OF INNOVATIVE EDUCATIONAL TECHNOLOGIES IN THE DIGITIZATION OF HIGHER EDUCATION

Annotation. This article shows important issues of using innovative learning technologies in the process of digitalization of higher education. The article discusses the importance of innovative teaching technologies, the importance of switching to them, important issues of their use and achieving their effective use. The article determines the need and importance of increasing the efficiency and effectiveness of learning using innovative technologies in the era of digitalization of higher education.

Key words: higher education, digitalization, innovation, educational technologies, application, problems, effective, efficient.

Конечно, инновационные технологии обучения являются одним из важнейших вопросов в процессе цифровизации высшего образования. Эти проблемы включают в себя.

2-3 февраля 2023 года в Ташкентском университете информационных технологий имени Мухаммада аль-Хорезми прошла научно-методическая конференция на тему «Вопросы применения инновационных технологий обучения в условиях цифровизации высшего образования» (ICT Edu 2023). Конференция была посвящена ориентации педагогов на инновационную деятельность, применению инновационного образования и информационно-коммуникационных технологий в образовательном процессе в высших учебных заведениях, усвоению передового зарубежного опыта, модернизации системы высшего образования, представлены результаты научно-методических исследований. обсуждалось.

Преимущества цифровизации включают повышение производительности, повышение вовлеченности учащихся, персонализированное обучение и использование новых методов обучения. Кроме того, цифровизация поможет университетам,

облегчает управление учебными программами, преподавателями, персоналом и ресурсами

1. Методы обучения: Инновационные технологии обучения предусматривают использование эффективных методов обучения и преподавания знаний, в отличие от традиционных методов обучения. Например, интерактивные учебники, мультимедийные инструменты, а также учебные платформы виртуальной и дополненной реальности помогают учащимся получить увлекательный и захватывающий опыт обучения.

2. Сотрудничество и общественные отношения. Инновационные технологии обучения расширяют сотрудничество между учениками и учителями. Через Интернет и социальные сети студенты смогут взаимодействовать и сотрудничать с обществом. В то же время это создает возможности для учителей присоединиться к глобальным педагогическим партнерствам и познакомиться с новыми научными исследованиями.

3. Образовательные программы и учебные материалы. Инновационные технологии обучения играют важную роль в повышении эффективности и привлекательности образовательных программ и учебных материалов. Для студентов создана возможность обучения с помощью интерактивных, анимационных и мультимедийных средств. Это облегчает обучение и мотивирует студентов.

4. Индивидуальное и комплексное обучение. Инновационные технологии обучения значительно помогают повысить адаптивное и индивидуальное обучение учащихся. Эти технологии позволяют учащимся учиться в соответствии с собственными знаниями и определять свое

направление во времени. Также возможно предоставлять и поддерживать учащихся в выполнении учебных задач с помощью сложных образовательных систем.

5. Мониторинг и оценка. Инновационные технологии обучения позволяют более эффективно контролировать и оценивать образовательный процесс. Уровни обучения, успехи и неудачи студентов точно изучаются с помощью технологических инструментов. Это позволяет студентам анализировать собственное обучение и получать необходимую информацию для дальнейшего развития.

В зависимости от развития общества инновационные технологии обучения являются важной частью высшего образования, помогая студентам адаптироваться к естественному обучению и инновациям. Эти технологии играют важную роль в том, чтобы сделать процесс обучения более эффективным, интересным и увлекательным.

В заключение анализ нормативных документов, рекомендаций, исследований в области цифровизации образования, позволяющий выделить условия цифровизации образования в целом, может включать в себя следующее: цифровое поколение обучающихся; создание законодательной базы для цифровизации образования; предоставление ресурсов для цифровизации образования, включая цифровую среду обучения образовательных учреждений; Цифровые педагогические технологии и цифровые технологии образовательного значения; Данная часть программы подготовки специалистов информационных технологий позволяет обеспечить условия для формирования ИКТ-компетентности, что актуально и сегодня. В условиях сегодняшней экономической глобализации и искусственного интеллекта быстрый экономический рост в современном обществе зависит главным образом от быстрого развития цифровых информационных технологий. В то же время цифровые технологии помогут экономической революции и создадут цифровую экономику, которая стала важной концепцией экономического развития. Чтобы более научно и точно описать промышленную структуру нашей страны и состояние развития отрасли цифровой экономики, в данной статье каждая отрасль национальной экономики рассматривается как объект исследования и выдвигается идея использования теории сложных сетей. изучить взаимосвязь между входами.

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Панжиева Н.Н., доктор экономических наук (PhD)
старший преподаватель
кафедра туризма и гостиничного менеджмента
Термезский государственный университет

ПРОБЛЕМЫ РАЗВИТИЯ РЕГИОНАЛЬНОГО ТУРИЗМА

Аннотация. В статье рассматриваются основные проблемы, препятствующие развитию регионального туризма в России. Исследованы факторы, влияющие на привлекательность регионов для туристов, такие как недостаточная инфраструктура, низкий уровень сервиса, слабая реклама и маркетинг, а также проблемы транспортной доступности. Особое внимание уделено анализу государственных и частных инициатив по улучшению туристической привлекательности регионов. Приведены рекомендации по преодолению выявленных проблем и повышению конкурентоспособности региональных туристических продуктов.

Ключевые слова: региональный туризм, проблемы, развитие, инфраструктура, сервис, реклама, маркетинг, транспортная доступность, государственные инициативы, конкурентоспособность.

Panzhieva N.N., doctor of economics (PhD)
senior lecturer
Department of Tourism and Hotel Management
Termez State University

PROBLEMS OF DEVELOPMENT OF REGIONAL TOURISM

Abstract. The article discusses the main problems hindering the development of regional tourism in Russia. The factors influencing the attractiveness of regions for tourists, such as insufficient infrastructure, low level of service, poor advertising and marketing, as well as problems of transport accessibility, have been studied. Particular attention is paid to the analysis of public and private initiatives to improve the tourist attractiveness of the regions. Recommendations are given for overcoming the identified problems and increasing the competitiveness of regional tourism products.

Key words: regional tourism, problems, development, infrastructure, service, advertising, marketing, transport accessibility, government initiatives, competitiveness.

Региональный туризм является важным элементом экономики многих стран, включая Россию. Он способствует развитию инфраструктуры, создает рабочие места и стимулирует развитие малого и

среднего бизнеса. Однако развитие туризма в регионах сталкивается с рядом серьезных проблем, которые препятствуют полному раскрытию его потенциала. Эти проблемы включают недостаток инфраструктуры, низкий уровень сервиса, слабую рекламу и маркетинг, а также транспортные барьеры. Несмотря на богатое культурное и природное наследие, многие российские регионы не могут привлечь достаточное количество туристов из-за указанных факторов. В то время как столицы и крупные города России, такие как Москва и Санкт-Петербург, ежегодно привлекают миллионы туристов, многие региональные центры остаются в тени. Важно понять, какие именно проблемы мешают развитию туризма в регионах, и найти эффективные способы их решения.

В данной статье будет рассмотрен ряд ключевых проблем, с которыми сталкиваются региональные туристические направления, а также предложены пути их преодоления. Особое внимание будет уделено анализу государственных и частных инициатив, направленных на улучшение туристической привлекательности регионов. Также будут приведены конкретные примеры успешных практик, которые могут служить моделью для других регионов.

1. Недостаточная инфраструктура. Одна из основных проблем развития регионального туризма в России — это недостаток туристической инфраструктуры. Многие регионы не могут предложить туристам комфортные условия для проживания, питания и досуга. Согласно исследованию РАНХиГС, лишь 30% российских регионов имеют достаточную инфраструктуру для приема туристов. Это связано с недостаточным финансированием и слабым развитием частного сектора. Например, в Кировской области туристы часто сталкиваются с нехваткой качественных гостиниц и ресторанов, что негативно сказывается на их впечатлениях.

2. Низкий уровень сервиса. Низкий уровень сервиса также является серьезной проблемой. В отличие от международных курортов, где высокий уровень обслуживания является стандартом, в российских регионах часто отсутствует квалифицированный персонал. По данным ВЦИОМ, 45% туристов жалуются на плохое обслуживание в региональных отелях и ресторанах. Это связано с нехваткой образовательных программ и тренингов для работников туристической отрасли. В Псковской области, например, местные гостиницы часто получают негативные отзывы из-за невежливого персонала и плохого качества обслуживания.

3. Слабая реклама и маркетинг. Эффективная реклама и маркетинг играют ключевую роль в привлечении туристов, однако многие российские регионы недостаточно активно продвигают свои туристические возможности. В результате потенциальные туристы просто не знают о существовании интересных мест. Согласно опросу, проведенному Туристическим информационным центром России, 60%

респондентов не знали о туристических возможностях таких регионов, как Калужская область и Республика Коми. Это связано с недостаточным финансированием рекламных кампаний и отсутствием координации между различными уровнями власти.

4. Проблемы транспортной доступности. Транспортная доступность — еще одна ключевая проблема. Многие региональные туристические направления сложно достигнуть из-за плохого состояния дорог и отсутствия прямых авиарейсов. Например, для того чтобы добраться до Камчатки, туристам часто приходится делать несколько пересадок, что увеличивает время и стоимость поездки. Это делает регион менее привлекательным для туристов, особенно иностранных.

5. Государственные и частные инициативы. Для преодоления перечисленных проблем необходимы скоординированные усилия государства и частного сектора. В последние годы правительство России предпринимает шаги для поддержки регионального туризма. В рамках программы «Туризм и индустрия гостеприимства» на развитие туристической инфраструктуры в регионах выделяются значительные средства. Например, в 2021 году на строительство туристических объектов в Алтайском крае было выделено более 500 миллионов рублей.

Кроме того, частные компании также начинают вкладываться в развитие регионального туризма. Так, в Краснодарском крае открылся новый туристический комплекс «Роза Хутор», который уже стал популярным среди российских и зарубежных туристов. Этот проект показывает, что при правильном подходе региональные туристические направления могут стать конкурентоспособными на мировом рынке. Развитие регионального туризма сталкивается с рядом проблем, которые могут существенно влиять на его успешность и устойчивость. Вот некоторые из ключевых проблем:

1. Инфраструктура: Недостаток развитой инфраструктуры, включая дороги, транспорт, гостиницы и рестораны, ограничивает возможности туристов. Это особенно актуально для отдаленных регионов. Низкое качество дорог и транспорта приводит к долгим и неудобным поездкам, что может отпугивать потенциальных туристов. Недостаток качественных мест размещения и питания также негативно сказывается на общем впечатлении от путешествия.

2. Маркетинг и продвижение: Недостаточная реклама и продвижение региональных туристических достопримечательностей приводят к тому, что потенциальные туристы просто не знают о них. Региональные власти и бизнес часто не используют современные маркетинговые инструменты, такие как социальные сети, онлайн-платформы и целевые рекламные кампании, чтобы привлечь внимание к своим регионам. Без активной рекламной стратегии даже самые интересные и уникальные места остаются вне поля зрения туристов.

3. Кадры: Отсутствие квалифицированных кадров в сфере туризма, включая гидов, сотрудников гостиниц и ресторанов, ограничивает качество туристических услуг.

4. Финансирование: Ограниченное финансирование со стороны государства и частных инвесторов затрудняет развитие туристической инфраструктуры и реализацию проектов по привлечению туристов. Нехватка средств на строительство и модернизацию туристических объектов, улучшение транспортной инфраструктуры и разработку маркетинговых кампаний ведет к застою в развитии регионального туризма.

5. Законодательные барьеры: Бюрократические препятствия и сложные процедуры получения разрешений на строительство и развитие туристических объектов могут замедлить процесс развития туризма.

6. Экологические проблемы: Экологические проблемы, такие как загрязнение окружающей среды и недостаток мер по защите природных ресурсов, могут отпугивать туристов и вредить природе.

7. Культурные и социальные аспекты: Недостаток внимания к местной культуре и традициям может привести к культурным конфликтам и снижению привлекательности региона для туристов.

Региональный туризм в России обладает огромным потенциалом, который, однако, пока не полностью раскрыт из-за ряда серьезных проблем. Недостаток инфраструктуры, низкий уровень сервиса, слабая реклама и маркетинг, а также транспортные барьеры — все эти факторы требуют внимания и решения. Государственные и частные инициативы уже начали приносить результаты, но для полноценного развития туризма в регионах необходимы дальнейшие скоординированные усилия. Только в этом случае российские регионы смогут привлечь больше туристов и значительно повысить свою экономическую привлекательность.

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Парманов Н.Н.
ассистент
Джизакский политехнический институт
Республика Узбекистан, г.Джизак
Аширбаев Н.К.
профессор
Южно-Казахстанский государственный
университет имени М. Ауэзова
Казахстан, г.Шымкент

НИТРИДИРОВАНИЕ КАК МЕТОД ПОВЫШЕНИЯ ИЗНОСОСТОЙКОСТИ ЛЕЗВИЙ КУЛЬТИВАТОРОВ

Аннотация. В данной работе рассматривается метод газового нитридирования как способ повышения износостойкости лезвий культиваторов. Анализируются основные этапы процесса, включая подготовку поверхности, нагревание, насыщение азотом и охлаждение. Особое внимание уделяется микроструктурному анализу и измерению твердости обработанных лезвий, что позволяет оценить эффективность методики. В статье предоставляются результаты испытаний на износ, которые показывают значительное увеличение срока службы и снижение эксплуатационных затрат. Рассматриваются аспекты повышения твердости и улучшения трибологических свойств поверхностного слоя металла.

Ключевые слова: лезвия, культиваторы, износостойкость, твердость, аммиак, азот, микроструктура, испытания, металл.

Parmanov N.N.
assistant
Jizzakh Polytechnic Institute
Republic of Uzbekistan, Jizzakh
Ashirbaev N.K.
professor
South Kazakhstan State University named after M. Auezov
Kazakhstan, Shymkent

NITRIDING AS A METHOD OF INCREASING THE WEAR RESISTANCE OF CULTIVATOR BLADES

Abstract. This work discusses the gas nitriding method as a way to increase the wear resistance of cultivator blades. The main process steps including surface preparation, heating, nitrogen saturation and cooling are analyzed. Particular attention is paid to microstructural analysis and hardness

measurement of processed blades, which makes it possible to evaluate the effectiveness of the technique. The article provides wear test results that show a significant increase in service life and reduced operating costs. Aspects of increasing hardness and improving the tribological properties of the surface layer of the metal are considered.

Key words: blades, cultivators, wear resistance, hardness, ammonia, nitrogen, microstructure, testing, metal.

Введение. Нитридирование – это высокоэффективный метод термохимической обработки металлов, при котором поверхность изделия насыщается азотом. Этот процесс существенно улучшает эксплуатационные характеристики материалов, повышая их твердость, износостойкость и коррозионную стойкость. В сельскохозяйственной технике, особенно в инструментах, таких как лезвия культиваторов, данные свойства крайне важны для обеспечения долговечности и эффективности работы. Основная проблема, с которой сталкиваются пользователи сельскохозяйственной техники, заключается в быстром износе рабочих элементов, таких как лезвия культиваторов. Интенсивное использование этих инструментов в условиях высокой абразивности почвы приводит к значительному снижению их эксплуатационного срока, увеличению затрат на их замену и ремонты, а также снижению производительности труда. Одним из эффективных решений данной проблемы является применение процесса нитридирования для улучшения эксплуатационных характеристик лезвий культиваторов. Нитридирование позволяет повысить твердость поверхности, снизить коэффициент трения и увеличить износостойкость инструмента, что приводит к продлению его службы и уменьшению частоты замены и ремонта.

Методология. Газовое нитридирование. Газовое нитридирование – это метод термохимической обработки, при котором поверхность металла насыщается азотом в газовой среде, что приводит к образованию на его поверхности твердых и износостойких нитридов. Этот метод широко используется для улучшения эксплуатационных характеристик металлических изделий, включая лезвия культиваторов. Ниже подробно описаны основные этапы этого процесса. Подготовка поверхности. Перед началом процесса нитридирования необходимо тщательно очистить поверхность лезвий культиватора. Это делается для удаления любых загрязнений, оксидов и масел, которые могут препятствовать проникновению азота в металл. Очистка может включать механическую обработку, химическую очистку или использование ультразвуковых ванн. Чистая поверхность обеспечивает равномерное и эффективное насыщение азотом. Нагревание. Лезвия помещаются в вакуумную печь и постепенно нагреваются до температуры 500-600°C. Вакуумная среда помогает предотвратить окисление поверхности металла при высоких температурах.

Равномерный нагрев критически важен для обеспечения качественного и однородного нитридирования по всей поверхности лезвий. Насыщение азотом. Когда лезвия достигают нужной температуры, в печь подается аммиак (NH_3). При высоких температурах аммиак разлагается на атомарный азот (N) и водород (H_2). Атомарный азот активно диффундирует в поверхность металла, образуя нитриды железа (FeN , Fe_2N , Fe_4N) и другие нитридные соединения. Процесс насыщения азотом обычно занимает от нескольких часов до нескольких десятков часов в зависимости от требуемой глубины и плотности нитридного слоя. Время и температура выдержки выбираются исходя из желаемых характеристик конечного продукта. Охлаждение. После завершения процесса насыщения азотом лезвия постепенно охлаждаются до комнатной температуры. Постепенное охлаждение необходимо для предотвращения термических деформаций и внутренних напряжений в металле, которые могут возникнуть при быстром охлаждении. Охлаждение может проводиться в той же вакуумной печи или в специальной среде для дополнительного контроля температуры.

Результат. В ходе исследования были проведены испытания лезвий культиваторов, обработанных методом газового нитридирования. Основная цель исследования заключалась в оценке повышения износостойкости и твердости лезвий после обработки, а также в сравнении их характеристик с необработанными лезвиями. Ниже представлены результаты исследований. Микроструктурный анализ. После проведения газового нитридирования микроструктурный анализ показал, что на поверхности лезвий образовался равномерный слой нитридов железа. Толщина нитридного слоя варьировалась в пределах 10-20 микрон, что соответствует заявленным параметрам методики. Визуально и с помощью микроскопии было подтверждено отсутствие пор и трещин, что свидетельствует о высоком качестве проведенной обработки. Измерение твердости. Измерение твердости по методу Виккерса показало значительное увеличение твердости поверхности лезвий после нитридирования. Средняя твердость нитридированных лезвий составила 1200 HV, что на 60% выше по сравнению с необработанными лезвиями, у которых средняя твердость составляла 750 HV. Испытания на износ проводились в условиях, имитирующих реальную эксплуатацию культиваторов в полевых условиях. Результаты показали, что нитридированные лезвия обладают значительно большей износостойкостью. В частности, нитридированные лезвия демонстрировали уменьшение износа на 40% по сравнению с необработанными лезвиями. Это подтверждает эффективность газового нитридирования в повышении долговечности инструмента. На основе результатов испытаний на износ был произведен расчет увеличения срока службы нитридированных лезвий. Согласно полученным данным, срок

службы нитридованных лезвий увеличивается в среднем на 50% по сравнению с необработанными лезвиями. Это означает, что частота замены и ремонта лезвий снижается, что в свою очередь уменьшает эксплуатационные затраты и повышает общую эффективность сельскохозяйственных работ.

Заключение. Нитридование является эффективным методом повышения износостойкости лезвий культиваторов. Применение газового нитридования позволяет значительно улучшить эксплуатационные характеристики лезвий, увеличивая их твердость и устойчивость к износу. Это, в свою очередь, снижает частоту замены и ремонта инструментов, повышает их долговечность и производительность работы. Внедрение данной технологии в сельскохозяйственное производство представляет собой важный шаг к повышению эффективности и экономичности использования сельскохозяйственной техники.

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Парманов Н.Н.
ассистент
Джизакский политехнический институт
Республика Узбекистан, г.Джизак
Аширбаев Н.К.
профессор
Южно-Казахстанский государственный
университет имени М. Ауэзова
Казахстан, г.Шымкент

СИНЕРГЕТИЧЕСКИЙ ЭФФЕКТ КОМПЛЕКСНОГО ИССЛЕДОВАНИЯ ЗАКАЛИВАНИЯ И НАНЕСЕНИЯ ПОКРЫТИЙ НА ЛЕЗВИЯ КУЛЬТИВАТОРОВ

Аннотация. В данной работе рассматривается комплексное исследование синергетического эффекта закаливания и нанесения покрытий на лезвия культиваторов, применяемых в сельском хозяйстве. В статье анализируется влияние различных методов термической обработки и покрытий на эксплуатационные характеристики лезвий, включая твердость, износостойкость и коррозионную стойкость. В работе используются методика «Комплексного анализа воздействий», включающая лабораторные испытания и полевые тесты. В статье подробно обсуждаются ключевые аспекты комплексного подхода к обработке лезвий, что подчеркивает его эффективность для повышения качества и долговечности сельскохозяйственного оборудования.

Ключевые слова: закаливание, покрытия, лезвия, культиваторы, твердость, износостойкость, коррозионная стойкость, эксплуатационные характеристики.

Parmanov N.N.
assistant
Jizzakh Polytechnic Institute
Republic of Uzbekistan, Jizzakh
Ashirbaev N.K.
professor
South Kazakhstan State University named after M. Auezov
Kazakhstan, Shymkent

SYNERGISTIC EFFECT OF A COMPREHENSIVE STUDY OF HARDENING AND COATING OF CULTIVATOR BLADES

Abstract. This work examines a comprehensive study of the synergistic effect of hardening and coating on the blades of cultivators used in agriculture.

This article analyzes the effects of various heat treatments and coatings on blade performance, including hardness, wear resistance, and corrosion resistance. The work uses the “Comprehensive Impact Analysis” methodology, which includes laboratory tests and field tests. The article discusses in detail the key aspects of an integrated approach to blade processing, highlighting its effectiveness in improving the quality and durability of agricultural equipment.

Key words: hardening, coatings, blades, cultivators, hardness, wear resistance, corrosion resistance, performance characteristics.

Введение. Современные сельскохозяйственные технологии требуют высокой эффективности и долговечности инструментов, используемых в процессе обработки почвы. Лезвия культиваторов, как ключевые компоненты таких инструментов, подвергаются значительным механическим и химическим нагрузкам. Одним из методов повышения их эксплуатационных характеристик является комплексное применение закаливания и нанесения покрытий. Закаливание улучшает механические свойства материала, такие как твердость и прочность, а нанесение специальных покрытий обеспечивает дополнительную защиту от коррозии и износа. Синергетический эффект этих двух методов позволяет существенно повысить общую эффективность и срок службы лезвий культиваторов. Однако, для полного понимания взаимодействия этих процессов необходимы комплексные исследования, которые могут выявить их совместное воздействие на эксплуатационные характеристики лезвий.

Методология. Методика «Комплексного анализа воздействий» направлена на всестороннее исследование взаимодействия различных технологий обработки (в данном случае закаливания и нанесения покрытий) и их совместного влияния на эксплуатационные характеристики лезвий культиваторов. Методика включает несколько ключевых этапов: Предварительная подготовка: Обработка образцов лезвий различными методами закаливания и нанесения покрытий. Лабораторные испытания: Оценка механических свойств (твердость, прочность) и коррозионной стойкости с использованием стандартных испытательных процедур. Полевые испытания: Оценка долговечности и производительности лезвий в реальных условиях работы. Анализ данных: Сравнение результатов испытаний для определения синергетического эффекта и оптимизации комбинаций закаливания и покрытий.

Результат. Результаты проведенного исследования. Лезвия, подвергнутые термическому закаливанию и нанесению керамического покрытия, продемонстрировали увеличение твердости на 22% по сравнению с образцами, не прошедшими закаливание и без покрытия. Лезвия, закаленные в масле и покрытые металлическим слоем, показали рост твердости на 18% по сравнению с контрольными образцами.

Образцы, подвергнутые термическому закаливанию с керамическим покрытием, показали улучшение износостойкости на 30% по сравнению с образцами, которые были только закалены. Лезвия, которые были только закалены (без покрытия), продемонстрировали увеличение износостойкости на 15% по сравнению с некондиционными образцами. Лезвия с керамическими покрытиями показали на 40% меньший уровень коррозии по сравнению с образцами без покрытия. Лезвия, покрытые металлическим слоем, продемонстрировали на 25% меньший уровень коррозии по сравнению с некондиционными образцами. Лезвия, закаленные и покрытые керамическим слоем, продемонстрировали улучшение производительности на 35% по сравнению с контрольными образцами, что выражается в увеличении эффективности обработки почвы и снижении числа требуемых замен. Лезвия, только закаленные, показали улучшение производительности на 20% по сравнению с образцами без обработки. Лезвия с термическим закаливанием и керамическим покрытием прослужили на 40% дольше по сравнению с контрольными образцами. Лезвия, закаленные в масле и покрытые металлическим слоем, прослужили на 30% дольше по сравнению с некондиционными образцами. По завершению полевых испытаний лезвия с комбинированной обработкой (закаливанию и керамическое покрытие) имели на 50% меньше признаков износа и повреждений, чем контрольные образцы.

Заключение. Комплексное исследование закаливания и нанесения покрытий на лезвия культиваторов позволяет выявить их синергетический эффект, что может значительно повысить эксплуатационные характеристики и срок службы инструментов. Применение методики «Комплексного анализа воздействий» предоставляет всесторонний подход к исследованию взаимодействий различных процессов обработки, что способствует более эффективному выбору методов для повышения качества сельскохозяйственного оборудования. Результаты такого исследования могут быть полезны для оптимизации технологий производства и повышения надежности лезвий культиваторов, что, в свою очередь, улучшит производительность сельскохозяйственного производства в целом.

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*Парманов Н.Н.
ассистент
Джизакский политехнический институт
Республика Узбекистан, г.Джизак
Аширбаев Н.К.
профессор
Южно-Казахстанский государственный
университет имени М. Ауэзова
Казахстан, г.Шымкент*

ОПТИМИЗАЦИЯ РЕЖИМОВ ТЕРМИЧЕСКОЙ ОБРАБОТКИ ЛЕЗВИЙ КУЛЬТИВАТОРОВ ДЛЯ ПОВЫШЕНИЯ ИХ ЭКСПЛУАТАЦИОННЫХ ХАРАКТЕРИСТИК

Аннотация. В данной работе рассматривается проблема оптимизации режимов термической обработки лезвий культиваторов с целью повышения их эксплуатационных характеристик. Анализируется влияние различных параметров термической обработки, таких как температура нагрева, время выдержки и скорость охлаждения, на физико-механические свойства лезвий, включая твердость, износостойкость и прочность. Рассматриваются аспекты энергетической и экономической эффективности оптимизированных режимов обработки. В результате исследования выявлено, что оптимизация режимов термической обработки позволяет достичь значительного улучшения эксплуатационных характеристик лезвий культиваторов, включая увеличение твердости на 12-15%, повышение износостойкости на 20-25%, и снижение расхода энергии на 18%.

Ключевые слова: оптимизация, термическая, обработка, лезвия, культиваторы, численное, моделирование, износостойкость, твердость, экономия.

*Parmanov N.N.
assistant
Jizzakh Polytechnic Institute
Republic of Uzbekistan, Jizzakh
Ashirbaev N.K.
professor
South Kazakhstan State University named after M. Auezov
Kazakhstan, Shymkent*

OPTIMIZATION OF HEAT TREATMENT REGIMES FOR CULTIVATOR BLADES TO IMPROVE THEIR PERFORMANCE CHARACTERISTICS

Abstract. This work examines the problem of optimizing heat treatment modes for cultivator blades in order to improve their performance characteristics. The influence of various heat treatment parameters, such as heating temperature, holding time and cooling rate, on the physical and mechanical properties of blades, including hardness, wear resistance and strength, is analyzed. Aspects of energy and economic efficiency of optimized processing modes are considered. As a result of the study, it was revealed that optimization of heat treatment modes can achieve a significant improvement in the performance characteristics of cultivator blades, including an increase in hardness by 12-15%, an increase in wear resistance by 20-25%, and a reduction in energy consumption by 18%.

Keywords: optimization, thermal, processing, blades, cultivators, numerical, modeling, wear resistance, hardness, economy.

Введение. Оптимизация режимов термической обработки лезвий культиваторов представляет собой важную задачу в области сельскохозяйственного машиностроения. Лезвия культиваторов, используемые для обработки почвы, подвергаются значительным механическим и термическим нагрузкам. Чтобы обеспечить их долгосрочную эксплуатацию и повысить производительность обработки, необходимо оптимизировать параметры термической обработки, такие как температура, время выдержки и режим охлаждения. Эффективная термическая обработка может значительно улучшить физико-механические свойства лезвий, такие как твердость, прочность и устойчивость к износу. Основная проблема, с которой сталкиваются при термической обработке лезвий культиваторов, заключается в том, что традиционные режимы термической обработки часто не учитывают индивидуальные особенности материала лезвий и их эксплуатационных условий. Это может привести к недостаточной прочности или слишком высокой хрупкости лезвий, что снижает их долговечность и эксплуатационные характеристики. Кроме того, неэффективные режимы термической обработки могут привести к значительным потерям в ресурсах и энергии. Для решения этой проблемы предлагается разработать и внедрить оптимизированные режимы термической обработки, основанные на использовании современных методов моделирования и экспериментальных данных. Это позволит учесть специфику материала лезвий, их конструкцию и условия эксплуатации.

Методология. Методика оптимизации режимов термической обработки включает в себя следующие этапы: Анализ исходных данных: Изучение состава материала лезвий, их механических и термических свойств, а также требований к эксплуатационным характеристикам. Численное моделирование: Применение метода конечных элементов (МКЭ) для моделирования процесса термической обработки, включая

процессы нагрева, выдержки и охлаждения. Это позволяет предсказать изменение свойств материала в зависимости от различных режимов обработки. Экспериментальное исследование: Проведение опытных термических обработок с различными режимами на образцах лезвий и оценка их физико-механических свойств. Сравнение экспериментальных данных с результатами численного моделирования для корректировки моделей. Оптимизация режимов обработки: На основе полученных данных определение оптимальных параметров термической обработки, таких как температура, время выдержки и скорость охлаждения, для достижения наилучших эксплуатационных характеристик лезвий.

Результат. В результате проведённого исследования по оптимизации режимов термической обработки лезвий культиваторов с использованием предложенной методики были получены следующие ключевые результаты: Численное моделирование: Моделирование процесса термической обработки с помощью метода конечных элементов показало, что оптимальные параметры для термической обработки включают температуру нагрева в диапазоне 850-900°C, время выдержки около 30-45 минут и скорость охлаждения 5-10°C/мин. Эти параметры обеспечивают оптимальное соотношение между твердостью и пластичностью материала. Экспериментальные исследования: Проведённые экспериментальные испытания подтвердили результаты численного моделирования. Лезвия, обработанные по оптимизированным режимам, продемонстрировали следующие улучшения по сравнению с традиционными методами: Твердость: Увеличение твердости на 12-15%. Лезвия, обработанные по оптимизированным режимам, достигли средней твердости 62 HRC, в то время как традиционные методы давали в среднем 55 HRC. Износостойкость: Улучшение износостойкости на 20-25%. Лезвия выдержали 30% больше циклов обработки почвы до начала значительного износа. Прочность: Повышение прочности на 8-10%. Трещинообразование в лезвиях произошло на 15% позже по сравнению с традиционно обработанными лезвиями. Энергетическая эффективность: Оптимизация режимов термической обработки привела к снижению расхода энергии на 18% по сравнению с традиционными методами. Это связано с более эффективным использованием энергии в процессе нагрева и охлаждения. Экономическая эффективность: Внедрение оптимизированных режимов термической обработки позволило сократить затраты на производство лезвий на 12%. Это связано с увеличением срока службы лезвий и снижением частоты их замены.

Заключение. Оптимизация режимов термической обработки лезвий культиваторов является ключевым фактором для повышения их эксплуатационных характеристик и долговечности. Применение современных методов численного моделирования и экспериментальных исследований позволяет существенно улучшить качество термической

обработки, адаптируя ее под специфические условия эксплуатации. Это не только увеличивает ресурс лезвий, но и способствует эффективному использованию ресурсов и энергии, что в итоге приводит к повышению общей производительности сельскохозяйственного оборудования.

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*Парманов Н.Н.
ассистент
Джизакский политехнический институт
Республика Узбекистан, г.Джизак
Аширбаев Н.К.
профессор
Южно-Казахстанский государственный
университет имени М. Ауэзова
Казахстан, г.Шымкент*

ЭКСПЕРИМЕНТАЛЬНОЕ ИССЛЕДОВАНИЕ ВЛИЯНИЕ ЗАКАЛИВАНИЯ НА ДОЛГОВЕЧНОСТЬ И ИЗНОСОСТОЙКОСТЬ ЛЕЗВИЙ КУЛЬТИВАТОРОВ

Аннотация. В данной работе рассматривается влияние многократного закаливания на долговечность и износостойкость лезвий культиваторов. Исследование направлено на улучшение механических свойств металлических изделий, подверженных значительным эксплуатационным нагрузкам. Анализируются результаты термической обработки, включающей многократное нагревание и охлаждение, а также последующий отпуск. Предоставляются экспериментальные данные, показывающие увеличение твёрдости на 28.9%, улучшение износостойкости на 37.1% и увеличение долговечности на 53.3%. Особое внимание уделяется методике многократного закаливания и её эффективности в повышении эксплуатационных характеристик лезвий культиваторов.

Ключевые слова: закаливание, долговечность, износостойкость, культиваторы, металл, термообработка, эксперимент, твёрдость, улучшение, методика.

*Parmanov N.N.
assistant
Jizzakh Polytechnic Institute
Republic of Uzbekistan, Jizzakh
Ashirbaev N.K.
professor
South Kazakhstan State University named after M. Auezov
Kazakhstan, Shymkent*

EXPERIMENTAL STUDY OF THE EFFECT OF HARDENING ON THE DURABILITY AND WEAR RESISTANCE OF CULTIVATOR BLADES

Abstract. This paper examines the effect of repeated hardening on the durability and wear resistance of cultivator blades. The research is aimed at improving the mechanical properties of metal products subject to significant operational loads. The results of heat treatment, including repeated heating and cooling, as well as subsequent tempering, are analyzed. Experimental data is provided showing a 28.9% increase in hardness, a 37.1% improvement in wear resistance, and a 53.3% increase in durability. Particular attention is paid to the multiple hardening technique and its effectiveness in improving the performance characteristics of cultivator blades.

Key words: hardening, durability, wear resistance, cultivators, metal, heat treatment, experiment, hardness, improvement, methodology.

Введение. Закаливание является одной из наиболее распространённых термических обработок, используемых для улучшения механических свойств металлических изделий. В частности, лезвия культиваторов подвергаются значительным механическим нагрузкам и трению во время эксплуатации, что делает их износостойкость и долговечность критическими параметрами для их эффективности и экономичности. Цель данного исследования заключается в экспериментальном изучении влияния закаливания на долговечность и износостойкость лезвий культиваторов. Основной проблемой, с которой сталкиваются производители и пользователи сельскохозяйственных инструментов, является быстрый износ лезвий культиваторов при интенсивном использовании. Это приводит к необходимости частой замены лезвий, что увеличивает эксплуатационные расходы и снижает общую эффективность сельскохозяйственных операций. Необходимо найти способы увеличения износостойкости и долговечности лезвий, чтобы минимизировать данные проблемы. Одним из возможных решений данной проблемы является использование процесса закаливания для улучшения механических свойств лезвий культиваторов. Закаливание позволяет увеличить твёрдость и износостойкость металла, что потенциально может привести к увеличению срока службы лезвий. В рамках данного исследования будет проведена серия экспериментов по закаливанию лезвий с целью оценки его влияния на их долговечность и износостойкость.

Методология. Методика многократного закаливания и охлаждения. Подготовка образцов. Лезвия культиваторов изготавливаются из углеродистой стали с типичным содержанием углерода (0,45-0,55%). Перед началом термической обработки образцы проходят механическую обработку (резку, шлифовку) для придания им стандартных размеров и формы. Затем образцы очищаются от загрязнений и оксидов, чтобы обеспечить равномерное нагревание и охлаждение. Закаливание. Процесс закаливания начинается с нагревания образцов в муфельной печи до

температуры закалки (850-900°C). Эта температура выбрана на основе диаграммы состояния железо-углерод, где при такой температуре сталь находится в аустенитной фазе, что делает её пригодной для закалки. Образцы выдерживаются на этой температуре в течение 30-60 минут, чтобы обеспечить полное превращение структуры. Охлаждение. После выдержки при температуре закалки, образцы быстро извлекаются из печи и погружаются в охлаждающую среду. В качестве охлаждающей среды используется вода или масло. Охлаждение должно быть быстрым, чтобы предотвратить образование нежелательных фаз, таких как перлит и феррит, и обеспечить превращение аустенита в мартенсит, который обладает высокой твёрдостью и износостойкостью. Многократное закаливание. Для улучшения свойств стали проводится многократное закаливание. Этот процесс включает в себя повторное нагревание образцов до температуры закалки и их последующее охлаждение. Количество циклов закаливания может варьироваться в зависимости от требуемых свойств материала, но обычно используется 2-3 цикла. Каждый цикл закалки позволяет устранить внутренние напряжения и улучшить однородность структуры. Отпуск. После последнего цикла закалки образцы проходят процесс отпуска, чтобы снизить хрупкость и улучшить вязкость стали. Образцы нагреваются до температуры отпуска (150-200°C) и выдерживаются на этой температуре в течение 1-2 часов. Отпуск позволяет удалить остаточные напряжения и стабилизировать структуру материала.

Результат. В рамках данного исследования было проведено экспериментальное изучение влияния многократного закаливания и охлаждения на долговечность и износостойкость лезвий культиваторов. Твёрдость. После завершения термической обработки лезвия были протестированы на твёрдость методом Роквелла. Результаты показали значительное увеличение твёрдости поверхности: Средняя твёрдость контрольных образцов (без многократного закаливания): 45 HRC. Средняя твёрдость обработанных образцов: 58 HRC. многократное закаливание и охлаждение привело к увеличению твёрдости на 28.9%. Износостойкость образцов оценивалась с использованием абразивного износа. Были проведены испытания с использованием кварцевого песка под постоянной нагрузкой. Результаты показали значительное уменьшение износа у обработанных образцов: Средняя потеря массы контрольных образцов: 0.35 г. Средняя потеря массы обработанных образцов: 0.22 г. Таким образом, износостойкость увеличилась на 37.1%. Циклические испытания на износостойкость, имитирующие реальные условия эксплуатации, показали следующие результаты: Средний срок службы контрольных образцов: 150 циклов. Средний срок службы обработанных образцов: 230 циклов. Это указывает на увеличение долговечности лезвий на 53.3%.

Закключение. Экспериментальное исследование влияния закаливания на долговечность и износостойкость лезвий культиваторов показало, что многократное закаливание и охлаждение существенно увеличивает твёрдость и износостойкость лезвий. Эти улучшенные характеристики позволяют значительно продлить срок службы лезвий, что снижает частоту их замены и общие эксплуатационные расходы. Данная методика может быть рекомендована для применения в промышленности с целью повышения эффективности и экономичности сельскохозяйственных операций.

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*Razzakov N.A.
dotsent
Qo'qon universiteti Andijon filiali
Ortikov M.M.
assistent
Qo'qon universiteti Andijon filiali
Aliyev L.M.
katta o'qituvchi
Qo'qon universiteti Andijon filiali*

ЗАНЖАБИЛНИНГ ХАЛҚ ТАБОБАТИДАГИ ЎРНИ

Аннотация. Ушбу мақола занжабилнинг бой кимёвий таркиби ва ундан халқ табобатида фойдаланиш ўринлари келтирилган. У иммун тизимини мустаҳкамловчи табиий восита бўлиш билан бирга, яллиғланишга қарши, табиий гепатопротектор бўлиш билан бирга, кучли антиоксидант сифатида биологик қарши жараёнини секинлаштиради.

Калит сўзлар: эфир, экстракт, флавоноид, антиоксидант, ганглерол, шагаол, зингиберол, антимикроб, гепатопротектор.

*Razzakov N.A.
associate professor
Kokand University
Andijan branch
Ortikov M.M.
assistant
Kokand University
Andijan branch
Aliyev L.M.
head teacher
Kokand University
Andijan branch*

GINGER'S PLACE IN FOLK MEDICINE

Abstract. This article presents the rich chemical composition of ginger and its uses in folk medicine. In addition to being a natural immune system booster, it is anti-inflammatory, a natural hepatoprotector, and slows down the biological aging process as a powerful antioxidant.

Key words: ether, extract, flavonoid, antioxidant, ganglerol, shagaol, zingiberol, antimicrobial, hepatoprotector.

Кириш. Маълумки, мамлакатимизда халқ таъбобатининг илдизи жуда ҳам чуқур бўлиб, бир неча минг йиллар олдин ҳам аجدодларимиз халқ таъбобати услубларидан фойдаланганлиги ҳақида маълумотлар бор [1].

Доривор ўсимликлар ёки хайвон маҳсулотлари асосида табиий биологик фаол моддалардан тайёрланган шифобахш озик-овқат қўшилмаларини илм-фан ютуқларига асосланган ҳолда янги турларини олиш ҳозирги замоннинг энг муҳим талабларидан бири ҳисобланади [2]. Шу мақсадда, навбатдаги доривор ўсимлик ва уларнинг таркибини ўрганиш асносида, халқ таъбобатида жуда узоқ йиллардан бери қўлланилиб келинаётган шифобахш занжабил ўсимлигига тўхталдик.

Занжабил (Инбирь, Zingiber) - бу доривор ўсимликнинг тарихи жуда-жуда қадим замонларга бориб тақалади. У кўп йиллик ўтсимон ўсимлик бўлиб, айниқса, унинг ер остки қисми кўплаб биологик фаол моддаларга бой бўлганлигидан, занжабил жуда ҳам катта ҳажмдаги терапевтик фаолликка эгадир. Барча доривор ўсимликлар қатори занжабилнинг ҳам шифобахшлик хусусияти, унинг кимёвий таркибига боғлиқдир.

Кимёвий таркиби. Занжабил таркибида эфир мойи 1-4% ни ташкил қилиб, 100 дан ортиқ компонентлар, асосан сесквитерпенлар (умумий миқдорнинг 50%), α – зингиберен ва β - зингиберен, куркуменлар, β -сесквифеландрен, β -бисаболен, α - ва β - фарнезен, зингиберол ва бошқалар. Оз миқдорда илдизпояга характерли ҳид берадиган монотерпенлар - гераниол (9%), линалоол (1%), борнеол, геранал, гераниацетат, изоборнеоллар ҳам мавжуд. Бундан ташқари альдегидлар, спиртлар, кетонлар ва алканлар тутади [3].

Занжабил таркибида асосий биологик фаол бирикмалар сифатида эфир мойлари ва фенол асосидаги бирикмалар, хусусан ганглероллар ва шагаоллар, яна органик кислоталар (оксалат, қаҳрабо, олма), углеводлар (ксилоза, глюкоза, лактоза, малтоза), полисахаридлар ҳамда ошловчи моддалардир [4]. Занжабил кучли антиоксидант ва тинчлантирувчи (седатив) таъсирга эга, иммунитет тизимини мустаҳкамлайди, бактерияларнинг кўпайишига тўсқинлик қилади, қон айланишини рағбатлантиради. Унинг антиоксидант фаоллиги таркибига киритилган фенол бирикмалари бўлмиш рутин ва 6-гингерол билан боғлиқ [5].

Занжабилни халқ таъбобатида ишлатилиш ўринларини 2 га бўлиш мумкин:

Зиравор сифатида қўлланиши. Шарқ ва Европа халқлари ошхонасида кунлик зарурий мева ва сабзавотлар каби доривор ўсимликлар органларидан тайёрланаган кукунсимон зиравор аралашмаси ҳам сақланади. Ўша зираворлар таркибига эътибор қилинса, улар суюқ таомлар учун бошқа ва қўюқ таомлар учун эса бошқача таркибга эга бўлади. Аммо занжабил ҳар икки хил таомларга қўшиладиган зираворлар аралашмасига таркибига киради. Шарқий халқларда занжабил томири кукунининг ўзини

ҳам таомларга ҳам доривор, ҳам хуш таъм берувчи компонент сифатида қўшилади. Араблар хуш кўриб ичадиган “араб қаҳваси” занжабилсиз тайёрланмайди.

➤ **Даволаш мақсадларида.** Занжабилдан жуду-жуда кўп касалликларда даволовчи табиий восита сифатида фойдаланиш мумкин. Уларнинг ичидан энг муҳимларини санаб ўтаем;

➤ Иммуностимулятор сифатида

➤ Оздирувчи восита. Занжабил моддалар алмашинуви жараёнини тезлатади шунинг учун танада йиллар мобайнида тўпланган ёғ қатламларни ёқилиши (ишлатилиши)га олиб келганлиги сабабли оздирувчи восита сифатида қўлланилади. Ўтказилган сўров натижаларига кўра, мижозларнинг 23% қисми оздирувчи табиий восита сифатида занжабилдан фойдаланиш афзал деб билади [6].

➤ Қон тозаловчи. Қоннинг қўюқлашиши яъни тромбоцитларнинг агрегациясини, қонда глюкоза миқдорини ва холестерин миқдорини камайтиради, қон босимини пасайтиради [3].

➤ Кишиларнинг жинсий ҳаёт фаолиятида андроген [7] ва эстроген [8] активлигини оширади.

➤ Антимикроб таъсири. Занжабил таркибидаги 6-,8-,10-гингероллар *in vivo* (хужайра ичида) *Mycobacterium avium* ва *M.tuberculosis*лар яна бир қатор бактерия ҳамда замбуруғларга қарши антимикроб таъсирини кўрсатади [9].

➤ Онкологик касалликларда. Занжабил таркибидаги биологик фаол моддаларнинг рақ хужайраларига нисбатан терапевтик таъсирга эkanлиги аниқланган [10].

➤ Антиоксидант сифатида. Занжабил илдизи спиртли экстрактининг антиоксидантлик хусусиятини “ионол” синтетик препаратга нисбатан таққосланганда, занжабил табиий воситаси юқорида юқори антиоксидант табиати борлиги аниқланган [11].

Хулоса. Занжабил илдизидан қуруқ қукун ҳолида ёки спиртли экстракт тарзида шамоллаш, камқонлик, эркаклик қувватини ошириш, аёллар жинсий гормонлар секрециясини жадаллаштиришда. Моддалар алмашинуви натижасида ҳосил бўлиб, қариш жараёнини тезлаштирувчи эркин радикаллар қарши восита сифатида [12-15], бетартиб овқатланиш ва гиподинамика натижасида келиб чиқадиган семизликка барҳам бериш, шамоллаш ёки кимёвий препаратлар натижасида келиб чиқадиган тўқималардаги яллиғланишга қарши, иммунитетни оширувчи, жигар хужайраларини қайта тикловчи ва бошқа бир қанча касалликларда фойдаланиш мумкин.

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*Разикова Л.Т., кандидат филологических наук
доцент
кафедра педагогики, психологии
Самаркандский государственный медицинский университет*

СОВРЕМЕННЫЕ МЕТОДЫ ОБУЧЕНИЯ ЧТЕНИЮ

Аннотация. Современные методы обучения чтению эволюционировали и включают инновационные стратегии и технологии, отвечающие разнообразным учебным потребностям учащихся в эпоху цифровых технологий. Эти методы выходят за рамки традиционных подходов к обучению чтению и используют научно обоснованные методы для эффективного улучшения навыков грамотности. В этой статье мы исследуем некоторые ключевые принципы и тенденции в современном обучении чтению, которые направлены на увлекательное и значимое развитие грамотности.

Ключевые слова: методика преподавания, грамотность, знания, умения, фонетика, образовательные программы, мультимедийные технологии.

*Razikova L.T., candidate of philology
associate professor
Department of Pedagogy, Psychology
Samarkand State Medical University*

MODERN METHODS IN TEACHING READING

Abstract. Modern methods of teaching reading have evolved to include innovative strategies and technologies that meet the diverse learning needs of students in the digital age. These methods go beyond traditional approaches to teaching reading and use research-based practices to effectively improve literacy skills. In this article, we explore some of the key principles and trends in modern reading instruction that focus on engaging and meaningful literacy development.

Key words: teaching methodology, literacy, knowledge, skills, phonetics, educational programs, multimedia technologies.

ВВЕДЕНИЕ.

В постоянно меняющемся образовательном пространстве обучение чтению претерпело изменения с появлением современных методов и подходов. Традиционные подходы к обучению чтению уступили место инновационным стратегиям, которые учитывают различные стили обучения, используют технологии и отдают приоритет индивидуальному

обучению. Используя эти современные методы, учителя могут улучшить навыки грамотности, воспитать любовь к чтению и помочь учащимся стать уверенными и умелыми читателями. [5]

МАТЕРИАЛЫ И МЕТОДЫ.

Одним из основных столпов современного обучения чтению является обучение, основанное на фонетике. Обучение фонетике фокусируется на взаимосвязи между звуками и буквами, помогая учащимся расшифровывать слова и развивать сильные навыки чтения. Систематически и точно обучая фонетике, учителя снабжают учащихся инструментами для декодирования незнакомых слов, улучшения беглости речи и улучшения понимания. Обучение, основанное на фонетике, обеспечивает прочную основу для развития навыков чтения и закладывает основу для продвинутых навыков грамотности. Современные методы обучения чтению часто включают мультисенсорные подходы, которые задействуют в процессе обучения несколько чувств. Комбинируя визуальные, слуховые и кинестетические элементы, учителя поддерживают различные стили обучения и улучшают запоминание и понимание. Мультисенсорная деятельность, такая как манипуляции, интерактивные игры и использование цифровых ресурсов, создает динамичный и интерактивный опыт обучения, который делает обучение чтению более увлекательным и эффективным для учащихся с любыми способностями. Чтение в современном классе Дифференциация является ключом к удовлетворению разнообразных потребностей учащихся в преподавании. Учителя используют различные стратегии, чтобы дифференцировать обучение в зависимости от готовности, интересов и профиля обучения учащихся.

Учителя могут поддерживать учащихся на индивидуальных уровнях и темпах обучения, предоставляя персонализированный опыт обучения, такой как обучение в небольших группах, согласованные тексты и адаптивные технологии. Дифференцированное образование гарантирует, что все учащиеся получают целевую поддержку, необходимую им для развития навыков чтения и полной реализации своего потенциала. Технологии произвели революцию в способах преподавания и изучения чтения в современном классе. Цифровые инструменты и ресурсы, такие как образовательные программы, электронные книги и программы онлайн-чтения, предлагают учащимся интерактивные и увлекательные возможности практиковать навыки самостоятельного и совместного чтения. Интеграция технологий позволяет учителям обеспечивать немедленную обратную связь, отслеживать прогресс учащихся и корректировать обучение в соответствии с индивидуальными потребностями. Используя технологии для обучения чтению, учителя могут повысить мотивацию учащихся, их вовлеченность и уровень грамотности. [1]

В постоянно развивающейся образовательной среде преподавание чтения претерпело значительные изменения, чтобы удовлетворить разнообразные потребности учащихся в эпоху цифровых технологий. Современные методы обучения чтению выходят за рамки традиционных подходов и включают инновационные стратегии и технологии для повышения навыков грамотности и воспитания любви к чтению. Используя эти современные методы, учителя могут создавать увлекательный и эффективный учебный опыт, который поможет учащимся стать опытными читателями и критически мыслить. [2]

РЕЗУЛЬТАТЫ И ОБСУЖДЕНИЯ.

Одной из отличительных особенностей современного обучения чтению является интеграция интерактивных цифровых платформ и образовательных приложений. Эти инструменты обеспечивают персонализированный опыт обучения, адаптированный к потребностям отдельного учащегося, предлагая интерактивные занятия, мультимедийные ресурсы и персонализированную обратную связь. [3]

Используя возможности технологий, учителя могут дифференцировать обучение, следить за успеваемостью учащихся и способствовать развитию культуры обучения в классе, и признали, что это имеет преимущества. Задействуя несколько чувств, таких как визуальные, слуховые и кинестетические методы, учителя могут охватить разных учащихся и улучшить их способности к чтению. Игры на фонематическую осведомленность, словесная практика с помощью манипулятивов, эхочтение и кинестетическое рассказывание историй погружают учащихся в богатый сенсорный опыт, который укрепляет концепции грамотности и способствует запоминанию. Эти практические и интерактивные стратегии создают динамичную среду обучения, в которой учащиеся активно участвуют и осваивают навыки чтения посредством экспериментального обучения, развивают сотрудничество и социальный подход. Формируя небольшие группы учащихся для чтения и обсуждения общего текста, учителя способствуют содержательному диалогу, критическому мышлению и более глубокому пониманию литературных тем и элементов. Учащиеся берут на себя такие роли, как лидер дискуссии, обобщение, связующее звено и иллюстратор, поскольку они участвуют во взаимодействии со сверстниками, которое улучшает навыки понимания, анализа и общения. Литературные клубы и книжные клубы не только развивают сообщество читателей, но и воспитывают у учащихся чувство ответственности и независимости в своем опыте чтения. [4]

Современные методы обучения чтению признают важность включения в учебную программу текстов, соответствующих культурным традициям, и различных точек зрения. Выбирая литературу, которая отражает личности, опыт и происхождение учащихся, преподаватели подтверждают разнообразие голосов и способствуют инклюзивности в

классе. Знакомство с различными жанрами, авторами и рассказами расширяет мировоззрение учащихся, развивает сочувствие и понимание, а также развивает навыки критической грамотности. Посредством обсуждения, размышлений и творческих ответов на тексты, представляющие культурное разнообразие, учащиеся получают более глубокое понимание силы повествования и богатства человеческого опыта. Обучение на основе проектов (PBL) и аутентичные задания предлагают учащимся реальные возможности применить свои навыки чтения в значимом контексте. Участвуя в проектах, требующих исследований, анализа и общения, учащиеся улучшают свои навыки чтения и развивают критическое мышление, решение проблем и навыки сотрудничества. [7]

Такие задачи, как создание мультимедийных презентаций, проведение интервью, написание убедительных эссе или разработка проектов цифрового повествования, позволяют учащимся продемонстрировать свое понимание текстов и эффективно передавать свои идеи. PBL не только улучшает понимание прочитанного, но также способствует творчеству, свободе действий и целеустремленности учащихся в процессе обучения. Современные методы обучения чтению включают инновации, инклюзивность и подходы, ориентированные на учащихся. включает в себя и воспитывает читателей и критически мыслителей на протяжении всей жизни. Благодаря использованию интерактивных цифровых платформ, мультисенсорных стратегий, литературных кружков, культурно значимых текстов и обучения на основе проектов учителя могут создавать динамичный и увлекательный учебный опыт, который пробуждает страсть к грамотности и позволяет ориентироваться в сложностях мира 21-го века. Поскольку мы продолжаем адаптироваться к меняющемуся образовательному ландшафту, нам необходимо использовать эти современные методы для обучения поколения уверенных в себе и квалифицированных читателей, способных процветать во все более связанном и богатом информацией обществе. [6]

ЗАКЛЮЧЕНИЕ.

Современные подходы к обучению чтению изменили подход учителей к обучению грамоте, сделав упор на научно обоснованные методы, дифференциацию, интеграцию технологий и обучение, ориентированное на учащихся. Используя эти инновационные подходы, учителя могут помочь учащимся стать опытными читателями, критически мыслить и учиться на протяжении всей жизни. Поскольку мы продолжаем адаптироваться к меняющемуся ландшафту образования, эволюция современных способов обучения чтению будет играть решающую роль в оснащении учащихся навыками грамотности, необходимыми для достижения успеха в школе и за ее пределами.

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*Райимжонов И.Б.
Бойтураев Ж.Р.
Саидов А.К.
Дусназаров М.С.
Комилжонova З.З.*

Республика Узбекистан, г.Ташкент

АНАЛИТИЧЕСКОЕ ИССЛЕДОВАНИЕ ПРУЖИННО-ФРИКЦИОННОГО КОМПЛЕКТА ТЕЛЕЖКИ ГРУЗОВОГО ВАГОНА

Аннотация. Конструктивно пружинно-фрикционный комплект тележки грузового вагона, как физический объект с точки зрения теоретической механики и как клиновой механизм с точки зрения теории механизмов и машин, выполнен так, что его фрикционные клинья контактируются только тремя твердотельными элементами – надрессорной балкой, фрикционной планкой и двойными пружинами [3, 4].

Ключевые слова: железная дорога, вагон, тележка, путь, фрикционная планка, пружина.

*Raimzhonov I.B.
Boyturaev Zh.R.
Saidov A.K.
Dusnazarov M.S.
Komilzhonova Z.Z.*

Republic of Uzbekistan, Tashkent

ANALYTICAL RESEARCH SPRING-FRICTION SET OF A FREIGHT CAR TROLLEY

Abstract. Structurally, the spring-friction set of a freight wagon trolley, as a physical object from the point of view of theoretical mechanics and as a wedge mechanism from the point of view of the theory of mechanisms and machines, is designed so that its friction wedges are in contact with only three solid-state elements - a spring beam, a friction bar and double springs [3, 4].

Keywords: railway, wagon, trolley, track, friction bar, spring.

В связи с этим, при создании расчетной модели фрикционного клина, как объекта исследования, следовало бы поверхности его контакта со стороны надрессорной балки и фрикционной планки, как внешних связей,

заменить только двумя реакциями связей в виде $\overline{R}_1$, заменяющей надрессорную балку, и $\overline{R}_2$, заменяющей фрикционную планку.

При этом рама вагона и надрессорные балки передней и задней тележки от смещения центра масс (тяжести) ЦМ_с механической системы «груз – рама вагона» будут наклонены в сторону этой опоры на угол ζ , *перегружая* комплекты пружин тележки C (или D) и *разгружая* такие же пружины A (или B). В таком наклоненном положении рамы вагона с грузом и надрессорных балок будет находиться вагон с грузом в составе поезда (рис. 1).

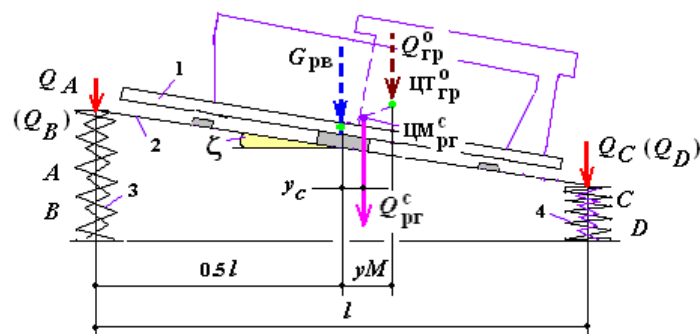


Рис. 1. Распределение силы давления рамы вагона на комплекты пружин тележки:

l – рама вагона, 2 – надрессорная балка, 3 и 4 – комплекты пружин

Через пятник рамы вагона на подпятник надрессорной балки на расстоянии y_c от его вертикальной оси будет передаваться силы давления со стороны рамы вагона с грузом. Сила давления надрессорной балки в виде $\overline{Q}_C$ (или $\overline{Q}_D$) будут действовать на комплекты пружин тележек грузового вагона. Силы упругости комплектов пружин оказывают давление на надрессорную балку и фрикционные клинья, через которые и на боковые рамы тележек вагона.

Принятые допущения. Фрикционные планки должны обязательно иметь непараллельность в вертикальной плоскости (углы наклонов относительно горизонтали $\beta_1 = 89^\circ - 1^\circ$ и $\beta_2 = 91^\circ + 1^\circ$), при этом расстояние между фрикционными планками внизу должно быть на 4 – 10 мм больше, чем вверху. Непараллельность фрикционных планок по горизонтали – не более 3 мм (углы наклонов поверхностей контактов фрикционных клиньев 2 и 3 с фрикционными планками 4 и 5 относительно поперечной оси проема боковой рамы вагона соответственно равны $\gamma_1 = 88^\circ - 1^\circ$ и $\gamma_2 = 92^\circ + 1^\circ$).

Рассмотрим равновесие надressорной балки l (см. рис. 2 а). На надressорную балку l действуют: реакции $\bar{R}_{21}$ и $\bar{R}_{31}$ фрикционных клиньев 2 и 3, которые раскладываются на нормальные и касательные составляющие – N_{21} , N_{31} и $F_{\tau 21}$, $F_{\tau 31}$; активная сила $\bar{Q}_C$ (или $\bar{Q}_D$), равная половине реакции шарнирно-подвижной опоры, и реактивная сила в виде равнодействующей реакции комплектов пружин 6 $\bar{F}_6$. При этом считаем, что наклонные поверхности надressорной балки выполнены с погрешностями, т.е. $\alpha_1 \neq \alpha_2$, где α_1 и α_2 – углы наклона поверхностей надressорной балки к горизонту, рад. ($\alpha_1 \approx 134^\circ 30' + 1^\circ$, $\alpha_2 \approx 45^\circ 30' + 1^\circ$).

При аналитическом исследовании предположим, что углы наклонов поверхностей (α_1 и α_2) надressорной балки l , фрикционных клиньев 2, 3 и фрикционных планок (β_1 , β_2 и γ_1 , γ_2) имеют различные значения ($\alpha_1 \neq \alpha_2$, $\beta_1 \neq \beta_2$ и $\gamma_1 \neq \gamma_2$), что соответствуют либо их изготовлению с погрешностями, либо учитывают неравномерный износ их поверхностей. Также примем, что коэффициенты трения скольжения f между контактируемыми поверхностями надressорной балки (f_1 и f_2), фрикционных клиньев и планок (f_3 и f_4) имеют различные значения.

Решения.

$$N_{21} \cos(\alpha_1 - \frac{\pi}{2}) + F_{\tau 21} \cos(\alpha_1) + N_{31} \cos(\alpha_2 + \frac{\pi}{2}) + F_{\tau 31} \cos(\alpha_2) = 0 ; \quad (1)$$

$$N_{21} \sin(\alpha_1 - \frac{\pi}{2}) + F_{\tau 21} \sin(\alpha_1) + N_{31} \sin(\alpha_2 + \frac{\pi}{2}) + F_{\tau 31} \sin(\alpha_2) - Q_C + F_6 = 0 \quad (2)$$

Здесь независимых уравнений равновесия два, а неизвестных четыре: N_{21} , N_{31} и $F_{\tau 21}$, $F_{\tau 31}$. Для решения статической неопределенной задачи достаточно к уравнениям (1) и (2) добавить уравнение, вытекающее из закона Кулона

$$F_\tau \leq fN, \quad (3)$$

где f – коэффициент трения скольжения между контактирующими поверхностями над рессорной балки l и фрикционных клиньев 2, 3, а также между фрикционными клиньями 2, 3 и фрикционными планками.

Подставляя равенства (3) в (1) и (2), получаем

$$N_{21} \left(\cos(\alpha_1 - \frac{\pi}{2}) + f_1 \cos(\alpha_1) \right) + N_{31} \left(\cos(\alpha_2 + \frac{\pi}{2}) + f_2 \cos(\alpha_2) \right) = 0;$$

$$N_{21} \left(\sin(\alpha_1 - \frac{\pi}{2}) + f_1 \sin(\alpha_1) \right) + N_{31} \left(\sin(\alpha_2 + \frac{\pi}{2}) + f_2 \sin(\alpha_2) \right) - Q_C + F_6 = 0$$

или

$$aN_{21} + bN_{31} = 0;$$

$$cN_{21} + dN_{31} = Q_C - F_6, (4)$$

где a , b , c и d – постоянные коэффициенты:

$$a = \cos(\alpha_1 - \frac{\pi}{2}) + f_1 \cos(\alpha_1); \quad b = \cos(\alpha_2 + \frac{\pi}{2}) + f_2 \cos(\alpha_2);$$

$$c = \sin(\alpha_1 - \frac{\pi}{2}) + f_1 \sin(\alpha_1); \quad d = \sin(\alpha_2 + \frac{\pi}{2}) + f_2 \sin(\alpha_2); (5)$$

Согласно правилу Крамера [6], из системы (4) выводим нормальные составляющие реакции связей (фрикционных клиньев 2 и 3) при исполнении наклонных поверхностей наддрессорной балки l с погрешностями:

$$N_{21} = \frac{-(Q_C - F_6)}{ad - bc} \left(\cos(\alpha_2 + \frac{\pi}{2}) + f_2 \cos(\alpha_2) \right); (6)$$

$$N_{31} = \frac{(Q_C - F_6)}{ad - bc} \left(\cos(\alpha_1 - \frac{\pi}{2}) + f_1 \cos(\alpha_1) \right). (7)$$

Матрица, составленная из коэффициентов при неизвестных системы (4), и вычисленная символическим способом [7], равна:

$$\begin{aligned} ad - bc = & \sin(\alpha_1) \cos(\alpha_2) + \sin(\alpha_2) f_2 \sin(\alpha_1) + \\ & + f_1 \cos(\alpha_1) \cos(\alpha_2) + f_1 \cos(\alpha_1) f_2 \sin(\alpha_2) + \\ & + \sin(\alpha_2) \cos(\alpha_1)(-1) + \sin(\alpha_2) f_1 \sin(\alpha_1) + \\ & + f_2 \cos(\alpha_1) \cos(\alpha_2) - f_2 \cos(\alpha_2) f_1 \sin(\alpha_1). \end{aligned} (8)$$

С учетом последнего выражения соотношения (6) примет вид:

$$\begin{aligned} N_{21} = & \frac{-(Q_C - F_6)}{\sin(\alpha_1) \cos(\alpha_2) + \sin(\alpha_2) f_2 \sin(\alpha_1) + \\ & + f_1 \cos(\alpha_1) \cos(\alpha_2) + f_1 \cos(\alpha_1) f_2 \sin(\alpha_2) + \\ & + \sin(\alpha_2) \cos(\alpha_1)(-1) + \sin(\alpha_2) f_1 \sin(\alpha_1) + \\ & + f_2 \cos(\alpha_1) \cos(\alpha_2) - f_2 \cos(\alpha_2) f_1 \sin(\alpha_1)} \cdot \\ & \cdot \left(\cos(\alpha_2 + \frac{\pi}{2}) + f_2 \cos(\alpha_2) \right); \end{aligned} (9)$$

$$N_{31} = \frac{(Q_C - F_6)}{\sin(\alpha_1)\cos(\alpha_2) + \sin(\alpha_2)f_2\sin(\alpha_1) + f_1\cos(\alpha_1)\cos(\alpha_2) + f_1\cos(\alpha_1)f_2\sin(\alpha_2) + \sin(\alpha_2)\cos(\alpha_1)(-1) + \sin(\alpha_2)f_1\sin(\alpha_1) + f_2\cos(\alpha_1)\cos(\alpha_2) - f_2\cos(\alpha_2)f_1\sin(\alpha_1)} \cdot \left(\cos(\alpha_1 - \frac{\pi}{2}) + f_1\cos(\alpha_1) \right); \quad (10)$$

В частном случае, когда $f_1 = f_2$ и $\alpha_1 = \alpha_2 + \frac{\pi}{2}$, которым соответствует исполнение наклонных поверхностей наддрессорной балки 1 без погрешностей, выражения (9) и (10) примут вид:

$$N_{21} = \frac{(Q_C - F_6)}{1 - f_1^2} \cdot (\sin(\alpha_2) - f_1\cos(\alpha_2)); \quad (11)$$

$$N_{31} = \frac{(Q_C - F_6)}{1 - f_1^2} \cdot (\cos(\alpha_2) - f_1\sin(\alpha_2)), \quad (12)$$

т. е. $N_{31} = N_{21}$.

Перейдем теперь к рассмотрению равновесия фрикционного клина 2 (см. рис. 2 б).

Выполним сопутствующие расчету математические выкладки.

Из прямоугольного $\triangle BCE$ находим (см. рис. 2 в):

$$CE = BC \operatorname{tg}\left(\frac{\pi}{2} - \gamma_1\right), \quad (13)$$

где BC – ширина фрикционного клина 2, равная 178 мм;

$\gamma_1 \leq \frac{\pi}{2}$ – угол наклона задней поверхности

Считая приложенной N_4 и $F_{\tau 4}$ на пересечении диагоналей фигуры $ABED$, находим отрезок параллельный и пропорциональный отрезку длиной CE (см. рис. 2 в):

$$mn = \frac{CE}{BC} Bm, \quad (14)$$

где $Bm = \lambda BC$ – часть ширины BC фрикционного клина 2 (λ – доля ширины BC , которая может принять ряд значений, например, $0,1 \leq \lambda \leq 0,9$).

Учитывая, что $\triangle Mmn \sim \triangle DCE$, из $\triangle Mmn$ находим (см. рис. 2 в):

$$\gamma_0 = \operatorname{arctg}\left(\frac{mn}{Mm}\right), \quad (15)$$

где $Mm = AB = CD$ – высота отдельной части фрикционного клина 2, соответствующей высоте его наклонной поверхности и равная 135 мм (полная высота равна 190 ± 2 мм).

Составим уравнения равновесия для фрикционного клина 2:

$$N_{12} \cos(\alpha_1 + \frac{\pi}{2}) + F_{\tau 12} \cos(\alpha_1 + \pi) + N_4 \cos(\gamma_0) \cos(\beta_1 + \frac{3}{2} \pi) + \\ + F_{\tau 4} \cos(\gamma_0) \cos(\beta_1) = 0; \quad (16)$$

С учетом соотношения (3) перепишем последние выражения

$$N_{12} \left(\cos(\alpha_1 + \frac{\pi}{2}) + f_1 \cos(\alpha_1 + \pi) \right) + \\ N_4 \cos(\gamma_0) \left(\cos(\beta_1 + \frac{3}{2} \pi) + f_3 \cos(\beta_1) \right) = 0; \quad (17)$$

Из соотношения (17) найдем нормальную составляющую реакции фрикционного клина 4

$$N_4 = -N_{12} \frac{\left(\cos(\alpha_1 + \frac{\pi}{2}) + f_1 \cos(\alpha_1 + \pi) \right)}{\cos(\gamma_0) \left(\cos(\beta_1 + \frac{3}{2} \pi) + f_3 \cos(\beta_1) \right)}. \quad (18)$$

Переписывая последнее выражение с учетом (9) и опуская промежуточные преобразования, получим:

$$N_4 = \frac{-(Q_C - F_6) \cdot (\sin(\alpha_2) - f_2 \cos(\alpha_2))}{\sin(\alpha_1) \cos(\alpha_2) + \sin(\alpha_2) f_2 \sin(\alpha_1) + \\ + f_1 \cos(\alpha_1) \cos(\alpha_2) + f_1 \cos(\alpha_1) f_2 \sin(\alpha_2) + \\ + \sin(\alpha_2) \cos(\alpha_1) (-1) + \sin(\alpha_2) f_1 \sin(\alpha_1) + \\ + f_2 \cos(\alpha_1) \cos(\alpha_2) - f_2 \cos(\alpha_2) f_1 \sin(\alpha_1)} \cdot \\ \cdot \frac{(\sin(\alpha_1) + f_1 \cos(\alpha_1))}{\cos(\gamma_0) (\sin(\beta_1) + f_3 \cos(\beta_1))}; \quad (19)$$

Перейдем теперь к рассмотрению условия равновесия фрикционного клина 3 (см. рис. 2 з).

Составим уравнения равновесия для фрикционного клина 3 аналогично с фрикционным клином 2:

$$N_{13} \cos(\alpha_2 + \frac{3}{2} \pi) + F_{\tau 13} \cos(\alpha_2 + \pi) + N_5 \cos(\gamma_0) \cos(\beta_2 + \frac{\pi}{2}) + \\ + F_{\tau 5} \cos(\gamma_0) \cos(\beta_2) = 0; \quad (20)$$

С учетом соотношения (3) из выражения (20) с учетом (10) после ряда преобразований окончательно найдем нормальную составляющую реакции фрикционного клина 4

$$N_5 = \frac{(Q_C - F_6) \cdot (\sin(\alpha_1) + f_1 \cos(\alpha_1))}{\sin(\alpha_1) \cos(\alpha_2) + \sin(\alpha_2) f_2 \sin(\alpha_1) + f_1 \cos(\alpha_1) \cos(\alpha_2) + f_1 \cos(\alpha_1) f_2 \sin(\alpha_2) + \sin(\alpha_2) \cos(\alpha_1) (-1) + \sin(\alpha_2) f_1 \sin(\alpha_1) + f_2 \cos(\alpha_1) \cos(\alpha_2) - f_2 \cos(\alpha_2) f_1 \sin(\alpha_1)} \cdot \frac{(\sin(\alpha_2) - f_2 \cos(\alpha_2))}{\cos(\gamma_0) (\sin(\beta_2) - f_4 \cos(\beta_2))}. \quad (21)$$

Обобщая результаты выполненных аналитических исследований, отметим следующее.

1. Разработанная математическая модель силового воздействия пар трения «надрессорная балка – фрикционный клин» и «фрикционный клин – фрикционная планка», позволили вывести уравнения равновесия (покоя) надрессорной балки и фрикционных клиньев, как физических объектов.

2. Выведенная линейная система линейных уравнений равновесия надрессорной балки решены с использованием аналитического (символического) способа в среде MathCAD.

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Райимжонов И.Б.

Бойтураев Ж.Р.

Саидов А.К.

Комилжорова З.З.

Дусназаров М.С.

Республика Узбекистан, г.Ташкент

МОДЕЛИРОВАНИЕ ПЕРЕМЕЩЕНИЯ ЗАКРЕПЛЕННОГО ГРУЗА ПО ШИРИНЕ ВАГОНА

Аннотация. В сфере грузовых перевозок остается не в полной мере, решенной прикладная задача по креплению грузов цилиндрической формы (например, труба большого диаметра), что подчёркивает актуальность задачи, рассматриваемой в данной статье.

Ключевые слова: вагон, крепление, логистика, груз, перемещение, натяг, упругий элемент.

Raimzhonov I.B.

Boyturaev Zh.R.

Saidov A.K.

Komilzhonova Z.Z.

Dusnazarov M.S.

Republic of Uzbekistan, Tashkent

MODELING MOVEMENT OF THE FIXED LOAD ALONG THE WIDTH OF THE WAGON

Abstract. In the field of freight transportation, the applied problem of securing cylindrical cargo (for example, a large diameter pipe) remains not fully solved, which emphasizes the relevance of the task considered in this article.

Keywords: wagon, fastening, logistics, cargo, movement, tension, elastic element.

Пусть точка M груза, к которой прикреплён гибкий упругий элемент под углом α к горизонту, под действием переносной поперечной силы инерции $\bar{I}_{ey}$ получит малое перемещение $MM_0 = y$ (рис. 1).

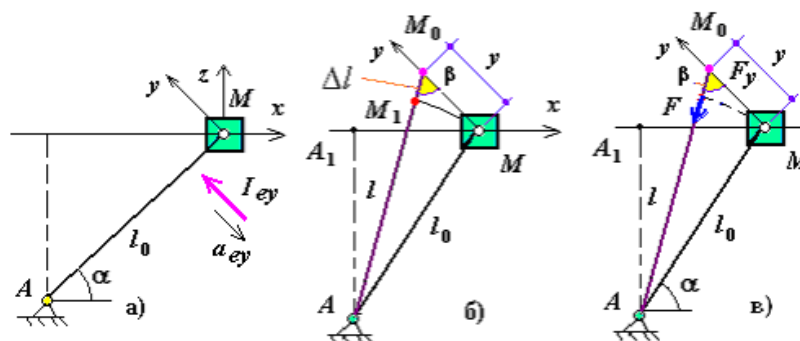


Рис. 1 Перемещения закрепленного груза поперек вагона

Требуется аналитически описать движения груза, прикреплённого к вагону гибкими упругими элементами.

Допустим, что связь между грузом и вагоном гладкая поверхность. Вследствие малого перемещения точки M на MM_0 , равного y , на неё будет действовать упругая сила (натяжения), модуль которого определяется по формуле Гука. Удлинение гибкого упругого элемента крепления Δl вследствие перемещения точки

$$\Delta l = l - l_0, (1)$$

где l_0 – первоначальная длина гибкого упругого элемента крепления; l – длина элемента, достигнутая в результате смещения груза.

Обозначая длину отрезка от крепления нижнего основания гибкого элемента до груза за P расстояние от нижнего основания до точки крепления груза за h

Проекция упругой силы на ось y будет [1]

– в первом случае

$$F_y = -c(\sqrt{2py + y^2 + l_0^2} - l_0) \cos \beta \quad (2)$$

– во втором случае

где $C = C_i$ – жёсткость гибкого упругого элемента креплений груза (Н/м) [2]

$$c = \sum_{i=1,2,\dots} c_i = \sum_{i=1,2,\dots} \frac{EA_i}{l_i} \quad (3)$$

с учётом того, что EA_i – физико-геометрическая характеристика гибкого упругого элемента (Н), E – модуль упругости материала гибкого упругого элемента, скрученного из стальной отожжённой проволоки ($E =$

$1 \cdot 10^{10}$ Н/м²), A_i – площадь поперечного сечения гибкого упругого элемента (м²) $A_i = n_i \cdot \frac{\pi \cdot 10^{-6} d_i^2}{4}$ (где n_i – число нитей (шт.) и d_i – диаметр (мм) гибкого упругого элемента);

β – угол, образованный между направлением перемещения точки y и направлением гибкого упругого элемента крепления

$$1) \cos\beta = \frac{p+y}{\sqrt{2py+y^2+l_0^2}}; 2) \cos\beta = \frac{MM_0}{AM_0} = \frac{y}{\sqrt{l_0^2+y^2}}.$$

Тогда равенству (2) придадим вид

$$1) F_y = -c\left(\sqrt{2py+y^2+l_0^2} - l_0\right) \frac{p+y}{\sqrt{2py+y^2+l_0^2}};$$

$$2) F_y = -c\left(\sqrt{l_0^2+y^2} - l_0\right) \frac{y}{\sqrt{l_0^2+y^2}}.$$

Следовательно, на точку M по оси y действует упругая сила

$$1) F_y = -c(p+y)\left(1 - \frac{l_0}{\sqrt{2py+y^2+l_0^2}}\right); 2) F_y = -cy\left(1 - \frac{l_0}{\sqrt{l_0^2+y^2}}\right). \quad (4)$$

Для определения перемещения (сдвиг) груза поперёк вагона, используя последнюю формулу, на основе принципа Даламбера составляем условия равновесия (покоя) груза [2]

$$M\bar{a}_r = \bar{G} + \bar{N} + \bar{F} + \bar{I}_{ey}, \quad (5)$$

где $\bar{a}_r$ – ускорение груза относительно пола вагона; $\bar{G}$ – вес груза; $\bar{N}$ – нормальная составляющая реакции связи; $\bar{F}$ – упругая сила; $\bar{I}_{ey}$ – переносная поперечная сила инерции груза.

Проецируя (5) на ось y , после элементарных математических выкладок с учётом (4) получим дифференциальное уравнение вынужденных колебаний груза

$$\ddot{y} + k^2(p+y) - k^2 l_0 \frac{p+y}{\sqrt{2py+y^2+l_0^2}} = -a_{ey}; \quad (6)$$

где a_{ey} – переносное поперечное постоянное ускорение груза, допустимое значение которого равно $a_{ey} = 0.46g$ [3, 4]; k – круговая частота свободных колебаний (или собственная частота) (рад/с)

$$k = \sqrt{\frac{c}{M}}, \quad (7)$$

с учётом того, что M – масса груза (кг).

Дифференциальные уравнения (6) и (6,а) сводятся в первом случае посредством замены переменной y

$$y = z - p, \quad (8)$$

к виду (6, а) $\dot{y} = \dot{z}$; $\ddot{y} = \ddot{z}$.

После замена переменной получим

$$\ddot{z} + k^2 z - k^2 l_0 \frac{z}{\sqrt{z^2 + l_1^2}} = -a_{l(z-p)} = -a_{ey}, \quad (9)$$

где $l_1^2 = l_0^2 - p^2 > 0$, так как $l_0 > p$.

На основании последнего замечания, в дальнейшем будем изучать лишь дифференциальные уравнения вида:

$$\ddot{y} + k^2 y - k^2 l_0 \frac{y}{\sqrt{y^2 + l_0^2}} = -a_{ey}, \quad (10)$$

Таким образом, малое свободное колебание по поперечной оси y точки груза, к которой прикреплён гибкий упругий элемент, расположенный перпендикулярно к продольной оси вагона, описывается неоднородным *нелинейным* дифференциальным уравнением с постоянными коэффициентами.

Уравнения (9) представим в виде [5]

$$\ddot{y} = f(y), \quad (11)$$

где

$$f(y) = -k^2 y + k^2 l_0 \frac{y}{\sqrt{y^2 + l_0^2}} = -a_{ey}. \quad (12)$$

Для решения уравнения (11) введём новую переменную $q(y)$. Обозначим $\dot{y} = q(y)$. Тогда производная новой функции в виде $\ddot{y} = q'_y \dot{y}$ соответствует уравнению (11), т. е. $q(y)q'_y = f(y)$.

Кроме того, используя равенства $q(y)q'_y = \frac{1}{2}(q^2(y))'$, получим дифференциальное уравнение (11) в виде:

$$\frac{1}{2}(q^2(y))' = f(y). \quad (13)$$

Проинтегрируем последнее выражение в пределах от y_0 до y

$$\int_{y_0}^y \frac{1}{2}(q^2(y))' dy = \int_{y_0}^y f(y) dy.$$

Интегрируя левую часть последнего выражения, получим

$$\frac{1}{2}q^2(y) \Big|_{y_0}^y = \frac{1}{2}q^2(y) - \frac{1}{2}q^2(y_0) = \int_{y_0}^y f(y) dy,$$

где

$$y|_{t=0} = y_0 = 0, \quad q(y_0) = \dot{y}|_{t=0} = v_0.$$

С учётом (12) получим

$$\frac{1}{2}q^2(y) = \frac{1}{2}v_0^2 + \int_{y_0}^y \left(k^2 l_0^2 \frac{y}{\sqrt{y^2 + l_0^2}} - k^2 y - a_{ey} \right) dy. \quad (14)$$

Интегрируя (14), для функции $q(y)$ имеем равенство

$$\frac{1}{2}q^2(y) = \frac{1}{2}v_0^2 + k^2 l_0^2 \sqrt{y^2 + l_0^2} - \frac{1}{2}k^2 y^2 - a_{ey} y - \varphi(y_0),$$

где

$$\varphi(y_0) = +k^2 l_0^2 \sqrt{y^2 + l_0^2} - \frac{1}{2}k^2 y_0^2 - a_{ey} y_0 = \pm k^2 l_0^2,$$

так как $y_0 = 0$.

Окончательно имеем

$$\frac{1}{2}q^2(y) = \frac{1}{2}v_0^2 + k^2 l_0^2 \sqrt{y^2 + l_0^2} - \frac{1}{2}k^2 y^2 - a_{ey} y \mp k^2 l_0^2.$$

Учитывая, что $\dot{y} = q(y)$, можно записать

$$(\dot{y})^2 = v_0^2 + 2k^2 l_0^2 \sqrt{y^2 + l_0^2} - k^2 y^2 - 2a_{ey} y \mp 2k^2 l_0^2 = F(y),$$

или

$$(\dot{y})^2 = F(y). \quad (15)$$

В случае равновесия (состояния покоя) $y = 0$, тогда $\dot{y} = 0$ и сразу следует, что и $v_0 = 0$ и $a_{ey} = 0$.

Движение груза могут осуществляться лишь при положительном значении функции $F(y)$, т. е.

$$F(y) = v_0^2 + 2k^2 l_0^2 \sqrt{y^2 + l_0^2} - k^2 y^2 - 2a_{ey} y \mp 2k^2 l_0^2 > 0.$$

Уравнение (15) определяет два движения, соответствующие положительному и отрицательному направлениям начальной скорости, или

$$\frac{dy}{dt} = +\sqrt{F(y)}, \text{ или } \frac{dy}{dt} = -\sqrt{F(y)}. \quad (16)$$

Рассмотрим первое уравнение. Если $F(y)$ не обращается в нуль при $y > 0$, то решение выразится из формулы

$$\int_{y_0}^y \frac{dy}{\sqrt{F(y)}} = t. \quad (17)$$

Причём, если интеграл в левой части существует для сколь угодно больших значениях $y = 0$, то y как функция от t неограниченно растёт.

Поэтому данная модель может описать значения параметров v_0 , k , l_0 и a_{ey} , при которых $F(y) > 0$ при всех y и характеризующих ситуацию создания условий угрожающей безопасности движения.

В случае правильного выбора k и l_0 , обязательно существование (в силу упругости) такого значения $y_1 > y_0 = 0$, при которой функция $F(y_1) = 0$, причём набор параметров v_0 , k , l_0 и a_{ey} должен определять предельные значения y_1 , не превышающего заданного смещения поперёк вагона, т. е. $y_1 \leq b_{см.}$, где $b_{см.}$ – нормативное значение смещения груза поперёк вагона, определяемое по Техническим условиям [6].

Так как функция $F(y)$ имеет корень при $y = y_1$, т. е. $F(y_1) = 0$, то по формуле (17) определится время смещения груза t_1 , т. е.

$$\int_{y_0}^{y_1} \frac{dy}{\sqrt{F(y)}} = t_1. \quad (18)$$

При изменении времени $t \rightarrow t_1$ функция $F(y)$ убывает до 0 при $y \rightarrow y_1$. В этот момент t_1

$$\left. \frac{dy}{dt} \right|_{t=t_1} = \sqrt{F(y_1)} = 0, ,$$

и ускорение (11)

$$\left. \frac{d^2 y}{dt^2} \right|_{t=t_1} = f(y) = \left(\sqrt{F(y_1)} \right)'_t = \frac{1}{2\sqrt{F(y)}} F'_y \dot{y} = \left. \frac{F'_y}{2} \right|_{y=y_1} .$$

В силу убывания $F(y)$ имеет место $F'(y) < 0$. Поэтому получим

$$\left. \frac{d^2 y}{dt^2} \right|_{t=t_1} = \left. \frac{F'_y}{2} \right|_{y=y_1} < 0 \text{ при } y = y_1 . \quad (19)$$

Отрицательное ускорение сообщит грузу отрицательную скорость при $t > t_1$ и движение будет описываться уже вторым уравнением (16)

$$\dot{y} = -\sqrt{F(y)} . \quad (20)$$

Следовательно, груз будет периодически смещаться в пределах $-y_1 < y < y_1$, причём симметрично относительно начального положения груза.

В силу обратного движения (20) ускорение a_{ey} приобретёт также отрицательное значение, и функция $F(y)$ обладает свойством:

$$F(y_1) = F(-y_1) .$$

Период колебательных движений груза можно рассчитать по формуле

$$2T = 2 \int_{-y_1}^{y_1} \frac{dy}{\sqrt{F(y)}} . \quad (21)$$

Изучив основные свойство колебательных движений для уравнения (10), можно получить результаты для уравнения (6), заменой y на $y + p$, и l_0 на $l_0^2 - p^2$.

Дифференциальные уравнения, описывающие движения груза поперёк вагона, исследовались без учёта сил трения. Как показывает анализ, постоянная сила трения существенного влияния на решения дифференциального уравнения не имеет.

Исследования данных уравнений позволяет получить ряд важных физико-технических свойств движения груза поперёк вагона; принципы расчёта значений постоянных параметров, входящих в уравнения, при которых возможно создание условий, угрожающих безопасности движения; определяется период колебательных движений (21); описывается процесс возможных смещений груза поперёк вагона.

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*Расулова И.
заведующий кафедрой узбекского языка и литературы
Сам ГАСУ
Акрамова У.С.
старший преподаватель
кафедра иностранного языка
Ташкентский международный университет Кимё
Самаркандский филиал*

ОСОБЕННОСТИ ЭТИКЕТА ДЕЛОВОГО ОБЩЕНИЯ В УЗБЕКИСТАНЕ

Аннотация. В данной статье рассматриваются отличительные особенности этикета делового общения в Узбекистане. В нем исследуются культурные влияния, стили общения и конкретные практики, которые определяют деловые взаимодействия в стране. Понимание этих элементов имеет важное значение для развития эффективных и уважительных деловых отношений с узбекскими партнерами.

Ключевые слова: деловое общение, этикет, Узбекистан, культурные влияния, иерархия, построение отношений, гостеприимство, не прямое общение, невербальное общение, языковые аспекты, протокол встречи, тактика переговоров, вручение подарков, адаптация к культурным нюансам, бюрократия.

*Rasulova I.
Head of the Department of Uzbek Language and Literature
SASU itself.
Akramova U.S.
senior lecturer
department foreign language
Tashkent International Kimyo University
Samarkand branch*

FEATURES OF BUSINESS COMMUNICATION ETIQUETTE IN UZBEKISTAN

Abstract. This paper examines the distinctive features of business communication etiquette in Uzbekistan. It explores cultural influences, communication styles, and specific practices that define business interactions in the country. Understanding these elements is essential for fostering effective and respectful business relationships with Uzbek partners.

Keywords: business communication, etiquette, Uzbekistan, cultural influences, hierarchy, relationship building, hospitality, indirect communication,

non-verbal communication, language considerations, meeting protocol, negotiation tactics, gift giving, adapting to cultural nuances, bureaucracy.

В этой статье мы предлагаем вам ознакомиться с уникальными чертами коммуникативного поведения, которые характеризуют деловые общения в Узбекистане. Надеемся, что наши материалы помогут вам лучше понять местные традиции и приемы ведения бизнеса в этой культуре, а также обогатят ваш опыт межкультурного общения.

Безусловно, страна старается приобрести значимость на глобальной бизнес-сцене в связи с развитием международных отношений, и деловой этикет Узбекистана скорее относится к Европейскому, чем к Азиатскому. Участники бизнес-встреч всегда одеты по западному образцу. Важно приходить на совещание вовремя, но стоит быть готовым к тому, что оно может продлиться дольше назначенного времени. Переговоры ведутся без спешки. Узбеки уделяют много внимания деталям, таким как семья, чтобы убедиться в надежности новых партнеров. В Узбекистане бизнес - это процесс, требующий терпения, чтобы установить крепкие отношения с партнерами.

Успешное ведение бизнеса в Узбекистане требует не только понимания деловых обычаев, но и глубокого уважения к местной культуре и традициям. Один из ключевых аспектов, определяющих успех в деловых встречах с узбекскими партнерами, - это поддержание правильного речевого этикета. В данной статье мы рассмотрим основные особенности узбекского речевого этикета на деловых встречах, а также его место в контексте местной деловой культуры. В настоящее время узбекская культура речевого этикета на деловых встречах остается глубоко укорененной в традиционных ценностях социальной иерархии и уважения к старшим. Однако, эти традиционные нормы, которые подчеркивают главенство мужчины, стали постепенно уступать место европеизированным нормам.

Приветствия играют важную роль в узбекском речевом этикете, отражая социальные отношения и уровень уважения. Конкретные формы приветствий имеют множество вариантов в зависимости от пола, возраста, социального статуса, семейных связей и занятий. В процессе прощания также важно обменяться благопожеланиями и получить благословение от старших.

Таким образом, традиционные элементы узбекского речевого этикета по-прежнему играют значительную роль в деловых встречах, но в то же время происходит эволюция под влиянием европейских норм.

Основная формула приветствия для мужчин в узбекской культуре - «Ассалауму алайкум!» («Мир Вам!» на арабском), на что принято отвечать: «Ваалайкум ассалам!» («Тебе того же желаю!»). Это приветствие объединяет людей, исповедующих ислам, и считается широко

распространенным в деловой и повседневной обстановке. Рукопожатие является наиболее распространенной формой невербального приветствия.

Следование принципу очередности при приветствии - младший должен первым приветствовать старшего, заложено в узбекской культуре и продолжает соблюдаться по сей день. Этот принцип распространяется как на возраст, так и на социальный статус. Например, служащий приветствует начальника, а ученик – преподавателя. Когда встречаются ровесники или коллеги, они приветствуются одновременно. Традиционные правила также соблюдаются при обращении к незнакомым людям. Эти обычаи, также, распространяются и на женщин, которые, в свою очередь, тоже приветствуют друг друга с уважением и в соответствии с установленной иерархией их социального статуса.

Перед тем, как начать переговоры, узбеки часто приняты читать Дуа Фатиха - первую главу Корана. Это является обычаем, который связан с выражением уважения и благопожеланий к божественной помощи и прозрению во время важного события, такого как начало деловых переговоров. В некоторых случаях, хозяин дома или руководитель могут пригласить гостей принять участие в общем чтении Дуа Фатиха для удачи и процветания в будущем предприятии. Во время чтения Дуа (молитвы) узбекская культура предполагает обмен добрыми пожеланиями и благословениями между собеседниками. Это проявление уважения и доброжелательности и является важной частью делового общения и повседневного общения узбекского народа.

В узбекской культуре обмен добрыми пожеланиями и благословениями имеет особенно важное значение. Например, при встрече или прощании узбекская традиция предполагает использование фраз-пожеланий, таких как "бошлаётган ишимиз хайрли бўлсин" - "пусть процветает наша работа", "ишларимизнинг ривожини берсин" - "пусть деятельность приносит процветание", "ишларимиз ўнгидан келсин" - "пусть нам везет в деле" и "кўп йиллар бирга ишлаш насиб этсин" - "пусть нам удастся работать вместе много лет". Эти выражения подчеркивают культуру уважения и взаимодействия, которая является важной частью узбекского делового этикета и повседневного общения.

В узбекской культуре гостеприимство берет корни из древних обычаев и традиций, демонстрируя глубокое уважение к гостю. Как гласит одна из популярных пословиц: "Когда гость стучится в дом, даже падишах прячется". Это подчеркивает принцип толерантности и высокое уважение, проявляемое к гостю, независимо от его положения в обществе.

Более того, взаимоотношения с гостем требуют особого внимания и заботы со стороны хозяев. Этот аспект можно увидеть в другой пословице, в которой говорится: "Гостю - рай, а хозяину - труд". Таким образом, узбекская культура гостеприимства сегодня продолжают сохранять традиции и ценности, которые были ценными с глубокой древности.

В обычаях, связанных с гостеприимством, узбекская культура также проявляет принцип толерантности и уважения к гостям. Хозяева традиционно проявляют глубокое уважение к гостю, помимо любых недоразумений.

В узбекской культуре, подобно казахскому этикету, гостям не принято задавать о цели визита в течение трех дней. Вместо этого, прием дома включает предоставление необходимой помощи и почестей гостю. Лишнее любопытство касательно целей визита, считается неуважительным и неуместным, как гостю, так и его хозяину. При разговоре со «старшими» запрещается держать руки в карманах, жевать, курить и выпивать. При любых обстоятельствах такого человека слушают очень внимательно, даже когда его речь обременительна для молодого человека. Молодые люди в присутствии «старших» не смеют говорить громко, смеяться; на их вопросы следует отвечать скромно. На улице и в транспорте казахи уступают место старшему человеку. Старших не подвергают критике и им не противоречат, особенно в общественных местах. В семье в повседневной трапезе без хозяина дома не приступают к еде, а дети между собой слушаются старшего по возрасту ребенка⁸⁵.

Терпимость и уважение к гостям остается важной частью узбекской культуры. Вне зависимости от продолжительности пребывания гостей, хозяева всегда стремятся оказать всю необходимую почтительность и внимание.

В узбекской деловой культуре также преобладает утонченный подход. При общении узбекские предприниматели чаще используют дипломатические формы выражения, избегая прямолинейности. Они предпочитают обобщенные выражения в целях предоставления информации. Узбекские деловые партнеры избегают прямых вопросов и вместо этого тщательно исследуют информацию, подчеркивая тем самым важность дипломатии при обсуждении деловых вопросов.

В заключение, изучение особенностей узбекского речевого этикета деловых встреч позволяет понять глубокие культурные и традиционные аспекты общения в Узбекистане. Важно учитывать принятые нормы и правила ведения деловых переговоров, что способствует установлению доверительных отношений и успешному ведению бизнеса в этой стране.

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*Рахимбаева Д.В., кандидат исторических наук
старший преподаватель
кафедры социальных наук
Институт ISFT*

ВАЖНОСТЬ ПЕРИОДА НАЦИОНАЛЬНОГО РОСТА, НАЧАВШЕГОСЯ В 2017 ГОДУ В УЗБЕКИСТАНЕ

Аннотация. С 2017 года Республика Узбекистан вступила в период значительного национального роста, характеризующийся глубокими политическими, экономическими и социальными реформами. Этот этап, начавшийся после прихода к власти президента Шавката Мирзиёева, направлен на модернизацию страны, улучшение качества жизни населения и укрепление позиций на международной арене. Политические реформы включают улучшение правоприменения и повышение прозрачности государственных органов. Экономические преобразования способствуют развитию частного сектора и привлечению инвестиций. Социальные реформы охватывают модернизацию образования, здравоохранения и систему социальной защиты. Внешнеэкономическая политика укрепляет международные связи Узбекистана. Этот период открывает новые перспективы для страны, но требует внимательного управления возникающими вызовами.

Ключевые слова: национальный рост, Узбекистан, политические реформы, экономические преобразования, социальные реформы, модернизация, инвестиции.

*Rakhimbaeva D.V., candidate of historical sciences
senior lecturer
Department of Social Sciences
Institute ISFT*

THE IMPORTANCE OF THE PERIOD OF NATIONAL GROWTH THAT STARTED IN 2017 IN UZBEKISTAN

Abstract. Since 2017, the Republic of Uzbekistan has entered a period of significant national growth, characterized by deep political, economic and social reforms. This stage, which began after President Shavkat Mirziyoyev came to power, is aimed at modernizing the country, improving the quality of life of the population and strengthening its position in the international arena. Policy reforms include improving law enforcement and increasing government transparency. Economic transformation promotes the development of the private sector and attracts investment. Social reforms include the modernization of education, health care and the social protection system. Foreign economic

policy strengthens Uzbekistan's international relations. This period opens up new prospects for the country, but requires careful management of emerging challenges.

Key words: national growth, Uzbekistan, political reforms, economic transformations, social reforms, modernization, investments.

С начала 2017 года Узбекистан переживает значительный период национального роста, который оказывает существенное влияние на все сферы жизни страны. Этот период, озаглавленный политическими, экономическими и социальными реформами, направлен на модернизацию и развитие страны, укрепление ее позиций на международной арене и улучшение качества жизни населения. В данной статье рассматриваются ключевые аспекты и важность этого периода, а также его влияние на внутренние и внешние процессы в Узбекистане.

Политические реформы. Одним из основных направлений национального роста Узбекистана является проведение глубоких политических реформ. После прихода к власти президента Шавката Мирзиёева в 2016 году начался процесс трансформации политической системы страны. Одним из первых шагов стала реформа судебной системы, направленная на повышение ее независимости и эффективность. Введение новых стандартов работы судов и создание специализированных судов по экономическим и административным делам позволило значительно улучшить правоприменение и защиту прав граждан. Кроме того, в рамках политических реформ началась реорганизация органов исполнительной власти, что способствовало более эффективному управлению и снижению коррупции. Создание новых государственных органов и усиление контроля за их деятельностью способствовало повышению прозрачности и подотчетности властей. Реформирование местных органов власти и введение новых механизмов децентрализации позволило улучшить взаимодействие между центром и регионами, что также положительно сказалось на качестве государственного управления.

Экономические преобразования. Экономические реформы стали неотъемлемой частью периода национального роста в Узбекистане. Одной из главных целей экономических преобразований стало стимулирование роста экономики и привлечение иностранных инвестиций. Введение программы либерализации экономики, сокращение государственного контроля над частным сектором и создание благоприятного инвестиционного климата способствовали росту предпринимательской активности и развитию частного бизнеса. Реформа налоговой системы, направленная на упрощение налогового администрирования и снижение налоговой нагрузки на бизнес, также сыграла важную роль в стимулировании экономического роста. Упрощение процедур регистрации бизнеса и ликвидация ряда административных барьеров способствовали

привлечению инвестиций и созданию новых рабочих мест. Кроме того, Узбекистан активно развивает ключевые отрасли экономики, такие как энергетика, транспорт и сельское хозяйство. Реализация крупных инфраструктурных проектов, таких как строительство новых дорог и железных дорог, а также модернизация энергетических объектов способствуют созданию современного инфраструктурного комплекса, который в свою очередь стимулирует экономический рост и развитие регионов.

Социальные реформы. Социальные реформы, начавшиеся в 2017 году, стали важной составляющей национального роста Узбекистана. Одной из приоритетных задач стало улучшение качества образования и здравоохранения. В сфере образования реализуются программы модернизации учебных заведений, повышения квалификации преподавателей и улучшения качества учебных материалов. Введение новых образовательных стандартов и расширение доступа к образовательным услугам способствуют подготовке высококвалифицированных специалистов, которые смогут эффективно работать в условиях современного рынка труда. В сфере здравоохранения также проводятся значительные реформы, направленные на улучшение доступности и качества медицинских услуг. Создание новых медицинских учреждений, модернизация существующих и внедрение современных медицинских технологий способствуют улучшению качества медицинского обслуживания и повышению уровня здоровья населения. Социальные реформы также охватывают сферу социальной защиты, где внимание уделяется улучшению системы пенсионного обеспечения и социальной помощи. Реализация программ по социальной защите уязвимых групп населения, включая пенсионеров, инвалидов и многодетные семьи, способствует улучшению качества их жизни и социальной стабильности.

Влияние на международные отношения. Период национального роста в Узбекистане также оказывает значительное влияние на международные отношения страны. Внешнеэкономическая политика, направленная на укрепление связей с международными партнерами и развитие внешнеэкономических отношений, способствует повышению авторитета Узбекистана на международной арене. Активное участие Узбекистана в международных организациях и форумах, развитие двусторонних и многосторонних отношений с различными странами способствует укреплению позиций страны на мировой политической и экономической арене. Узбекистан активно работает над расширением торгово-экономических связей, привлечением иностранных инвестиций и технологических решений, что способствует интеграции страны в международную экономику. Это во многосторонних и двусторонних отношениях.

Перспективы и вызовы. Период национального роста в Узбекистане открывает новые перспективы для дальнейшего развития страны, однако он также сопряжен с рядом вызовов. Одним из ключевых вызовов является необходимость поддержания устойчивого экономического роста при реализации реформ и преодолении возможных социальных и экономических трудностей. Также важно учитывать необходимость обеспечения социальной справедливости и равенства в доступе к образовательным и медицинским услугам. Эффективное управление и контроль за проведением реформ, а также активное вовлечение гражданского общества в процесс реформирования являются необходимыми условиями для успешной реализации намеченных целей.

Заключение

Период национального роста, начавшийся в Узбекистане в 2017 году, представляет собой важный этап в истории страны, характеризующийся глубокими политическими, экономическими и социальными реформами. Эти реформы направлены на модернизацию страны, улучшение качества жизни населения и укрепление ее позиций на международной арене. Реализация реформ создает новые возможности для развития и процветания Узбекистана, однако требует внимания к возникающим вызовам и необходимости их эффективного преодоления. В долгосрочной перспективе успешная реализация национального роста позволит Узбекистану занять достойное место на мировой арене и обеспечить устойчивое развитие для будущих поколений.

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Садикова А.М.
ассистент
кафедра химической технологии
Каракалпакский государственный университет

ТЕХНОЛОГИЯ ПРОИЗВОДСТВА УКРЫВНЫХ МАТЕРИАЛОВ С ИСПОЛЬЗОВАНИЕМ ПЕСКОВ ПУСТЫНЬ ПРИАРАЛЬЯ

Аннотация. В современном мире все больше внимания уделяется проблеме устойчивого развития и использования альтернативных ресурсов. Одним из потенциально ценных материалов являются пески пустынь Приаралья, которые обладают уникальными физико-химическими характеристиками. Однако, до настоящего времени данные пески оставались малоиспользуемыми в промышленности. Цель данного исследования заключается в изучении возможности использования песков пустынь Приаралья для производства укрывных материалов. При этом основными задачами являются изучение физико-химических свойств песков Приаралья, оценка технологических возможностей производства укрывных материалов на основе данных песков, определение экономической и экологической целесообразности использования песков пустынь Приаралья. Данное исследование имеет важное значение для практики и науки, поскольку может привести к разработке новых материалов, способствующих устойчивому развитию и оптимизации производства.

Ключевые слова: пески Приаралья, укрывные материалы, строительные материалы, использование местных ресурсов, экологическая устойчивость, ресурсосбережение, физико-механические характеристики, устойчивое развитие, строительная индустрия, технологии, экологическое воздействие.

Sadikova A.M.
assistant
Department of Chemical Technology
Karakalpak State University

THE TECHNOLOGY OF PRODUCTION OF COVERING MATERIALS USING THE SANDS OF THE DESERTS OF THE ARAL SEA REGION

Abstract. In the modern world, more and more attention is being paid to the problem of sustainable development and the use of alternative resources. One of the potentially valuable materials is the sands of the Aral Sea deserts, which have unique physico-chemical characteristics. However, until now, these sands have remained little used in industry. The purpose of this study is to study

the possibility of using the sands of the Aral Sea deserts for the production of covering materials. At the same time, the main tasks are to study the physico-chemical properties of the Aral Sea sands, to assess the technological capabilities of the production of covering materials based on these sands, to determine the economic and environmental feasibility of using the sands of the Aral Sea deserts. This research is important for practice and science, as it can lead to the development of new materials that contribute to sustainable development and optimization of production.

Keywords: sands of the Aral Sea region, covering materials, building materials, use of local resources, environmental sustainability, resource conservation, physical and mechanical characteristics, sustainable development, construction industry, technologies, environmental impact.

Пустыни Приаралья являются одними из самых высохших и непродуктивных мест на планете, известных своими разоренными землями и песчаными дюнами. Тем не менее, именно эти пески можно использовать для производства укрывных материалов, которые могут быть применены для защиты почвы от ветра, эрозии и перепадов температуры [6, 189-201]. Современные технологии исследований и разработок позволяют нам превратить негативные аспекты песчаных пустынь в ресурс для создания полезных материалов. Например, пески Приаралья содержат множество микроэлементов и минералов, которые могут быть использованы для укрепления почвы и повышения ее плодородности.

Использование песков Приаралья для производства укрывных материалов представляет собой интересную и перспективную область исследований, объединяющую в себе аспекты экологии, ресурсосбережения, и инновационных технологий строительной индустрии. В данной статье мы рассмотрим основные материалы и методы, использованные в исследовании песков Приаралья для создания укрывных материалов, а также обсудим потенциальные выгоды и преимущества данного подхода. Пески пустынь Приаралья, являющиеся местным природным ресурсом, были выбраны в качестве основного материала исследования. Проведенный анализ физико-химических свойств песков позволил определить их характеристики, такие как зернистость, минеральный состав и удельный вес. Эти данные послужили основой для выбора оптимального состава укрывных материалов. Для создания укрывных материалов были использованы различные связующие вещества, включая цемент, полимерные смолы, битум и другие добавки. Это позволило улучшить технические характеристики материалов и обеспечить необходимую прочность, водостойкость и устойчивость к внешним воздействиям. Лабораторные испытания позволили определить оптимальное сочетание компонентов, условия смешивания и технологию формования укрывных материалов. Физико-механические испытания

подтвердили высокие технические характеристики материалов, что говорит о их потенциале для применения в строительной индустрии. Экономическое и экологическое моделирование позволило оценить целесообразность использования песков Приаралья для производства укрывных материалов. Учет производственных затрат, конкуренции на рынке и экологических факторов подчеркнул важность использования местных ресурсов и развития экологически устойчивых технологий. Таким образом, исследование песков Приаралья для создания укрывных материалов представляет собой перспективное направление, объединяющее природные ресурсы, инновационные технологии и устойчивое развитие. Дальнейшие исследования в этой области могут принести значительные выгоды как с точки зрения экономической эффективности, так и с точки зрения защиты окружающей среды [8, 123-136].

В современном мире, где вопросы устойчивого развития и экологической ответственности становятся все более актуальными, нахождение новых способов использования необычных ресурсов для полезных целей является важным направлением исследований. Исследование использования песков пустынь Приаралья для производства укрывных материалов открывает новые перспективы в области экономической, экологической эффективности и устойчивого развития. На основе результатов проведенных исследований можно сделать вывод о потенциале песков Приаралья как ценного ресурса для производства укрывных материалов. Анализ различных зон пустынь выявил оптимальные фракции песка, что является ключевым моментом для дальнейшего производства. Оптимизация состава укрывных материалов с применением полимерных смол и цемента позволяет повысить качество и стойкость продукции к внешним воздействиям, что значительно улучшает их функциональные свойства [3, 45-67]. Физико-механические испытания показали, что укрывные материалы на основе песков Приаралья обладают высокой прочностью, стойкостью к влаге и излучению, что делает их эффективным решением для защиты почвы и улучшения условий для сельского хозяйства. Экономическое моделирование подтвердило выгодность использования этих материалов, снижая затраты и воздействие на окружающую среду. Таким образом, исследование подтверждает перспективность и потенциал использования песков пустынь Приаралья для производства укрывных материалов с улучшенными характеристиками. Это позволяет не только находить новые способы использования не востребуемых ресурсов, но и способствует содействию в решении проблем устойчивого развития и охраны окружающей среды. В результате, данное исследование может иметь значительное практическое значение для создания экологически чистых и эффективных материалов для сельского хозяйства и промышленности.

В современном мире, где вопросы экологической устойчивости и эффективного использования природных ресурсов становятся ключевыми, исследование применения песков пустынь Приаралья для производства укрывных материалов представляет собой значимый шаг в направлении инновационных и экологически безопасных подходов в строительной индустрии. В данном эссе рассмотрим важность данного исследования, его потенциальные перспективы и влияние на экологию и устойчивое развитие. На протяжении многих лет проблема пустыни прибрежных земель Приаралья представляла серьезную угрозу для окружающей среды и сельского хозяйства региона. Однако, исследования использования песков этих обширных пустынь для производства укрывных материалов показали обнадеживающие результаты (таблица 1).

Методы исследования	Описание	Результаты
Анализ физико-химических свойств песков	Определение характеристик песков, таких как зернистость, минеральный состав и удельный вес, для выбора оптимального состава укрывных материалов.	Средний размер зерен: 0.2-0.5 мм; Минеральный состав: 40% кварц, 30% глины, 20% известняка, 10% другие минералы; Удельный вес: 1.6 г/см ³
Лабораторные испытания	Определение оптимального сочетания компонентов, условий смешивания и технологии формования укрывных материалов.	Оптимальное сочетание: 60% песка, 30% цемента, 10% полимерной смолы; Температура смешивания: 25°C; Давление формования: 1000 кПа
Физико-механические испытания	Подтверждение высоких технических характеристик материалов, включая прочность, водостойкость и устойчивость к внешним воздействиям.	Прочность на сжатие: 20 МПа; Водостойкость: не менее 95% после 100 циклов замораживания и оттаивания; Устойчивость к ультрафиолетовому излучению: не менее 90% после 1000 часов экспозиции
Экономическое и экологическое моделирование	Оценка целесообразности использования песков Приаралья для производства укрывных материалов с учетом производственных затрат, конкуренции на рынке и экологических факторов.	Снижение производственных затрат на 15%; Сокращение экологического следа на 20%

Сравнительный анализ с предыдущими исследованиями демонстрирует, что укрывные материалы на основе песков Приаралья обладают высокой прочностью и стойкостью против внешних

воздействий, превосходя аналогичные материалы из других источников. Это свидетельствует о потенциале и эффективности использования данных ресурсов для производства укрывных материалов. Одним из ключевых аспектов значимости данного исследования является его уникальность и ресурсосберегающий потенциал. Переход к использованию местных ресурсов, таких как пески Приаралья, позволяет снизить зависимость от импорта материалов и обеспечить устойчивое производство на местном уровне. При этом, экономическая выгода от использования этих укрывных материалов также значительна, что может способствовать развитию региональной экономики и снижению общей экологической нагрузки. Экологическая значимость исследования заключается в возможности сокращения антропогенного воздействия на экосистему и сохранения уникальной природной среды пустыни Приаралья. Обращение к местным ресурсам не только способствует сохранению биоразнообразия, но и уменьшает экологический след производства укрывных материалов. Это открывает новые перспективы для осуществления более экологически чистых и устойчивых подходов в строительстве и сельском хозяйстве. В целом, исследование использования песков пустынь Приаралья для производства укрывных материалов представляет собой важное исследование, которое обладает широкими перспективами. Расширение спектра материалов, разработка новых технологий и дальнейшее изучение влияния на окружающую среду помогут создать более устойчивую и экологически чистую инфраструктуру. Это исследование становится важным примером того, как инновационные подходы могут способствовать устойчивому развитию регионов и обеспечивать баланс между экономической выгодой и охраной окружающей среды.

Заключение. Использование песков Приаралья для производства укрывных материалов представляет собой уникальную возможность в области строительства, которая обладает значительным потенциалом для развития современной промышленности. Результаты исследования, приведенные в данной статье, демонстрируют не только высокую эффективность такого подхода, но и его значимость с точки зрения устойчивого развития и ответственного использования природных ресурсов. Пески пустынь Приаралья, которые ранее считались проблемным фактором из-за экологических проблем региона, теперь могут быть превращены в ценный ресурс для производства качественных укрывных материалов. Благодаря технологическим инновациям и исследованиям, проведенным учеными, удалось выявить потенциал этих песков и превратить их в конкурентоспособный продукт на строительном рынке. Одним из ключевых преимуществ использования местных ресурсов, в данном случае песков Приаралья, является уменьшение зависимости от импорта сырья, что способствует экономической эффективности и ресурсосбережению. Такой подход не только

стимулирует местную экономику, но и снижает негативное воздействие на окружающую среду, так как сокращает транспортные издержки и выбросы загрязняющих веществ. Подводя итоги, использование песков пустынь Приаралья в производстве укрывных материалов представляется перспективным направлением, способным привести инновации в строительную отрасль и способствовать экологической устойчивости. Дальнейшие исследования и разработки в этой области могут принести новые технологии и решения, которые помогут снизить нагрузку на окружающую среду и оптимизировать производство строительных материалов в целом. Важно продолжать работу в этом направлении, чтобы обеспечить более устойчивое и эффективное будущее для строительной индустрии.

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ҲОФИЗИ АБРУ АСАРЛАРИДА ТЕМУРИЙЛАР ДАВРИ ТАРИХИНИ ЁРИТИЛИШИ

Аннотация. Мақолада темурийлар даври тарихчиси Ҳофиз Абрунинг “Зубдат ут-таворихи Бойсунғурий” асарида учрайдиган Амир Темур даври тарихига оид маълумотлар таҳлил этилган. Таҳлил жараёнида ушбу давр тарихини ёритишда муҳим ўрин тутган бошқа тарихий манбалардан ҳам кенг фойдаланилган.

Калит сўзлар: Ҳофиз Абру, Мирхонд, Абдураззоқ Самарқандий, Амир Темур, “Зубдат ут-таворихи Бойсунғурий”, Андижон.

**Sattarov Kh.
1st year doctoral student
FarDU**

ILLUMINATION OF THE HISTORY OF THE TIMURI PERIOD IN THE WORKS OF HAFIZI ABRU

Abstract. The article analyzes the information on the history of Amir Temur's period found in the work "Zubdat ut-tawarikh Baysung'uri" by Hafizi Abru, a historian of the Timurid era. During the analysis, other historical sources that played an important role in illuminating the history of this period were widely used.

Key words: Hafizi Abru, Mirkhond, Abdurazzoq Samarqandi, Amir Temur, "Zubdat ut-tawarikh Boysung'uri", Andijan.

Ҳофиз Абру номи билан танилган Шихобиддин Абдуллоҳ ибн Лутфуллоҳ ибн Абдурашид Ҳаравий (Хавофий)нинг тарих ва географияга бағишланган асарларида ҳам Фарғона водийси тарихига оид лавҳалар учрайди[1]. Муаллиф “География” асарида Хўжанд шаҳри ва вилояти ҳақида сўз юритиб, ушбу ҳудуднинг иқтисодий ҳолатига оид қимматли маълумотлар келтиради[2]. Тарихчининг Фарғона водийси тарихи учун яна бир муҳим асари “Мажма ат-таворих” деб номланиб, Мовароуннахр, Эрон ва Хуросонда исломиятдан аввалги даврдан бошлаб то 1427 йилгача юз берган воқеаларга бағишланади[3]. Асар тўрт жилддан иборат. Асарнинг 4-жилди “Зубдат ут-таворихи Бойсунғурий”, деб номланган бўлиб, Амир Темур ва Мирзо Шохрухнинг 1427 йилгача бўлган тарихидан иборат. Ушбу қисм ҳижрий 736 йил милодий 1336 йил воқеалари билан бошланади. Ўз навбатида 4-жилд ҳам тўрт қисмга бўлинади ва Техронда 1959-1960 йилларда Сайид Камолхож Сайид Жаводий томонидан нашр

этилган. Асар Шарафиддин Али Йаздийнинг “Зафарнома” асари билан бир вақтда ёзилганлигини ҳамда келтирилган маълумотларининг бошқа манбаларда учрамаслиги унинг манбавий аҳамиятини яна ҳам оширади. Жумладан, Амир Темурнинг 1371 йилда Фарғона водийсига келганлиги, Фарғонани бошқариш учун юборилган Мирзо Умаршайх билан биргаликда апарди ва қарлуқ қабилаларидан таркиб топган туманлар водийга жўнатилганлиги, Анқотўра 1388 йилдаги Фарғонага қилган босқинида Сирдарёнинг Тўққиз Торим кечуvidан ўтганлиги каби маълумотлар Амир Темур ва темурийлар даври манбаларида учрамайди. Агар Мирхонд, Хондамир ва Муҳаммад Ҳайдар Мирзолар ўз асарларини ёзишда Яздий асарига суянган бўлса, Абдураззоқ Самарқандий Амир Темур ва Мирзо Шохрух даврини ёритишда Ҳофиз Абруга мурожаат қилади.

Ҳофиз Абрунинг муҳим маълумотлар Амир Темурнинг 1371 йилги Мўғулистон юриши йўналишларини белгилашда ҳам муҳим аҳамиятга эга. Шарафуддин Али Яздий 1370-1371 йили Амир Темур кўшинлари Сирдарёдан ўтиши билан бу ерда турган Кумаз ва Ўрнак Темур таслим бўлганликларини қайд этган[4: Б. 71]. Низомиддин Шомий эса мазкур юриш 1371-1372 йили бўлиб ўтганлигини таъкидлаб, Кумаз ҳақида сўз юритмасдан, бу юриш натижасида Ўрунг Темурнинг таслим бўлганлиги, Амир Темур уни яна шу ҳудуд ҳокими этиб тайинлаб, ортга қайтганлигини баён қилган[5: Б. 89; 6: Б. 99]. Ушбу юриш мақсади ва натижаси ҳақида Муиниддин Натанзий батафсил маълумот беради. У ҳам мазкур воқеалар 1371-1372 йили бўлиб ўтганини қайд этади[7: Б. 116-117]. Натанзий Амир Темурнинг бу юриши натижасида мўғул амирлари Фарғона водийсини тарк этганлигини қайд этган. Ҳофиз Абру ва Абдураззоқ Самарқандий ҳам Амир Темур Фарғона водийсининг Ўзганд ноҳияси орқали Мўғулистонга юриш қилганлигини таъкидлаган

Шарафуддин Али Яздий ва Низомиддин Шомийлар ўз асарларида исён ҳақида хабар топган Амир Темур Самарқандга ёрдам учун лашкарнинг илғор қисмини Мирзо Жаҳонгир бошчилигидаги жўнатганлигини баён этган. Лекин Муиниддин Натанзий илғорга Мирзо Умаршайх бошчилик қилганлигини таъкидлаб, жанг воқеаларини ҳам батафсил ҳикоя қилади. Ҳофизу Абруда ҳам ушбу воқеалар баёнида фақат Мирзо Жаҳонгир ҳақида сўз юритилган. Бизнингча, Мирзо Жаҳонгир раҳбарлигида жўнатилган кўшин сафида Мирзо Умаршайх ҳам бўлган ва у бу жангда қоровул қисмини бошқарган бўлиши керак. Натанзий ўзининг ушбу асарини дастлаб Мирзо Умаршайхнинг ўғли Искандарга тақдим этганлиги сабабли, Умаршайх фаолиятига кўпроқ эътибор қаратган кўринади. Балки, ушбу исён бостирилгач, Фарғона водийсининг айнан Мирзо Умаршайхга тақдим этилиши ҳам Натанзийнинг шундай хулоса чиқаришига асос бўлган бўлиши мумкин.

Амир Темур мамлакатнинг шарқий қисмини исёнчилардан озод этиб, маъмурий ўзгаришларни амалга оширди. Шарафуддин Али Яздий Мирзо Умаршайхга Фарғона водийсини суюрғол қилиб берилиши борасида “амирзода Умаршайхни Андижонга йибарди”, дейиш билан чекланган бўлса, Ҳофиз Абру ва Абдураззоқ Самарқандий Мирзо Умаршайхни Ўзганд(Фарғона маъносида)га юборилганлигини таъкидлашади. Низомиддин Шомий воқеалар баёнини тўғридан-тўғри Умаршайхни Андижон шаҳрида эканлигидан бошлайди. Муиниддин Натанзий бу воқеага алоҳида эътибор қаратиб, ўз асарининг бир фаслини мазкур тайинланиш баёнига бағишлайди. “Олам Шахзодасининг саъй-ҳаракатлари туфайли тўла ғалаба муяссар бўлгач, – деб ёзган эди муаллиф, – жулду (инъом) тариқасида Ўзжанднинг ўн икки тумани ҳазратга иқтоъ қилиб берилди ва жаҳон бўйсунувчи фармонга мувофиқ амирзода ул тарафга отланди”. Афсуски, Натанзийда Фарғонанинг ўн икки тумани қайси ҳудудлардан иборат эканлиги аниқ берилмаган.

Шарафуддин Али Яздий ва Низомиддин Шомийлар берган маълумотдан янги ташкил этилган мулкнинг маркази Андижон шаҳри эканлиги ойдинлашади. Бу фикрни воқеаларнинг кейинги ривожига ҳам тасдиқлайди. Ҳофиз Абру ва Абдураззоқ Самарқандийнинг сўзларига кўра Мирзо Умаршайх Фарғонага келгач, Андижонни янги девор билан ўратади. Бу ҳолатни Умаршайх мирзонинг Андижонни водий марказига айлантиришдаги дастлабки қадами, дейиш мумкин.

Мирзо Умаршайх ихтиёрида бир мунча катта лашкар борлигини тахмин қилиш мумкин. Унинг Қамариддин кўшинлари бостириб келаётганидан хабар топиши билан очик майдонда жанг қилиш мақсадида Фарғона водийсининг Мўғулистон билан чегараси томон йўлга чиқиши шундан далолат беради. Низомиддин Шомийнинг маълумотига қараганда, у қоровул кўшини сифатида қозоқ ҳазорасидан тузилган лашкарни олдинга жўнатиб, ўзи уларнинг кетидан борган. Қозоқ ҳазораси эса, Мирзо Умаршайх асосий кўшин билан етиб келмасидан аввал душман томонга ўтиб кетган. Шарафуддин Али Яздий, Ҳофизу Абру ва Самарқандий қозоқ ҳазораси Мирзо Умаршайхдан қочиб, душман томонига ўтиб кетганлигини қайд этган. Натижада Мирзо Умаршайх жангга кирмай, қолган кучлари билан тоғлар томонга чекиниб, Амир Темурдан ёрдам сўрайди. Хондамир Мирзо Умаршайх Амир Темур ҳузурига вазиятни билдириш учун Донишманд исмли шахс жўнатилганлигини таъкидлайди. Шарафуддин Али Яздий “Зафарнома”сининг форс тилидан эски ўзбек тилига қилинган таржимасида Амир Темур ҳузурига юборилган хабарчининг исмини берилмасдан унинг сифатини баён қилиниб, донишманд инсон эканлигини қайд этилган. Лекин ушбу асарнинг форс тилидаги матнида жўнатилган хабарчининг исми Донишманд эканлиги ёзилган. Бундан кўринадики, Муҳаммад Али томонидан 1516 йили амалга оширилган таржимада баъзи ўзгаришларга йўл қўйилган, Хондамир эса бу масалада Шарафуддин Али

Яздийнинг маълумотига таянган. Натанзий Умаршайх ихтиёридаги қўшин билан Қарсоб соҳилида босқинчилар йўлини тўсганлиги, лекин жанг бошланиши олдида уч минг кишилик қозоқ минглиги душман томонга ўтиб кетганлиги натижасида жангга кирмай, тоғ чўққиларига мустаҳкамланиб, Самарқандга хабар жўнатганлигини қайд этган.

Мирзо Умаршайхнинг Қарсоб (Оби қарс, оби фарс) соҳилида мўғул қўшинини қарши олганлиги фақатгина Натанзий, Ҳофиз Абру ва Абдураззоқ Самарқандийнинг асарлари орқали бизга етиб келган. Қарсоб дарёси ёки сойи ҳақида бошқа манбаларда маълумот учратмадик. Лекин тарихий манбалардаги маълумотлар ва В.В. Бартольд асарларига илова тарзида тузилган хариталарга асосланиб, Қарсоб дарёси ёки сойи Фарғона водийсининг шарқий чегараларидаги тоғларга яқин дарёлардан бирининг номи, деб тахмин қилиш мумкин. Мирзо Умаршайхнинг Андижонга чекинмай, тоғларга чиқиб кетиши бу дарёнинг тоғларга жуда яқин бўлганлигини кўрсатади. Бизнингча, В.В. Бартольд харитасида кўрсатилган Ўзганд шаҳрининг шимоли ва ғарбидан оқиб ўтувчи Ясси номи билан берилган дарёни Натанзий Қарсоб, деб атаган бўлиши мумкин. Бу дарёнинг юқори оқими Фарғона водийсининг шарқий чегараси бўлган Ясси довонига яқин жойдан оқиб ўтади. Айнан шу ҳудудда Мирзо Умаршайх мўғул босқинчиларига қарши чиққан.

Шу ўринда Қамариддин ҳақидаги фикрларга тўхталиб ўтиш лозим. Низомиддин Шомий Тўхтамиш лашкарбошиларида ҳеч кимнинг номини қайд этмаган бўлса, Шарафуддин Али Яздий уларнинг номини батафсил санаб ўтган. Лекин у Қамариддин ҳақида маълумот бермаган. Мирзо Ҳайдар Амир Темурнинг 1376 йилги Мўғулистонга уюштирилган бешинчи юриши вақтида Қамариддиннинг изсиз йўқолганлигини таъкидлаган. Шунингдек, Низомиддин Шомий ва Шарафуддин Али Яздий асарларида ҳам 1376 йилдан кейинги воқеалар баёнида Мўғулистон амири Қамариддин номи учрамайди. Фақат Шарафуддин Али Яздий “Зафарнома”сида Амир Темур қўшинларининг 1383, 1390 йиллардаги Мўғулистонга қилинган юришларида темурийлар лашкари билан жанг олиб борган баҳрин қабиласи вакили амир Қамариддин ҳақида сўз юритилган. Натанзий, Ҳофиз Абру, Абдураззоқ Самарқандий ва Хондамир Мўғулистонда мағлуб бўлган Қамариддиннинг Тўхтамишхон олдида паноҳ сўраб борганлиги ҳақида маълумот берган. Бундан кўринадики, Мирзо Ҳайдарнинг амир Қамариддин ҳақидаги маълумоти ишончсиздир.

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*Сейтназаров С.К., кандидат биологических наук
доцент*

Есемуратова Г.П.

студент бакалавриата

направление: «Биология»

Каракалпакский государственный

университет им. Бердаха

Кутлымуратов М.С.

студент магистратуры

Каракалпакский институт сельского

хозяйства и агротехнологий

Республика Узбекистан

ХОЗЯЙСТВЕННОЕ ЗНАЧЕНИЕ БОЛЬШОЙ ПЕСЧАНКИ (*RHOMBOMUS OPTIMUS* L.) НА ТЕРРИТОРИИ УСТЮРТА И КЫЗЫЛКУМА

*Аннотация. В статье рассматривается хозяйственное значение большой песчанки (*Rhombomus optimus* l.) на территории Устюрта и Кызылкума. Изучение хозяйственного значения большой песчанки, главного носителя инфекции, позволяет выяснить, в целом, состояние эпизоотологической ситуации Устюрта и Кызылкума.*

Ключевые слова: ситуация, эпизоотия, инфекция, Устюрт, Кызылкум, регион, сезон.

*Seitnazarov S.K., candidate of biological sciences
associate professor*

Yesemuratova G.P.

undergraduate student

direction: "Biology"

Karakalpak State University named after Berdakh

Kutlymuratov M.S.

master's student

Karakalpak Institute of Agriculture and Agrotechnology

Republic of Uzbekistan

ECONOMIC IMPORTANCE OF THE LARGE GERBILE (*RHOMBOMUS OPTIMUS* L.) TO THE TERRITORY OF USTYURT AND KYZYL KUM

*Annotation. The article discusses the economic importance of the great sand lance (*Rhombomus optimus* l.) in the territory of Ustyurt and Kyzylkum.*

Studying the economic importance of the great gerbil, the main carrier of the infection, makes it possible to clarify, in general, the state of the epizootological situation in Ustyurt and Kyzylkum.

Key words: situation, epizootic, infection, Ustyurt, Kyzylkum, region, season.

Большая песчанка (*Rhombomys optimus* L.) является фоновым видом в пределах своего среднеазиатского ареала, особенно в условиях Кызылкума и Устюрта. Она широко распространена на территориях Узбекистана, Казахстана, Туркменистана, а также в Афганистане, Иране, Монголии и Китае. Численность её во многих частях ареала высока, а в годы массовых размножений – огромна [8,9].

С фауной грызунов, особенно большой песчанкой, связаны природные очаги инфекций – чумы, туляремии и других заболеваний человека. Кроме того, большая песчанка, имеющая круглогодичную активность, приносит серьезный ущерб пастбищным растениям и общему запасу кормовых ресурсов

Большая песчанка ведет дневной образ жизни, в зимнюю в спячку не впадает. Издаёт характерный прерывистый звуковой сигнал. Сильно развита зрительная рецепция. Активность изменяется по сезонам. Зимой менее активна, иногда в холодные ветреные дни со снегопадом отсиживается в норах до 3-4 дней.

Оседлый зверек, селится семейными группами (колониями). Для защиты от нападения хищников и неблагоприятного воздействия абиотических факторов среды (прямой солнечной инсоляции, высоких и низких температур, ветра, осадков) большие песчанки пользуются норами.

Многие поколения животных, используют одну и ту же нору на протяжении десятков лет. Норы сложного строения, глубина основной части ходов до 3 м (суммарная длина до 300 м). Нора представляет глубиной 30-40 см, диаметров в среднем 30 мм (до 50 мм); через каждое 1,5-2 м имеется выход на поверхность, всего в норе около 50 отверстий, иногда до 100 и даже 150.

По данным Ю.А.Дубровского (1989) количество входных отверстий в колониях большой песчанки в Кызылкуме колеблется в пределах от 14 до 230, а занимаемая колонией площадь от 82 до 1638 кв. метров. В этой системе много тупичков и обычно бывает одна обширная камера для запасов корма или заменяющее её хорошо заметное расширение в месте пересечения ходов. Камера располагается вблизи 1-2 отверстий, что обеспечивает вентиляцию сложенных в камере запасов кормов. Крупные кормовые камеры (ширина до 50 см, длина до 1,5-2 м, объем 0,5 куб/м, редко 0,8) свойственны северным пустыням, в южных пустынях объемы камер меньше.

Длительное время обитая на одном месте, большие песчанки настолько сильно перекапывают почву, что на плотных супесчаных грунтах на поверхности у нор возникают своеобразные зоогенные сообщества азотолюбивых растений, преимущественно однолетников, но иногда- кустарников и даже саксаула.

Этот зверек наносит большой вред саксаульникам и другим кормовым растениям. По данным В.П.Костина (1962), на Устюрте в урочище Косбулак почти 50% кустов саксаула были повреждены песчанкой и находились на грани гибели. В местах с высокой численностью полностью уничтожают травянистую и кустарниковую растительность, оголяя почву.

М.Б.Аметов и Ж.С.Сапарниязов (1995), подтверждают, что большие песчанки могут уничтожать и унести в норы до 50% урожая семян саксаула и черкеса. С другой стороны, грызуны помогают разрыхлять почву, по их норам в уплотненный грунт лучше проникают осадки, распространяются корни растений, улучшается вентиляция поверхностного слоя и насыщения его кислородом, в результате создаются благоприятные условия для роста растительности.

Вследствие интенсивной роющей деятельности уничтожаются пескоукрепительные растения, что способствует передвижению песчаных масс, нанося ощутимый вред пастбищам. За сутки песчанки съедает 350 г (130% массы тела) растительного корма [6].

Вопрос о хозяйственном значении, в частности о вреде, приносимом растительности большой песчанкой, в первую очередь в их роли в кормовом балансе пастбищ освещены в работах Е.В.Ротшильда (1953),

В восточных Каракумах в период плодоношения черного саксаула, большая песчанка при высокой численности уничтожает урожай его плодов на 70% [7]. С другой стороны, песчанка, обладая высокой роющей способностью, разрыхляет верхний слой почвы, в результате чего улучшается её структура и способствует хорошему возобновлению черного саксаула.

Большая песчанка, разрушая берега арыков и железнодорожное полотно, может оказывать значительный вред, селясь вблизи в аграрных посевах зерновых растений и значительно их повреждает.

Из всех видов грызунов наиболее приспособленными к новым условиям существования оказались большая песчанка. У больших песчаных заготовка шкурок не проводится, так как они ценятся очень низко. Однако, как многочисленный этот грызун играет очень важную роль в биоценозе в широких просторах Устюрта и Кызылкума. Служит пищевым объектом для многих пушных зверей (лисицы, корсака, ласки, перевязки, хорька, барханного кота) и хищных птиц.

Как отмечено выше, характерные черты пустынного очага чумы в нашем регионе определяются прежде всего, экологическими и

патогенетическими особенностями основных носителей инфекции-песчанок, суслика и тушканчиков. Изучение значение и тенденций динамики численности большой песчанки- главного носителя инфекции, позволяет выяснить, в целом, хозяйственное значение этого зверка и состояние эпизоотологической ситуации Устюрта и Кызылкума.

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Ситникова О.В.
обучающийся
Научный руководитель:
Свечникова Т.М., канд. экон. наук
доцент
ФГБОУ ВО Пермский ГАТУ
Россия, г.Пермь

СИСТЕМА МОТИВАЦИИ ПЕРСОНАЛА ООО «ПЕРМСКИЙ ИНЖЕНЕРНО-ТЕХНИЧЕСКИЙ ЦЕНТР «ГЕОФИЗИКА»

Аннотация. В статье анализируется система мотивации персонала организации в сфере выполнения геологоразведочных работ, проведения геофизических и геохимических исследований в области изучения недр и воспроизводства минерально-сырьевой базы. Для повышения мотивации и лояльности работников следует в большей мере уделять внимание нематериальным методам стимулирования.

Ключевые слова: мотивация, стимулирование, мотив, персонал, нематериальные стимулы, геологоразведочные работы.

Sitnikova O.V.
student
Scientific adviser: Svechnikova T.M., Ph.D. in economics
associate professor
Federal State Budgetary Educational Institution of Higher Education Perm
State Agrarian University
Russia, Perm

STAFF MOTIVATION SYSTEM OF PERM ENGINEERING AND TECHNICAL CENTER GEOPHYSICS LLC

Abstract. The article analyzes the motivation system of the organization's personnel in the field of geological exploration, geophysical and geochemical research in the field of subsoil study and reproduction of the mineral resource base. To increase the motivation and loyalty of employees, more attention should be paid to non-material incentives.

Key words: motivation, incentives, motive, personnel, non-material incentives, geological exploration.

Эффективность хозяйственной деятельности организации напрямую зависит от того, насколько ее сотрудники заинтересованы в достижении высоких результатов трудовой деятельности. От четкой разработки

эффективной системы мотивации персонала зависит не только повышение социальной и творческой активности конкретных работников, но и конечный результат в производственно-хозяйственной и финансово-экономической деятельности предприятий различных форм собственности и сфер деятельности. Каждая в отдельности модель мотивации существенно отличается от других не только по форме, но и по содержанию. И это можно считать вполне закономерным явлением, так как, не существует какой-либо единой мотивационной модели, которая могла бы успешно применяться без учета специфики развития каждого предприятия [3].

Постановка проблемы. Создание позитивной мотивации на предприятии не только актуальный вопрос, но и достаточно сложный. Поэтому, в течении нескольких десятков лет теории и практики посвящают свои труды изучению данного вопроса [2]. Среди зарубежных авторов большой вклад в решение проблемы мотивации внесли такие ученые как: В. Врум, Ф. Герцберг, П. Друкер, А. Мослоу, В.Скиннер, Л. Портер, К. Альдерфер, Дж. Грейсон, Л. Лайккерт, К. Левин, Э. Лоулер, Э. Фром, и др. В отечественной науке также ряд ученых посвящали свои труды данному вопросу: С.А. Жданов, А.Л. Жуков, В.С. Буланов, В.Р. Веснин, Р.А. Яковлев, А.А. Литвинюк Э.А. Уткин, В.А. Туева, В.Ф. Дружнина, Л.И. Божович, В.К. Вилюнас и др. Мотивация персонала важна не только на производстве, но также и в любом отделе организации, на любом этапе и в любом звене. По мнению М.Х. Мескона «Мотивация – это процесс стимулирования самого себя и других на деятельность, направленную на достижение индивидуальных и общих целей организации» [1]. Поэтому вопросы оценки системы мотивации актуальны

Результаты исследования. На территории Пермского края в сфере выполнения геологоразведочных работ, проведения геофизических и геохимических исследований в области изучения недр и воспроизводства минерально-сырьевой базы осуществляет деятельность ООО «ПИТЦ «Геофизика». В компании к основным методам стимулирования относится заработная плата персонала, порядок расчета которой зависит от формы и системы оплаты труда. Так, для работников аппарата управления применяется повременно-премиальная система (оклад + премия), а для работников, занятых на производственных площадках, участвующих в геолого-разведывательных операциях – сдельно-премиальная (сдельный заработок + премия + доплата + северная надбавка). За 2022-2024 гг. средняя заработная плата работников увеличилась на 14,34 % (с 16 819,61 руб. в 2022 г. до 19 635,21 в 2024 г.).

Большое значение в стимулировании персонала имеют нематериальные методы оценки трудового вклада работников:

– поощрение почетными грамотами и благодарственными письмами к профессиональному празднику;

- частичная компенсация занятий спортом;
- возможность карьерного роста;
- участие в корпоративных мероприятиях;
- компенсация питания для работников, работающих вахтовым методом.

Комплекс стимулирующих мер можно разделить на 3 группы (рисунок).



Рисунок – Мотивация персонала ООО «ПИТЦ «Геофизика»

Для многих работников сильным мотиватором является принадлежность к команде. ООО «ПИТЦ «Геофизика» является частью большого холдинга NS НефтьСервисХолдинг, совместно с которым проводятся мероприятия, направленные не только на удержание персонала от поиска новой работы, но и формирует его стремление повысить эффективность. Для этого в компании проводятся такие мероприятия для сплочения коллективов, как экстрим-игры и спортивные эстафеты, туристические слеты, организация сплавов и многое другое. Это позволяет раскрыть лидеров вне зависимости от должности и уровня заработной платы, а также позволяет сотрудникам почувствовать новые ощущения и свою нужность в группе компаний.

В ООО «ПИТЦ «Геофизика» общепринятым механизмом сплочения коллектива являются ежегодное проведение грандиозных корпоративных мероприятий – празднование профессиональных праздников (день геолога, день нефтяника, день химика). На них производится вручение наград, премий, памятных подарков, подводятся итоги конкурса на лучшего работника организации.

Грамотная постановка целей повышает эффективность работы, задает рациональную технологию ее достижения и исключает возможные

ошибки. В ООО «ПИТЦ «Геофизика» материальное стимулирование находится на том же уровне что и у других компании конкурентов, нужно обратить особое внимание на нематериальное стимулирование.

Изменения политики мотивации приобретает решающее значение в создавшихся условиях экономического кризиса. Для того, чтобы ООО «ПИТЦ «Геофизика» понесла наименьшие потери и благополучно пережила этот период, в первую очередь необходимо учитывать человеческий фактор, приложить усилия для поисков лучших путей и мотивов для его стимуляции.

В связи с тем, что поведение человека можно определить большим количеством мотивов, цель менеджеров в условиях экономического кризиса – мотивация персонала к объединенным действиям, а также благодаря созданию мотивов добиться повышения результативности и эффективности их трудовой деятельности.

Выводы и предложения. Сегодня мотивация как функция управления представляет собой часть кадровой политики и систему стимулирующих мер, направленных на повышение качества труда. Стимулирование как материальная основа мотивации персонала, представляет собой комплекс мер, применяемых со стороны субъекта управления для повышения эффективности труда персонала. Увеличение прибыли кампании, да и повышение доходов сотрудников напрямую зависит от выбора подходящего метода стимулирования.

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Совина Д.А.
студент
Черникова С.А., к.э.н.
доцент
заведующий кафедрой менеджмента
Научный руководитель: Черникова С.А., к.э.н.
доцент
заведующий кафедрой менеджмента
Пермский государственный аграрно-технологический университет
имени академика Д.Н. Прянишникова

**СОВЕРШЕНСТВОВАНИЕ СИСТЕМЫ МАТЕРИАЛЬНОГО
СТИМУЛИРОВАНИЯ ТРУДА РАБОТНИКОВ В ОРГАНИЗАЦИИ
(НА ПРИМЕРЕ ОАО РЖД)**

Аннотация. Сейчас на многих современных предприятиях обеспечение реализации его стратегических целей достигается посредством создания эффективной системы материального стимулирования. В этой связи отводится большая роль в системе управления персоналом именно данной составной части мотивации персонала. Реализуется она и в ОАО РЖД. Поэтому будет актуальным изучить, каким образом осуществляется материальное стимулирование труда персонала в ОАО РЖД, а также, как совершенствуется данная составляющая часть мотивации персонала.

Ключевые слова: система мотивации персонала, материальное стимулирование, управление персоналом.

Sovina D.A.
student
Chernikova S.A., Ph.D. in Economics
associate professor
head of the management department
Scientific supervisor: Chernikova S.A., Ph.D. in Economics
associate professor
head of the management department
Perm State Agrarian-Technological University named after Academician D.N.
Pryanishnikov

**IMPROVEMENT OF THE SYSTEM OF MATERIAL INCENTIVES
FOR EMPLOYEES IN THE ORGANIZATION (ON THE EXAMPLE OF
JSC RUSSIAN RAILWAYS)**

Annotation. Nowadays, in many modern enterprises, ensuring the implementation of its strategic goals is achieved through the creation of an effective system of material incentives. In this regard, a large role in the personnel management system is assigned to this component of personnel motivation. It is also being implemented at JSC Russian Railways. Therefore, it will be relevant to study how material incentives for the work of personnel are carried out at JSC Russian Railways, as well as how this component of personnel motivation is being improved.

Key words: personnel motivation system, material incentives, personnel management.

Введение

В настоящее время в условиях рыночной экономики на результаты деятельности любого предприятия немаловажное значение оказывают человеческие ресурсы, т.е. персонал. Ведь от того, насколько квалифицированный персонал работает на предприятии, зависит многое. А качество персонала зависит от проводимой кадровой политики. Таким образом, выражение «кадры решают всё» до сих пор является актуальным. Персонал является одним из важнейших ресурсов организации, необходимых для достижения всех её целей и задач. А главное достояние любого предприятия – это сотрудники. Это достояние нужно сохранять, развивать и использовать в конкурентной борьбе.

В этой связи большое значение для предприятия имеет система управления персоналом, важной составной частью которой является мотивация. Она представляет собой процесс побуждения себя и других к деятельности для достижения личных целей или целей организации. Человека побуждает к активным действиям необходимость в удовлетворение потребностей: физиологических, психологических, а также наличие ощущения недостатка чего-либо.

Цель исследования – изучение совершенствования системы материального стимулирования труда работников в организации.

Объект исследования – ОАО РЖД.

Новизна исследования заключается в изучении совершенствования системы материального стимулирования труда работников в организации на примере ОАО РЖД, которая представляет собой общенациональную динамично развивающуюся вертикально-интегрированную транспортную компанию.

Обзор литературы

Понятие мотивации, как метода повышения эффективности управления персоналом, рассматривалось еще многими авторами. В этой связи стоит отметить исследования А. Маслоу, Ф. Герцберга. Их исследования двигались в направлении изучения факторов, которые являются базой мотивации. Другие исследования в этой области, в

частности, работы В. Врума, Портера, они содержали сведения о сущности мотивации. Указанными исследователями были написаны различные теории мотивации [2].

В наше время тоже разрабатывались теории мотивации. Они сгруппированы на две части, представлены на рисунке 1.

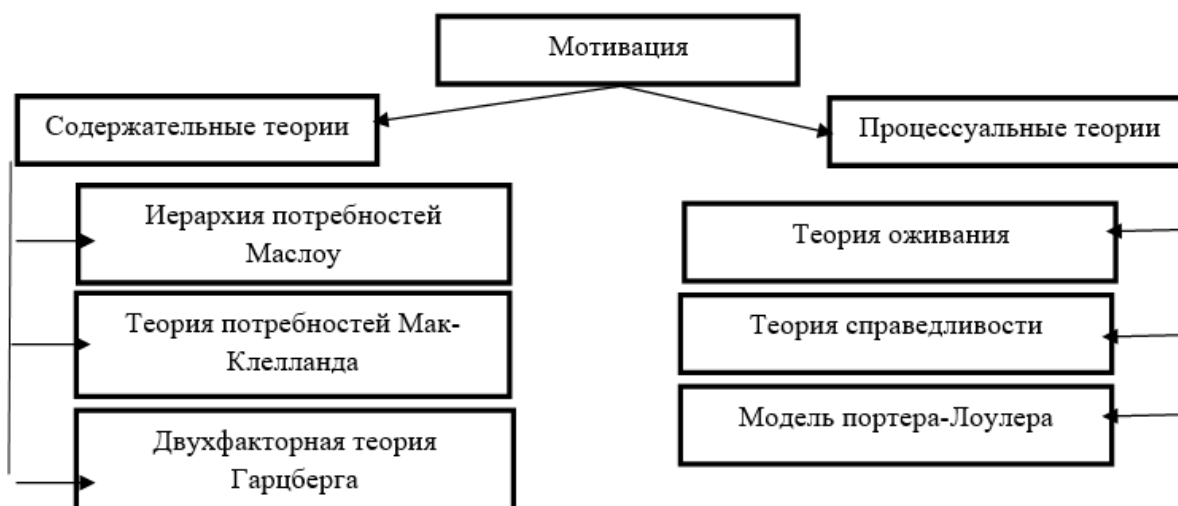


Рис. 1. Современные теории мотивации [4]

Из представленных на рисунке 1 теорий мотивации, стоит отметить известную всем последовательную лестницу потребностей Маслоу [9]. Согласно его теории, все потребности делятся на 5 групп: физиологические потребности; потребности в безопасности и уверенности в будущем; социальные потребности – это потребности в обществе; потребности в уважении, признании; необходимость в самовыражении.

Указанные выше потребности, по мнению Маслоу, должны быть удовлетворены в первую очередь. Соответственно, если применять эту теорию мотивации на предприятии, то управляющему важно осуществлять наблюдение за сотрудниками с целью выявления первоочередных потребностей и их удовлетворения. Сейчас любой опытный руководитель знает, что к сотрудникам нужно относиться внимательно [5]. В этой связи большой акцент делается на управление персоналом. Ниже на рисунке 2 представлены методы мотивации, которые существуют сейчас.

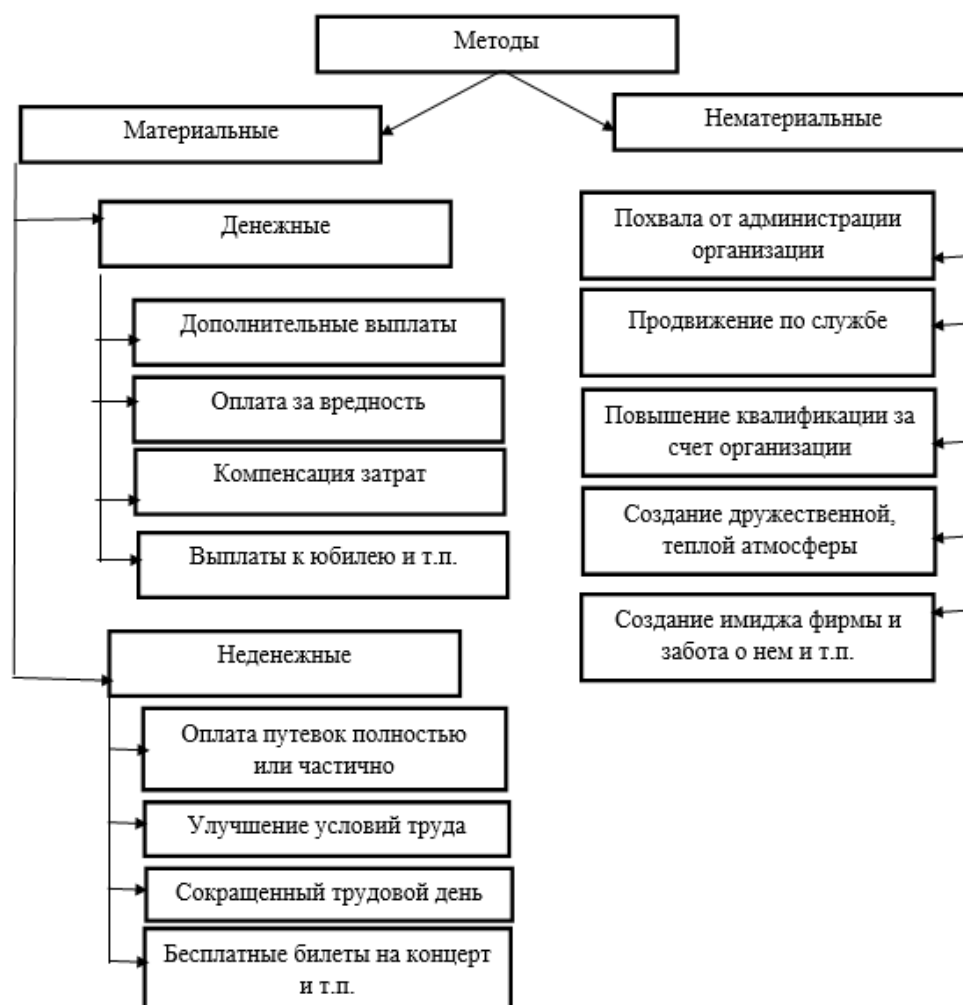


Рис. 2. Методы мотивации персонала

Наиболее известными методами считаются материальные методы мотивации, а именно, речь идет о заработной плате, ее величине [4]. Для многих сотрудников сейчас важным является и наличие социального пакета: оплата больничных, отпуска и т.п. Сюда же входит оплата расходов сотрудников за проезд на транспорте или наличие рабочего транспорта, выплаты к юбилейным датам, выплаты на свадьбу, рождение детей и т.п.

Теоретические основы материального стимулирования труда сформулированы в трудах зарубежных авторов: Дж. Аткинсона, Дж. Кейнса, Э. Локе, К. Маркса, А. Маслоу, М. Мескона, К. Шоу, Ф. Тейлора и других.

Существенный вклад в развитие теории и практики материального стимулирования труда в отечественной экономике в условиях рыночных отношений внесли В.В. Адамчук, Н.А. Волгин, Б.М. Генкин, Ю.П. Кокин, Ю.Г. Одегов, А.И. Рофе, С.В. Шекшня, Р.А. Яковлев и другие.

Различные аспекты совершенствования системы материального стимулирования в организациях исследовались в трудах таких авторов, как

Ю.Ф. Гейц, Д.В. Гордиенко, Н.И. Кабушкин, А.Я. Кибанов, О.А. Макарова, И.В. Мишурова, А.Г. Поршнева, О.В. Ромашов, З.П. Румянцева, Н.А. Саломатина, Э.А. Уткин, И.А. Чеховских и другие.

Методология

Основными методами исследования являются:

- 1) методы организации исследования – комплексный, сравнительный;
- 2) эмпирические методы – архивный метод (анализ документов), анкетирование, наблюдение;
- 3) методы обработки данных – количественный и качественный анализ с применением методов математической статистики.

Результаты

ОАО РЖД представляет собой известную компанию, в которой также, как и везде реализуются различные методы мотивации персонала, в том числе и методы материального стимулирования. Она входит в мировую тройку лидеров железнодорожных компаний, имеет филиалы и представительства в разных городах нашей страны, а также за рубежом.

ОАО «РЖД» использует стратегию, которая направлена на вовлечение специалистов высокой квалификации, их управление и профессиональный рост. Большое внимание в компании уделяется созданию корпоративных ценностей. Кроме того, стоит отметить организацию для работников и их родственников мероприятий социальной направленности. В рамках социальной ответственности ОАО «РЖД» соблюдает принципы Глобального договора ООН. В частности, компания:

- укрепляет человеческие ресурсы;
- внедряет новые методы обучения;
- заботится о здоровье сотрудников в плане безопасности транспортного движения.

Говоря о материальном стимулировании персонала сотрудников ОАО «РЖД», стоит отметить внедрение в компании в 2010 году трехуровневой корпоративной системы вознаграждения, направленной на формирование индивидуальных подсистем для различных функциональных подразделений [3]. Для новой системы характерны следующие составляющие:

- для рабочих - часовые тарифные ставки;
- для руководителей и специалистов - месячные оклады.

Причем все эти составляющие применяются ко всем сотрудникам без гендерной дискриминации. Базой привлечения кадров и их сохранения является Коллективный договор, так как он разработан таким образом, чтобы удержать всех работников.

Но несмотря на это, данный подход не позволяет учесть в полном объеме специфику железнодорожной индустрии, а именно, взаимосвязь между деятельностью сотрудников из разных служб.

Главным мотивом в компании является гарантия материальной заинтересованности персонала в том, чтобы добиться не только личных, но и коллективных показателей результативности [1]. К традиционным методам мотивации в компании относятся такие, как:

- безопасность труда,
- правовая поддержка,
- обеспечение постоянной занятости,
- адаптация подходов руководителей,
- карьерный рост сотрудников согласно их квалификации и личностных качеств;
- организация условий для того, чтобы каждый сотрудник смог себя реализовать.

Конечно, как и в любом предприятии, в ОАО «РЖД», базой материального стимулирования является заработная плата [15]. Её структура непростая, так как оплата труда зависит от категории каждого работника. Схематично представим этот процесс на рисунке 3.

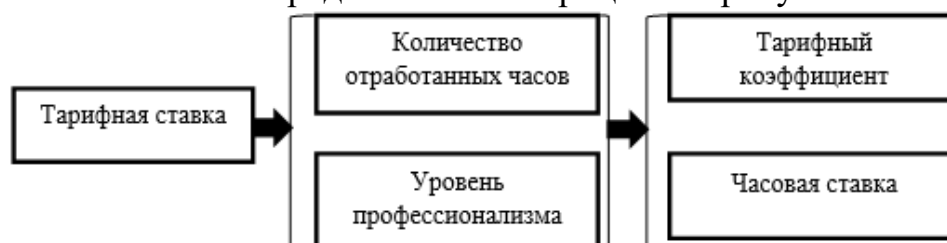


Рисунок 3. Схема формирования структуры заработной платы в ОАО «РЖД»

По данным рисунка 3 видно, что формирование тарифной ставки зависит от количества отработанных часов и уровня профессионализма сотрудника. В свою очередь, все это влияет на формирование тарифного коэффициента и часовую ставку для расчета заработной платы.

В процентном соотношении структура оплаты труда представлена на рисунке 4.

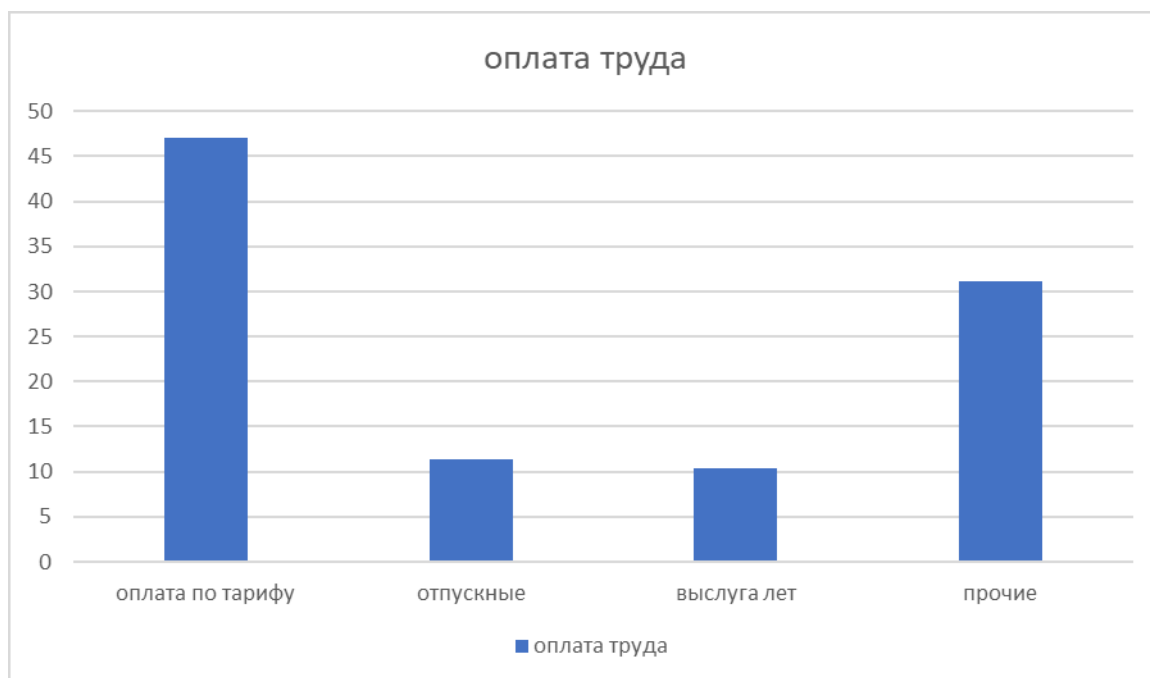


Рисунок 4. Структура оплаты труда в ОАО «РЖД» [20]

По данным рисунка 4 видно, что наибольший удельный вес в структуре персонала компании занимают выплаты по тарифу. В отношении прочих выплат отметим, что туда вошли текущие премии, ночные смены, материальная помощь и классность. Самая наименьшая доля в структуре принадлежит оплате за сверхурочную работу и простои [12].

Несмотря на достаточно плотную и регулярную работу в сфере материального стимулирования персонала, ОАО «РЖД» активно совершенствует подходы к материальной мотивации своих сотрудников. Также компания уделяет значительное внимание на поощрении инновационных и экономически выгодных инициатив. Например, в 2021 году на такое поощрение было выделено 413 млн руб., что охватило 14,4 тыс. специалистов.

Правила расчета и предоставления различных форм вознаграждений за инновационную деятельность отражены в распоряжении ОАО «РЖД» от 03.03.2014 № 552р (с учетом изменений, внесенных распоряжением от 11.03.2015 № 586р) «Об организации инновационной деятельности в ОАО «РЖД».

В рамках распоряжения выделено 2 вида поощрения авторам различных новшеств:

- финансовое вознаграждение за инновационное решение, приносящее экономическую выгоду;

- финансовое вознаграждение за инновационное решение, которое может не иметь прямого экономического эффекта, но оказывает другие положительные последствия [3].

Непосредственная величина данного поощрения определяется согласно годовой экономической выгоды, которая может быть получена в процессе реализации предложенного новшества. При отсутствии экономического эффекта от реализации инновационного решения, размер вознаграждения рассчитывается на основе определенных коэффициентов [12].

Стоит отметить традиционный подход к формированию премирования в компании. Оно делится на текущее и дополнительное. Текущее премирование направлено на повышение материальной заинтересованности работников в достижении как индивидуальных, так и коллективных результатов деятельности. Дополнительное премирование ориентирует производственный персонал на решение адресных производственных задач [15].

Стоит отметить, что в ОАО «РЖД» существует 33 вида дополнительного премирования. Ниже в таблице 1 представлена некоторые из видов дополнительного премирования и количество человек, их получивших.

Таблица 1. Виды дополнительного премирования в ОАО «РЖД»

Виды дополнительного премирования	Количество персонала, получившие премии, тыс. чел.
за обеспечение безопасности движения	101,3
за экономию топливно-энергетических ресурсов	113,7
за предупреждение случаев производственного травматизма	9,4
за обнаружение трудновывяемых дефектов в грузовых и пассажирских поездах	2,2
за выявление нарушений, допущенных при эксплуатации тягового подвижного состава	1,7
за снижение непроизводительных потерь рабочего времени работников локомотивных бригад	1,6
за внедрение проектов бережливого производства	7,3
за наставническую деятельность	6,3
за содействие изобретательству и рационализации; и другие	3,1

В 2022 году компания в условиях значительного инфляционного давления для повышения конкурентоспособности заработной платы своих сотрудников, провела очередную индексацию заработной платы:

- с 1 марта на 4,2%;
- с 1 мая на 5%;

- с 1 августа на 5% [13].

Делалось это в рамках Коллективного договора ОАО «РЖД». Вообще средняя заработная плата работников Компании, занятых во всех видах деятельности, за 2022 год составила 75,6 тыс. руб., что на 15 % выше уровня 2021 года (65,8 тыс. руб.) [14]. Реальная заработная плата возросла на 1 %. Динамика средней заработной платы представлена на рисунке 5.



Рисунок 5. Динамика средней заработной платы в ОАО «РЖД»

Данные рисунка 5 позволяют сделать вывод о положительной динамике средней заработной платы в компании. Рост за период с 2018 по 2022 гг. составил 20,7 тыс. рублей.

Кроме того, ОАО «РЖД» держит уровень по величине заработной платы на рынках труда. Так, в 2022 году заработная плата работников Компании была на 16 % выше средней заработной платы по стране и превысила уровень средней заработной платы во всех субъектах Российской Федерации.

Заключение

Таким образом, для мотивации сотрудников ОАО «РЖД» используются не только финансовые стимулы, но и бюджетные ресурсы, специализированные фонды и нематериальные формы поощрения. Этот подход подкреплён комплексными программами, стратегиями и регулятивными документами, а также наградами за инновационную деятельность.

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Стегалин С.В.
1 курс адъюнктуры
Нижегородская академия МВД России

**ИСПОЛЬЗОВАНИЕ ОТКРЫТЫХ ИСТОЧНИКОВ ИНФОРМАЦИИ
ПРИ РАСКРЫТИИ И РАССЛЕДОВАНИИ ПРЕСТУПЛЕНИЙ,
СОВЕРШЕННЫХ ПОСРЕДСТВОМ ИНФОРМАЦИОННО-
ТЕЛЕКОММУНИКАЦИОННОЙ СЕТИ ИНТЕРНЕТ И СРЕДСТВ
МОБИЛЬНОЙ СВЯЗИ**

Аннотация. Сложности в раскрытии и расследовании преступлений, совершенных посредством информационно-телекоммуникационной сети Интернет и средств мобильной связи, возникают в связи с отсутствием у сотрудников оперативных и следственных подразделений полноценных знаний и опыта в данном направлении, а также с недостаточной оперативностью при сборе сведений, подлежащих установлению. В статье обосновывается необходимость для субъекта выявления и расследования преступлений наличия знаний в сфере современных информационных технологий, выступающих в качестве средств совершения преступлений данной категории, и ориентирования в открытых источниках сведений, позволяющих установить оперативно значимую информацию. В статье автором рассматривается понятие OSINT и разъясняется важность практического применения разведки по открытым источникам сотрудниками правоохранительных органов для оперативного сбора криминалистически значимой информации при раскрытии и расследовании преступлений.

Ключевые слова и словосочетания: Интернет-ресурсы, базовые станции, IMEI, интернет-сайты, IP-телефония, IP-адрес, Интернет-провайдер, хостинг-провайдеры, виртуальная частная сеть, киберпреступления, разведка по открытым источникам, OSINT, интернет-разведка, ориентирующая информация.

Stegalin S.V.
1st year postgraduate
Nizhny Novgorod Academy of the Ministry of Internal Affairs of Russia

**THE USE OF OPEN SOURCES OF INFORMATION IN THE
DISCLOSURE AND INVESTIGATION OF CRIMES COMMITTED
THROUGH THE INTERNET INFORMATION AND
TELECOMMUNICATIONS NETWORK AND MOBILE
COMMUNICATIONS**

Annotation. Difficulties in the disclosure and investigation of crimes committed through the Internet information and telecommunications network and mobile communications arise due to the lack of full-fledged knowledge and experience in this area among the staff of operational and investigative units, as well as insufficient efficiency in collecting information to be established. The article substantiates the need for a subject to identify and investigate crimes to have knowledge in the field of modern information technologies, acting as a means of committing crimes of this category, and orientation in open sources of information that allows to establish operationally significant information. In the article, the author examines the concept of OSINT and explains the importance of the practical application of open source intelligence by law enforcement officers for the rapid collection of criminally significant information in the disclosure and investigation of crimes.

Keywords and phrases: Internet resources, base stations, IMEI, Internet sites, IP telephony, IP address, Internet provider, hosting providers, virtual private network, cybercrimes, open source intelligence, OSINT, Internet intelligence, orienting information.

Стремительное развитие информационных и телекоммуникационных технологий неизбежно повлияло на формирование современного социума и одновременно выступило фактором возникновения новых источников угрозы его функционирования. Недостаточная упорядоченность использования сферы IT-технологий, несовершенство нормативно правовой базы, регулирующей социально-экономические отношения в киберпространстве, сформировали сложную систему криминогенных факторов, оказывающих негативное влияние на общество. Мошенничества, совершенные с использованием средств мобильной связи и сети Интернет, не первый год остаются одними из самых распространенных видов преступной деятельности в современном мире.

В теоретических исследованиях и практических рекомендациях специалистами в области криминалистики неоднократно описывались наиболее распространенные способы совершения мошенничеств с использованием средств сотовой связи: мошенничество, совершенное под предлогом помощи родственнику, попавшему в беду; розыгрыш призов; смс-просьба; телефонная просьба содействия правоохранительным органам в фиксации фактов преступлений; платный код; штрафные санкции оператора; ошибочный перевод средств; вишинг.

Еще более многочисленными и разнообразными являются способы осуществления мошеннических действий, совершенные с использованием сети Интернет. По информации НЦБ Интерпола МВД России, к самым распространенным видам таких преступлений относятся: брачные мошенничества; приобретение товаров и услуг посредством сети

Интернет; крик о помощи; фишинг; нигерийские письма; брокерские конторы.

Вопросы раскрытия и расследования интернет мошенничеств неоднократно становились объектами изучения специалистов в области криминалистики и оперативно-розыскной деятельности, которые в своих работах рассматривают различные аспекты механизма совершения преступлений подобного вида, а также проблемы организационно-правового и информационного характера, возникающие у субъектов выявления и расследования преступлений на различных этапах работы [5, с. 146].

Так, по мнению Н. В. Яджина и В. А. Егорова, «проблема расследования и документирования преступных действий обусловлена недостаточной организацией взаимодействия между правоохранительными органами и учреждениями, опосредованно участвующими в совершении преступлений» [6, с. 164].

С позиции А. Н. Григорьева и Е. В. Титова, проблемой в раскрытии и расследовании киберпреступлений выступает «длительность получения оперативно значимой информации» [2, с. 12], что связано с существованием и использованием множества платежных систем, Интернет-провайдеров, регистраторов доменных имен и т. д.

Говоря о сложности расследования преступлений рассматриваемой категории, указанные специалисты отмечают «недостаточно высокий уровень информационной подготовки у сотрудников следственных и оперативных подразделений, а также отсутствие устоявшейся практики расследования таких преступлений и направления уголовных дел в суд» [2, с. 13].

Практически всеми исследователями отмечается, что существующая в наше время штатная численность и материально-техническое обеспечение специализированных подразделений МВД России, противодействующих киберпреступлениям, не позволяют эффективно бороться с ними [3, с. 26].

Изучение проблемных вопросов, связанных с дефицитом информационного обеспечения при раскрытии и расследовании мошенничеств, совершенных с использованием средств сотовой связи и сети Интернет, позволяет утверждать, что субъект расследования должен уверенно владеть следующими видами компетенций:

- четким пониманием и умением оперировать ключевыми терминами, такими как сотовая связь, базовые станции, IMEI, IP-адрес, VPN (виртуальная частная сеть), интернет-сайт, IP-телефония, Интернет-провайдер;

- обладанием сведениями о возможностях современных информационных технологий, используемых в качестве средств совершения преступлений данной категории;

– умением ориентироваться в открытых источниках установления оперативно значимой информации с учетом критериев запрашиваемых сведений.

Вместе с тем субъект выявления и расследования рассматриваемых преступлений должен четко представлять и реализовывать алгоритм действий, позволяющий зафиксировать факт мошенничества, совершенного с использованием средств сотовой связи либо сети Интернет, и собрать необходимый перечень первоначальных сведений.

Сбор преимущественной части информации, значимой для раскрытия и расследования интернет мошенничеств, происходит, во-первых, посредством подробного допроса потерпевшего и свидетелей обо всех обстоятельствах происшествия; во-вторых, путем направления необходимых запросов операторам сотовой связи, банковским организациям, в случае необходимости — Интернет-провайдерам и хостинг-провайдерам. На оперативность получения сведений, подлежащих установлению, и их объем непосредственно влияют своевременность направления запросов, а также понимание сотрудником правоохранительных органов критериев запрашиваемой информации в зависимости от способа совершенного преступления. Исходя из сказанного нам представляется актуальным изучение вопроса использования сотрудниками правоохранительных органов отдельных Интернет-ресурсов как вспомогательного средства раскрытия и расследования телефонных и интернет-мошенничеств.

В ходе совершения рассматриваемых преступлений для осуществления звонков потерпевшим либо отправки sms-сообщений в целях получения конфиденциальных данных, необходимых для хищения денежных средств с банковских счетов и карт, злоумышленники используют различные абонентские номера. Регистрация этих номеров происходит путем оформления абонентского договора, для чего оператору мобильной связи нужно предоставить персональную информацию: Ф. И. О., пол, возраст, дата рождения, место рождения, место регистрации, полные паспортные данные. Указанные данные отображаются в карточке клиента, на которой фиксируются сведения о включении и выключении мобильного устройства, информация о расходах и пополнениях лицевого счета, направлении вызовов, sms-сообщений, их содержании, посещенных интернет-сайтах, скачанных файлов, используемых приложениях, совершенных онлайн-покупках, месторасположении и IMEI мобильного устройства, номер sim-карты и ID-соты. Эти сведения предоставляются оператором сотовой связи субъекту — инициатору проверки.

Рассматривая мобильный телефон в качестве наиболее распространенного средства совершения интернет-преступлений, субъекту расследования следует принимать в расчет особенности его эксплуатации. Сотовая связь представляет собой разновидность радиосвязи, а сотовый

телефон выступает средством, отправляющим и принимающим сигнал с другого устройства, при этом на пути данного сигнала расположены базовые станции, ретранслирующие сигнал и помогающие сохранять непрерывную связь на больших расстояниях. В то же время в биллинге оператора сотовой связи, предоставившего услуги, происходит сбор информации об использовании телекоммуникационных услуг, их тарификации, выставлении счетов абонентам, обработка платежей, сохраняется информация о времени и продолжительности вызова, номер базовой станции.

Истребовав у оператора сотовой связи сведения о координатах базовых станций отдельного абонента с помощью интернет-ресурса xinit.ru (<https://xinit.ru/bs/>), сотрудник правоохранительных органов может воспользоваться сервером «Координаты базовых станций» и установить зону действия той или иной станции.

Наиболее перспективным является анализ сведений, содержащих данные о сеансах связи абонента с различными базовыми станциями. Установление этой информации дает возможность определить схему перемещений абонента, его местонахождение в определенное время, личность субъекта, с которым происходила встреча (если другой человек пользовался сотовым телефоном), относительная и абсолютная продолжительность встречи, ее территориальность (близость от места совершения преступления).

Несмотря на то что метод установления местонахождения абонента путем использования данных, полученных через сеансы связи с различными базовыми станциями, не дает абсолютно точных сведений, подпадая под влияние ряда факторов (топография местности, помехи от зданий и т. д.), данный способ может быть эффективен при доказывании совершения преступления группой лиц и установлении соучастников преступных действий.

Кроме того, большинство авторов, изучающих рассматриваемую тему, отмечают, что значительная часть интернет-мошенничеств совершается лицами, отбывающими наказание в исправительных учреждениях [4]. Поэтому, если в зоне действия установленной базовой станции будет находиться конкретное исправительное учреждение, целесообразно направить поручение о проведении отдельных оперативно-разыскных мероприятий в рамках расследуемого уголовного дела об отработке на причастность к совершенному преступлению лиц, отбывающих наказание на его территории, а также запросить сведения о лицах, судимых за совершение преступлений указанной категории, что может помочь в установлении дополнительных эпизодов преступной деятельности и возможных соучастников преступных действий.

Располагая информацией об IMEI (серийном номере) сотового телефона, которым пользуется мошенник, сотрудник правоохранительных

органов, используя Интернет-ресурс IMEI.info (www.imei.info), может установить марку и модель указанного мобильного устройства, его местонахождение, даже в случае замены sim-карты, осуществленной с целью сокрытия следов преступления.

В случае установления сведений о нахождении мобильного телефона, с которого осуществлялись преступные действия, в другом государстве сотрудник правоохранительных органов может подготовить и направить международное поручение через НЦБ Интерпол на установление местонахождения лица, использующего данный мобильный телефон.

Отдельно следует отметить, что с развитием цифровых технологий мошенники стали использовать для совершения преступлений в сфере информационных технологий IP-телефонию, которая выступила альтернативой мобильной связи и городскому телефону, при этом позволяет осуществлять звонки не только в пределах Российской Федерации, но и по всему миру. Вместо автоматической телефонной станции при использовании IP-телефонии выступают серверы SIP-провайдеров, которые соединяются с серверами других SIP-провайдеров телефонными сетями общего пользования или станциями мобильной связи через интернет-канал.

При расследовании преступлений, совершенных с использованием IP-телефонии, субъекту расследования следует знать, что подключение данной технологии предусматривает необходимость выбора провайдера, среди которых наиболее востребованными являются «Задарма», Telphin, Sipnet. Для регистрации у конкретного провайдера необходимо предоставить в его адрес свои установочные данные: имя, адрес электронной почты, пароль и номер мобильного телефона. Каждому Интернет-провайдеру при этом выделяется определенное количество IP-адресов в конкретном диапазоне. IP-адрес представляет собой уникальный идентификационный номер, который получает пользователь для идентификации технического устройства, с помощью которого осуществляется выход в Интернет, — это своего рода адрес компьютера в сети. Расследование мошенничеств, связанных с использованием средств сотовой связи и сети Интернет, предусматривает необходимость установления сотрудником правоохранительных органов IP-адреса пользователя и Интернет-провайдера, что возможно при использовании Интернет-ресурса 2IP (www.2ip.ru).

Владение сведениями об Интернет-провайдере позволит сотруднику правоохранительных органов направить в его адрес запрос о предоставлении установочных данных физического либо юридического лица, зарегистрировавшего конкретный IP-адрес. Анализ полученной информации даст возможность установить местонахождение мошенника

либо технического устройства, с которого осуществлялись преступные действия.

Однако отметим, что получение сведений по IP-адресам усложняется использованием в ходе совершения преступления средств анонимизации в сети, которые называются VPN (виртуальная частная сеть). Данный вид связи предусматривает одно или несколько сетевых соединений поверх другой сети. VPN используется для различных задач: защиты персональных данных и конфиденциальности, виртуализации местоположения, разблокировки доступа для ускорения соединений, совершения интернет-покупок, а также для сокрытия следов преступления, совершенного в сети Интернет. В результате лицо, совершающее преступление, использует сервер третьего лица, которое чаще всего локализуется преимущественно за пределами Российской Федерации. Этот сервер нередко принадлежит иностранным Интернет-провайдерам, которым весьма затруднительно направить запрос в рамках российского правового поля.

Основной задачей сотрудника правоохранительных органов при раскрытии и расследовании мошенничеств, связанных с использованием интернет-сайтов, выступает установление регистратора домена, поэтому целесообразно использовать следующие Интернет-ресурсы: whois.ru (<https://whois.ru/>), регистратор доменных имен (www.reg.ru).

При установлении регистратора домена и обладая знаниями о предоставляемых для регистрации домена сведениях, сотрудник органов внутренних дел может направить запрос для истребования данных о физическом либо юридическом лице (лицах), осуществляющих оплату доменного имени. Анализ полученной информации позволит организовать дальнейшее расследование, направленное на установление лиц, причастных к совершению преступления.

При раскрытии и расследовании преступлений необходимо оперативно получать данные для их своевременного анализа и использования в служебной деятельности. При этом могут применяться специальные средства и методы с целью получения информации о замыслах, планах и мероприятиях преступника, а также для изучения его (их) личности. К таким методам относится интернет-разведка (OSINT – Open Source Intelligence) [1, с. 64].

На сегодняшний день США занимают лидирующую позицию в области разведки, огромные денежные ресурсы, выделяемые их правительством, позволяют создавать программное обеспечение для сбора и анализа большого объема цифровых данных (например, Palantir).

Необходимо отметить, что конкурентная разведка в России принципиально отличается от мировой разведки по открытым источникам. В мире конкурентная разведка – часть деятельности маркетинга. Специалист по маркетингу осуществляет бечмаркинг. В России

конкурентную разведку (OSINT) можно сравнить с контрразведкой, и ее осуществляют службы безопасности.

OSINT – это разведывательная дисциплина, включающая в себя поиск, выбор, сбор разведывательной информации из общедоступных источников, а также ее анализ. Источники OSINT отличаются от других форм разведки, поскольку они должны быть легально доступны общественности без нарушения каких-либо законов или конфиденциальности.

90% полезной информации, получаемой спецслужбами, поступает из открытых источников. Сегодня социальные сети и иные сайты, содержащие персональные данные, открывают большие возможности для сбора информации о лице. Например, можно получить много данных о человеке по всему миру, просто проверив личную страницу этого человека в Facebook, «ВКонтакте» и других социальных сетях.

С помощью OSINT можно не только проводить сбор данных в социальных сетях, но также использовать расширенные запросы поисковых систем для предоставления наиболее точных результатов поиска, осуществлять поиск удаленных версий веб-сайтов, отслеживать людей и их деятельность в Интернете с помощью общедоступных баз данных и эффективных инструментов поиска, просматривать спутниковые изображения любой улицы мира, искать геолокацию лица и многое другое.

OSINT применяется не только для сбора данных из онлайн-источников. Бумажные издания при необходимости также могут исследоваться в рамках процесса сбора данных, однако онлайн-источники составляют самый большой сегмент OSINT.

Если раньше, чтобы получить какие-то данные о лице, необходимо было посетить некоторое количество Интернет-ресурсов, то на сегодняшний день для автоматизации OSINT существуют различные интегрированные интернет-ресурсы и программные средства (например, Maltego, FOCA, Creepy, NameChk. com, Yateda.com). Сервисы представляют из себя платформы, на которых можно сразу провести комплекс действий: и поиск информации, и анализ результатов, и мониторинг дальнейших изменений.

Резюмируя вышеизложенное, отметим, что сотрудники полиции, особенно подразделений следствия, дознания и уголовного розыска, должны изучить и в дальнейшем применять в своей профессиональной деятельности приемы и методы OSINT. Так как благодаря разведке по открытым источникам можно получить криминалистически значимую информацию ориентирующего характера, которая может быть использована для выдвижения версий, определения направлений расследования, планирования следственного действия, прогнозирования возможной линии поведения участников уголовного процесса и возможного противодействия расследованию.

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Стегалин С.В.
1 курс адъюнктуры
Нижегородская академия МВД России

**ПРОБЛЕМА КОМПЛЕКТОВАНИЯ СПЕЦИАЛИЗИРОВАННЫХ
ПОДРАЗДЕЛЕНИЙ ОВД РФ ПО РАСКРЫТИЮ ПРЕСТУПЛЕНИЙ,
СОВЕРШЕННЫХ С ИСПОЛЬЗОВАНИЕМ ИНФОРМАЦИОННО-
ТЕЛЕКОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ**

Аннотация. Для эффективной борьбы с IT-преступностью требуется наращивание внутренних ресурсов правоохранительных органов. Достижение положительного эффекта в борьбе с преступлениями в сфере цифровых технологий обусловлено созданием специализированных подразделений МВД России, в том числе в органах предварительного расследования. Стратегически правильное определение задач и функций новых подразделений на уровне МВД России, а также грамотно выстроенная и последовательная управленческая работа руководителя следственного подразделения способны повысить качество раскрытия и расследования преступлений, совершенных с использованием информационно-телекоммуникационных технологий.

Ключевые слова и словосочетания: IT-преступность; информационно-телекоммуникационные технологии; киберпреступление; специализированное подразделение; специализированная следственно-оперативная группа.

Stegalin S.V.
1st year postgraduate
Nizhny Novgorod Academy of the Ministry of Internal Affairs of Russia

**THE PROBLEM OF RECRUITING SPECIALIZED DEPARTMENTS
OF THE MINISTRY OF INTERNAL AFFAIRS OF THE RUSSIAN
FEDERATION TO SOLVE CRIMES COMMITTED USING
INFORMATION AND TELECOMMUNICATION TECHNOLOGIES**

Annotation. In order to effectively combat IT crime, it is necessary to increase the internal resources of law enforcement agencies. The achievement of a positive effect in the fight against crimes in the field of digital technologies is due to the creation of specialized units of the Ministry of Internal Affairs of Russia, including in the bodies of preliminary investigation. Strategically correct definition of the tasks and functions of new units at the level of the Ministry of Internal Affairs of Russia, as well as well-structured and consistent managerial work of the head of the investigative unit can improve the quality of

disclosure and investigation of crimes committed using information and telecommunication technologies.

Keywords and phrases: IT crime; information and telecommunication technologies; cybercrime; specialized unit; specialized investigative task force.

Значимость противодействия IT-преступности неоднократно обозначалась как Президентом Российской Федерации В. В. Путиным, так и руководством МВД России на протяжении последних нескольких лет. Так, 17 февраля 2022 г. на заседании коллегии МВД России, на котором были подведены итоги оперативно-служебной деятельности, Министр внутренних дел Российской Федерации генерал полиции В. А. Колокольцев отметил достигнутый определенный эффект, который дали предложенные министерством меры по предупреждению IT-преступлений [1, с. 19].

Обозначенные В. А. Колокольцевым результаты достигнуты благодаря последовательной работе по улучшению качества раскрытия, расследования преступлений указанной категории следователями системы МВД России. Ученые-криминалисты также отмечают прогресс в этой сфере.

Так, Ю. В. Гаврилин и А. Г. Парадников пишут: «Следует заметить, что в последнее время наметилась позитивная тенденция повышения эффективности деятельности органов внутренних дел в сфере противодействия высокотехнологичной преступности, что является результатом системной и последовательной работы в данном направлении [2, с. 125].

В рамках реализации решения коллегии МВД России от 1 ноября 2019 г. № 3км в территориальных органах МВД России проведены организационно-штатные мероприятия, итогом которых стало создание как на районном, так и на региональном уровнях специализированных подразделений по расследованию преступлений в сфере информационно-телекоммуникационных технологий (далее – ИТТ).

Кроме создания специализированных подразделений, с учетом отсутствия достаточного количества сотрудников, в ряде регионов издаются приказы о специализации отдельных следователей, которые проводят уголовно-процессуальную проверку, а также последующее расследование преступлений в сфере ИТТ. Расследование же наиболее сложных уголовных дел, по которым установлены лица, совершившие преступления в составе организованной преступной группы, поручается следователям следственных частей ГСУ и СУ.

Практика выделения в структуре следственных подразделений, специализированных не является единой как на региональном, так и на районном уровнях. В ряде регионов Российской Федерации с целью повышения эффективности взаимодействия подразделений органов

внутренних дел при раскрытии и расследовании преступлений, совершенных с использованием компьютерных и телекоммуникационных технологий, оперативного сопровождения уголовных дел, оказания территориальным органам МВД России на районном уровне практической и методической помощи в их раскрытии и расследовании, а также выявления признаков серийности и многоэпизодных дел, имеющих межрайонный и межрегиональный характер, реализации мер совместной работы по возмещению ущерба, причиненного преступлениями, создаются рабочие группы по оказанию территориальным органам на районном уровне практической и методической помощи в раскрытии и расследовании уголовных дел о преступлениях, совершенных с использованием ИТТ (Псковская область, Тверская область, Свердловская область).

В состав рабочих групп включаются сотрудники следственных, оперативных подразделений, подразделений специальных технических мероприятий, отдела дознания, отделов информации и общественных связей, участковых уполномоченных полиции.

Основными задачами подобных рабочих групп в целом является организация взаимодействия структурных подразделений по раскрытию и профилактике преступлений, связанных с хищением денежных средств, совершенных с использованием ИТТ, повышению эффективности проводимых мероприятий, направленных на профилактику и раскрытие преступлений рассматриваемой категории, по своевременному и качественному взаимообмену оперативно значимой информацией.

Кроме того, в целях повышения эффективности работы территориальных органов внутренних дел МВД России на региональном и на районном уровнях по организации и усилению борьбы с хищениями, совершаемыми с использованием ИТТ, а также в целях своевременного, полного, всестороннего и объективного расследования преступлений названной категории существует практика создания специализированных следственно-оперативных групп (далее – ССОГ).

Задачами ССОГ являются: реагирование на своевременное возбуждение уголовных дел по указанной категории преступлений, проведение мониторинга сообщений о преступлениях, совершенных с использованием ИТТ, обеспечение оперативного взаимодействия и обмена информацией, получаемой различными подразделениями, но в первую очередь раскрытие и расследование конкретных уголовных дел.

На необходимость постоянного повышения квалификации и профессионализма сотрудников следственных подразделений, знания которых не всегда достаточны для качественного расследования указанной категории уголовных дел указывают Ю. В. Гаврилин и Я. Р. Реент [3, с. 96]. В целях повышения профессионального уровня следователей вышеуказанных подразделений и ССОГ на постоянной основе проводятся

занятия, изучаются методические рекомендации и обзоры, подготовленные Следственным департаментом МВД России, обзоры, подготовленные контрольно-методическими подразделениями по расследованию преступлений обозначенной категории. По мнению А. В. Сибильковой и А. С. Беляева, рациональнее доводить до следователей и специалистов (экспертов) оперативную экспресс-информацию в виде систематической рассылки, а также в ходе дополнительной профессиональной подготовки (стажировок, повышения квалификации) и совместных совещаний посредством видео-конференц-связи. К этой деятельности целесообразно привлекать профессионалов компаний, специализирующихся на информационной безопасности [4, с. 180]. Задачи формирования компетенций по противодействию преступлениям, совершенным с использованием ИТТ на более высоком уровне, решаются в Академии управления МВД России.

Однако только дополнительное создание специализированных подразделений в целях повышения качества борьбы с ИТ-преступностью не обеспечит достижения указанных целей без грамотно выстроенной и организованной управленческой работы руководителя следственного подразделения.

В связи с вышеизложенным организационно-управленческая деятельность руководителя должна включать в себя:

- информационно-аналитическое обеспечение;
- планирование деятельности органов предварительного следствия системы МВД России и их сотрудников;
- организацию принятия и реализации управленческих решений;
- взаимодействие и координацию всех подразделений.

Не менее важное значение имеют и такие составляющие организационной деятельности руководителя следственного подразделения как ресурсное обеспечение, включающее в себя кадровое, материально-техническое и финансовое.

Состав следственно-оперативной группы при расследовании киберпреступлений весьма разнообразен: это специалист-криминалист, специалист по средствам вычислительной техники, сотрудник ФСТЭК России, Центра защиты информации (при обнаружении на месте осмотра конфиденциальной компьютерной информации, машинных носителей, специальных средств защиты от несанкционированного доступа и (или) технических средств негласного получения (уничтожения, блокирования) компьютерной информации), специалист по сетевым технологиям (в случае наличия периферийного оборудования удаленного доступа или локальной компьютерной сети), специалист по системам электросвязи (при использовании для дистанционной передачи данных каналов электросвязи), оперативные сотрудники БСТМ. Также в состав группы

могут входить бухгалтеры, специалисты спутниковых систем связи, операторы компьютерных систем и сетей электросвязи и др.

Таким образом, при всех недостатках в деятельности специализированных подразделений, сформированных для раскрытия и расследования преступлений в сфере ИТТ, имеется положительная динамика в борьбе с указанным видом преступности в абсолютных показателях по раскрытию данной категории преступлений и направлению уголовных дел в суд. Следователи и руководители проводят в данном направлении планомерную работу, которая оказывает положительный эффект на конечные результаты.

Для противодействия преступлениям в сфере ИКТ и компьютерных технологий правоохранные органы должны обладать знанием способов совершения таких преступлений, тактики и методики выявления, раскрытия и расследования преступлений данной категории; стремиться к превосходству над злоумышленниками в уровне технической оснащенности и скорости получения информации. Особенно актуален данный вопрос при осуществлении противодействия мошенничествам и кражам, совершенным с использованием ИКТ. Однако многие сотрудники ОВД, осуществляющие противодействие преступлениям, совершенным с использованием современных информационно-коммуникационных технологий, сталкиваются с рядом существенных трудностей при получении необходимой информации, что негативно сказывается на итогах оперативно-служебной деятельности.

Кроме того, у сотрудников ОВД, осуществляющим противодействие преступлениям, совершенным с использованием современных информационно-коммуникационных технологий, должны быть сформированы следующие профессиональные компетенции: способен использовать компьютерную технику, справочно-правовые информационные системы, учеты и автоматизированные информационно-поисковые системы при осуществлении служебной деятельности, в том числе с учетом требований информационной безопасности; способен решать задачи служебной деятельности по выявлению, предупреждению, пресечению и раскрытию преступлений и иных правонарушений, в том числе совершаемых с использованием ИТТ; способен осуществлять деятельность по формированию оперативных и иных учетов, использованию информационных ресурсов и технологий для решения задач оперативно-розыскной деятельности.

Совершение ряда преступных деяний не позволяет объективно оценивать масштабы киберпреступности. Сфера кибербезопасности тоже достаточно широкая и сложная, однако правоохранным органам в ней отведена отдельная и очень важная роль. Преступления требуется фиксировать документально, хотя они существуют в киберпространстве, что заставляет правоохрannительную систему учиться использовать новые

методы в борьбе с преступностью, разрабатывать способы, которые бы помогали достигать эффективного и быстрого результата в данном вопросе.

МВД активно сотрудничает с этой целью с Роскомнадзором, интернет-провайдерами, Генеральной прокуратурой Российской Федерации, СМИ. Стоит отметить, что последние играют роль информатора, который помогает населению повышать компьютерную грамотность и не попадаться на уловки мошенников.

Важно решить проблему с кадровым дефицитом органов МВД, не только набрать оптимальное число сотрудников, но и обучить их правильной тактике борьбы с преступлениями в сфере информационных технологий. Стоит обратить особое внимание на то, что преступления, совершенные в киберпространстве, не могут быть раскрыты классическими методами расследования. Образовательная система органов МВД должна проводить специальную подготовку по поднятому в данном материале вопросу, обучение также может потребоваться не только будущим, но и действующим сотрудникам.

Основополагающую роль в методике раскрытия кибермошенничества играют тактические приемы проведения следственных действий. Стоит обратить внимание на то, что данный вид преступной деятельности весьма специфический. Для его раскрытия сотрудники правоохранительных органов должны иметь соответствующие знания. Часто следователь не может выстроить правильную линию допроса из-за отсутствия таких знаний. Из-за этого у мошенника появляется возможность запутать следствие, используя специфические знания, которыми он обладает.

Этот же момент можно отнести к проведению судебной экспертизы. Часто следователь не обладает достаточно глубокими знаниями в вопросе кибермошенничества и не может правильно поставить вопросы перед экспертом. Это не позволяет получить исчерпывающий или точный ответ.

Для решения этой проблемы необходимо обучение следователей специфической методике раскрытия киберпреступлений. Сотрудник следственных органов должен хорошо представлять, что такое киберпространство, как это работает, иметь в этой области высокую квалификацию, уметь правильно ставить вопросы перед обвиняемым и экспертом, разбираться в специфических терминах, понимать механизмы работы в киберпространстве. Такой подход обеспечит более качественное проведение допросов и иных следственных действий.

Совершенствование методик выражается не только в повышении уровня знаний сотрудников правоохранительных органов, но и улучшении технического обеспечения, появлении новых криминалистических лабораторий, способных осуществлять экспертизу.

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Суяров А.
ассистент
Джизакский политехнический институт
Рустамов Ж.
студент
Джизакский политехнический институт

ПОТЕНЦИАЛ ВЕТРОВОЙ ЭНЕРГИИ И ЕГО ИССЛЕДОВАНИЕ

Аннотация. В данной статье изучены и проанализированы потенциальная эффективность ветряная энергетики и коэффициенты ее полезной работы по регионам.

Ключевые слова: ветровой энергии региона, ветроэнергетической системы, потенциала возобновляемых источников энергии.

Suyarov A.
assistant
Jizzakh Polytechnic Institute
Rustamov J.
student
Jizzakh Polytechnic Institute

WIND ENERGY POTENTIAL AND ITS RESEARCH

Annotation. This article studies and analyzes the potential efficiency of wind energy and its efficiency coefficients by region.

Key words: regional wind energy, wind energy system, potential of renewable energy sources.

Исходя из общего определения технического потенциала возобновляемых источников энергии, а также отмеченной выше специфики использования ветровой энергии, можно сформулировать следующее определение/58/.

Технический потенциал ветровой энергии региона — это суммарная электрическая энергия, которая может быть получена в регионе от использования валового потенциала ветровой энергии при современном уровне развития технических средств и соблюдении экологических ограничений.

Технический потенциал региона представляет сумму технических потенциалов составляющих его зон.

Методика определения технического потенциала ВЭ. Один из основных параметров технического потенциала зоны представляет площадь территории ST , m^2 , которая по хозяйственным и экологическим

соображениям представляется целесообразной для использования ветровой энергии; она равна части q общей площади S , остающейся после вычитания площадей сельскохозяйственных угодий, промышленных и водохозяйственных территорий, парков, жилых, медицинских и культурных строений и др[1].

$$S_T = q \cdot S \quad (1)$$

Значения q являются специфическими для каждой зоны, причем в настоящее время приняты следующие правила:

- утилизация ветровой энергии целесообразна в районах, где среднегодовая скорость ветра не ниже 5 м/с, или, в соответствии с более точным подходом, коэффициент использования установленной мощности ветроэлектрической установки большого класса мощности (более 100 кВт) оказывается не ниже 20 %;

в указанных районах для развития ветроэнергетики может быть использовано не более 30 % территории;

- наиболее эффективной является утилизация ветровой энергии с помощью ветроэлектрических установок большой мощности (от 100 до 500 кВт).

Другими важными параметрами технического потенциала являются достижимый технический уровень современных ветроэлектрических установок (по условию - с горизонтальной осью вращения ветротурбины на высоте $h = 50$ м), выражающийся как максимально достижимая мощность в зависимости от скорости ветра, а также порядок размещения ветроэлектрических установок для максимального использования ветрового потока.

Зависимость мощности ветроэлектрической установки $N(v)$, Вт, с диаметром ветротурбины D , м, от скорости ветра определяется выражением:

$$N(v) = \frac{\pi}{4} \cdot D^2 \cdot P(v) \cdot \eta(v) = \frac{\pi}{8} \cdot D^2 \cdot \rho \cdot v^3 \cdot \eta(v), \quad (2)$$

где $\eta(v)$ — кпд установки при данной скорости ветра.

Средняя мощность ветроэлектрической установки $\langle N \rangle$, Вт, приобретает

Выражение

$$N(v) = \frac{\pi}{8} \cdot D^2 \cdot \rho \sum_{i=1}^n v_i^3 \cdot \eta(v_i) \cdot t_i \quad (3)$$

Ее математическое ожидание имеет вид

$$M[N] = \int_0^{\infty} N(v) f(v) dv = \frac{\pi}{8} \cdot D^2 \cdot \rho \cdot \int_0^{\infty} v^3 \cdot \eta(v) \cdot f(v) dv \quad (4)$$

Порядок размещения ветроэлектрических установок для максимального использования ветрового потока в общем случае зависит от розы ветров на местности.

Если ветры имеют одно преимущественное направление, например, на побережье морей, то, как и при расчете валового потенциала, оптимальная структура ветроэнергетической системы соответствует расположению ветроэлектрических установок в виде рядов, ориентированных перпендикулярно ветру и отстоящих друг от друга на расстоянии $20D$. При этом на площади S_T можно разместить $S_T/(20 \cdot D^2)$ установок, так что энергия, вырабатываемая в течение года ($T = 8760$ ч/год) всеми установками на площади S_T , т. е. технический потенциал ветровой энергии W_T , кВт·ч/год, оказывается равной

$$W_T = \frac{\langle N \rangle}{1000} \cdot T \cdot \frac{S_T}{20 \cdot D^2}, \quad (5)$$

что при учете выражения (5) дает:

$$W_T = \frac{T \cdot S_T}{1000000} \cdot \frac{\pi}{1.6} \cdot \rho \cdot \sum_{i=1}^n v_i^3 \cdot \eta(v_i) \cdot t_i \quad (6)$$

Если ветры могут менять свои направления примерно равномерно по румбам, то ветроэлектрические установки целесообразно размещать в шахматном порядке с расстоянием между ближайшими станциями $20D$. При этом на площади S_T можно разместить $S_T/(100D^2)$ установок, так что технический потенциал ветровой энергии W_T , кВт·ч/год, оказывается равным

$$W_T = \frac{\langle N \rangle}{1000} \cdot T \cdot \frac{S_T}{100 \cdot D^2}, \quad (7)$$

что для (3) дает

$$W_T = \frac{T \cdot S_T}{1000000} \cdot \frac{\pi}{8} \cdot \rho \cdot \sum_{i=1}^n v_i^3 \cdot \eta(v_i) \cdot t_i \quad (8)$$

т. е. в 5 раз меньше потенциала (6).

В более общем случае, когда существует преимущественный сектор направлений ветра, целесообразно обеспечить специальное размещение ветроэлектрических установок на территории и, в таком случае, технический потенциал будет представляться значением промежуточным между (5) и (7).

Следует отметить, что технический потенциал ветровой энергии оказывается независимым от диаметра ветроколеса D т. е. от абсолютной мощности используемых ветроэлектрических установок [2].

Зависимость мощности современных ветроэлектрических установок от скорости ветра $N(v)$ включает три характеристические значения скорости: минимальное значение, или скорость включения v_B , такая что при $v \leq v_B$ мощности ветро-турбины не хватает даже на преодоление момента сил трения на оси турбины, т. е. $N(v) = 0$; расчетное значение v_p , такое, что при $v_B \leq v \leq v_p$ ветроэлектрическая установка развивает мощность и достигает номинального или установленного значения N_p ; максимальное значение, или скорость отключения, v_0 , такая, что в области $v_p \leq v \leq v_0$ поддерживается

постоянная мощность за счет регулирующих устройств. При $v \geq v_0$ энергия ветра не используется во избежание поломки установки.

Поэтому зависимость КПД от скорости $\eta(V)$ является весьма сложной.

Зависимость $N(v)$ является основной технической характеристикой, специфической для каждой ветроэлектрической установки и, строго говоря, должна входить в ее паспортные данные. Для оценки современного технического уровня разработок существуют две теоретические модели описания предельных характеристик мощности ветроэлектрической установки, представленные ниже/58/.

В Узбекистане имеется положительный опыт использования ВЭУ серийного изготовления мощностью 3 и 6 кВт в составе пилотной солнечно-ветровой системы электроснабжения объекта телекоммуникации в предгорной зоне, а также ВЭУ мощностью 6 кВт на равнинной местности. Расчеты показали возможность создания ветроэлектростанций мощностью до 200 МВт, используя ветроэнергопотенциал наиболее перспективной зоны территории страны плато Устюрт на северо-западе Узбекистана.

Для развития ветроэнергетики в республике необходимо:

- наладить измерение скоростей ветра на высотах до 150 м в наиболее ветроэнергоперспективных зонах;
- организовать производство ветроэнергетического оборудования на местных машиностроительных заводах [3].

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Суяров А.
ассистент
Джизакский политехнический институт
Норбутаев Д.
студент
Джизакский политехнический институт
Рамазонов Г.
студент
Джизакский политехнический институт

ВЫБОР ПАРАМЕТРОВ КОМБИНИРОВАННЫХ УСТАНОВОК ВИЭ

Аннотация. В данной статье рассмотрены и проанализированы комбинированные параметры установки ветроэнергетических установок.

Ключевые слова: ВИЭ, ВИЭ аккумулятора, комбинированной, энергоустановок ВИЭ.

Suyarov A.
assistant
Jizzakh Polytechnic Institute
Norbutaev D.
student
Jizzakh Polytechnic Institute
Ramazonov G.
student
Jizzakh Polytechnic Institute

SELECTION OF PARAMETERS OF COMBINED RES INSTALLATIONS

Annatation: This article discusses and analyzes the combined parameters of the installation of wind power plants.

Key words: RES, RES battery, combined, RES power plants.

Одна из основных задач в области использования энергоустановок ВИЭ это обеспечение их экономической целесообразности. Для решения этой задачи необходимо знать зависимости между технико-экономическими параметрами и показателями установок ВИЭ, что существенно усложняется, учитывая переменность ВИЭ во времени и в связи с этим сложностями согласования режимов выработки и потребления энергии, а также, как правило, необходимостью в установках ВИЭ аккумулятора энергии (АБ). Для определения экономических характеристик [1].

В общем расчет экономических характеристик установок ВИЭ при известных Т-Э характеристиках может проводиться обычными способами. Однако переменность ВИЭ и в связи этим переменность энергетических характеристик требует учета этих особенностей ВИЭ в расчетах.

На примере комбинированной ВЭУ и гелиоустановки была впервые рассмотрена особенность расчета т-э установок ВИЭ. В основе предложенного "композиционного" метода лежало рассмотрение структуры реальных колебаний производительности ветроустановки Q_B и гелиоустановки Q_E , как отдельных расчлененных компонентов исследуемого процесса Q . Можно отметить, что в работе впервые предложено проводить анализ на основе баланса "производительности", учтено в уравнениях и наличие аккумулятора и случайного характера поступления ВИЭ. Основной вывод из анализа методики это, что исследования возобновляемых источников энергии композиционным методом при водохозяйственном и энергетическом использовании этих источников должны производиться по всему месяцу за 15-20 лет, чтобы прогнозировать достаточно достоверные статистические закономерности. В общем можно отметить, что средние данные по ВИЭ (ветер и Солнце) в целом, очевидно постоянны, особенно для месяцев и сезонов, однако также очевидно, что для конкретного дня будут иметь место достаточно большие расхождения между средними и реальными величинами поступления ВИЭ [1].

На основе разработанной методики автор/10/ провел обобщенные исследования КЭУ для случаев водоснабжения пастбищ пустыни Кызылкум, электроснабжения станции радиорелейных линий связи (РРЛ) по трассе Бухара – Урал с ответвлением в г. Нукус, а также для трассы Газалкент – Чарвакская зона отдыха/11/. Расчеты проводились с целью определения объема аккумулятора воды (А) при различных величинах обеспеченности потребителя. Показано, что при 90% обеспеченности объем А воды, а также электрической АБ при 98% обеспеченности энергией РРЛ при использовании КЭУ в 3 раза меньше летом и в 5.5 раз меньше осенью, чем при раздельном использовании СЭУ и ВЭУ. Указано, что окончательный выбор параметров КЭУ следует делать путем т-э сопоставления вариантов установок. Однако, каковы при этом стоимости КЭУ и её составляющих не были рассмотрены.

В/12/ была предложена математическая модель расчета и оптимизации основных параметров КЭУ (гелио+ветер). Основное уравнение модели — это суммарные приведенные затраты на строительство и эксплуатацию КЭУ с учетом прибыли и ущерба от производства продукции. Основным полученный в работе вывод, что в зависимости от потенциала ВИЭ в конкретном районе может оказаться выгодной не КЭУ, а отдельные ВЭУ или ГЭУ.

К замечаниям по работе можно отнести следующее:

- Модель достаточно обобщенная, так в модели технические и экономические характеристики (представлены эмпирические зависимости стоимости от мощности), однако не учитываются зависимости изменения мощности и КПД энергоустановок от параметров ВИЭ. Т.е. в модели КЭУ необходимо отдельно выделять и задавать технические и экономические характеристики КЭУ и в общем связь между ними.

- в модели не выделены исходные данные – какую нагрузку должна обеспечивать КЭУ.

- важно отметить, что в работе в качестве исходных данных для ветровой и солнечной энергии использованы их многолетние средние значения, т.е. в расчетных оценках эти показатели являлись сезонными переменными, а для меньших периодов день, неделя, месяц использованы фактически их постоянные значения.

В/13/ была проведена оценка стоимости мощности ветро-солнечных КЭУ для случая постоянной нагрузки относительно средней солнечной радиации в течение дня и постоянной скорости ветра [2].

На основе модели, разработанной в/13/ была проведена оценка стоимости энергии такой КЭУ. Было получено, что доля солнечной части при постоянной нагрузке и постоянной выработки энергии ветровой частью существенно мала и не превышает 5%. Был также сделан вывод, что стоимость КЭУ в целом более высока, чем отдельных установок ВЭУ и СФЭУ, что не согласуется с выводами Махкамджанова Б.М.

Приведены оценки стоимости электроэнергии при расчетной выработке ветроэлектроустановками мощностью 60, 250 и 500 кВт, выпускаемыми серийно фирмой «Таске» (Германия) в районе 88 метеостанций Узбекистана. На основе анализа выделены районы, где ожидаемая стоимость вырабатываемой энергии находится на уровне мировых достижений; определены наиболее подходящие типы ВЭУ для ветровых условий в этих районах и эффективные способы их применения. Однако не даны стоимости мощности ВЭУ для потребителя при имеющихся диапазонах скоростей ветра, которые существенно отличаются от номинальных паспортных скоростей ветра для ВЭУ

Были предложены обоснование и разработка технологической модели водно-энергетического комплекса многоцелевого назначения с комбинированным использованием энергии солнца, ветра, микрогидроэлектростанции. Предлагаемой технологической схемой является комбинированное использование солнечной, ветровой, водной энергии при выработке электроэнергии, которая используется для бытовых нужд (освещение, радиоаппаратура и т.д.) и производственно-технологических потребностей животноводческого хозяйства: водоподъем, улучшение качества воды, электроснабжение. Работа направлена на повышение эффективности использования существующей ВЭУ, это верно, однако вопросы оптимизации самой КЭУ не рассматривались [3].

Было предложено описание технологической схемы модели автономной установки, работающей на источниках возобновляемой энергии, для получения электроэнергии и питьевой воды, и исследование ее эксплуатационных возможностей. Показано, что вышеприведенный анализ, преимущество предлагаемой схемы ветро-солнечного комплекса заключается в том, что при нормальной работе его модулей возможно накапливать произведенный продукт с тем чтобы обеспечить выработку электроэнергии для потребителя с помощью ТЭ при неблагоприятных для работы комплекса погодных условиях.

Были предложены выявление и оценка возможностей использования энергии солнца, ветра и малых рек для обеспечения теплоснабжения, и улучшения электроснабжения негазифицируемых СНП в вышеупомянутой зоне. Определено прогнозное потребление электрической и тепловой энергии жилых домов в сельских населенных пунктах в горной Чимган – Чарвакской зоне, в том числе не подлежащих газификации до 2010 г. Рассмотрены возможности покрытия этих нагрузок с помощью солнечных фотоэлектрических установок; ветроэлектроустановок малой и средней мощности в районах, для которых репрезентативны данные наблюдений на МС Чарвакское водохранилище; малых ГЭС на р. Пскем, Угам и Чимгансай. В работе рассмотрены возможные потенциалы ВИЭ, однако экономическая оценка использования этих ВИЭ не проводилась [3].

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Суяров А.О.
ассистент
Джизакский политехнический институт
Исмоилов Х.
студент
Джизакский политехнический институт
Маширабов Д.
студент
Джизакский политехнический институт

ПОТЕНЦИАЛ СОЛНЕЧНОЙ ЭНЕРГИИ И ЕГО ИССЛЕДОВАНИЕ

Аннотация. В данной статье изучены и проанализированы потенциальная эффективность солнечной энергетики и коэффициенты ее полезной работы по регионам.

Ключевые слова: солнечной энергии, потенциала тепловой энергии, потенциала солнечной энергии зоны.

Suyarov A.O.
assistant
Jizzakh Polytechnic Institute
Ismoilov Kh.
student
Jizzakh Polytechnic Institute
Mashrabov D.
student
Jizzakh Polytechnic Institute

SOLAR ENERGY POTENTIAL AND ITS RESEARCH

Abstract. This article studies and analyzes the potential efficiency of solar energy and its efficiency coefficients by region.

Key words: solar energy, thermal energy potential, solar energy potential zone.

Определения и обозначения. Технический потенциал солнечной энергии региона — это среднемноголетняя суммарная энергия, которая может быть получена в регионе от солнечного излучения в течение одного года при современном уровне развития науки и техники и соблюдении экологических норм.

Технический потенциал солнечной энергии представляет сумму технических потенциалов тепловой энергии и электрической энергии, получаемых соответствующим преобразованием солнечного излучения.

Технический потенциал региона представляет сумму технических потенциалов составляющих его зон/58/. Для каждой зоны используются следующие обозначения:

W_T , кВт ч/год, — технический потенциал солнечной энергии;

W_{TT} , кВт ч/год, — технический потенциал тепловой энергии от солнечного излучения;

$W_{TФ}$, кВт ч/год, — технический потенциал электроэнергии от солнечного излучения:

$$W_T = W_{TT} + W_{TФ} \quad (1.1)$$

S_C , м², — площадь, которая по хозяйственным и экологическим соображениям представляется целесообразной для использования солнечной энергии; она равна части q общей площади S , остающейся после вычитания площадей лесов, парков, сельскохозяйственных угодий и других территорий, на которых размещение установок затруднено или запрещено:

$$S_C = qS, \quad (1.2)$$

k_T — доля площади S_C , целесообразная для установки солнечных тепловых коллекторов; $k_Ф$ — доля площади S_C , целесообразная для установки солнечных фотоэлектрических батарей:

$$k_T + k_Ф = 1. \quad (1.3)$$

Значения k_T и $k_Ф$ являются специфическими для каждой зоны. В то же время на основе опыта некоторых промышленно развитых стран можно сделать оценку: $q < 0,01$; на основе существующего соотношения между используемой тепловой энергией и электроэнергией в большинстве регионов Узбекистане можно указать примерное соотношение: $k_T \approx 0,8$; $k_Ф \approx 0,2$ [1].

T_{Oi} , К, — среднемесячная температура окружающей среды в дневное время (время работы установок).

Методика определения технического потенциала тепловой энергии от солнечного излучения. Расчет технического потенциала тепловой энергии производится по формуле:

$$W_{TT} = \sum_i W_{TTi}, \quad i=1, 2, \dots, 12, \quad (1.4)$$

где суммирование производится по всем месяцам в году; технический потенциал i -го месяца

$$W_{TT} = E_i \cdot k_T \cdot q \cdot S \cdot F \cdot \left[(\tau \alpha) - U_L \cdot (T - T_{Oi}) \cdot \cos(\varphi - \delta) \cdot \frac{t_{Ci}}{E_i} \right] \quad (1.5)$$

где (φ, δ) — угол наклона коллектора к Земле (максимальная необходимая площадь коллекторов равна $k_T q S \cos(\varphi, \delta)$; t_{Ci} , ч/мес., — время работы коллекторов (число солнечных часов в месяце).

Методика определения технического потенциала электроэнергии от солнечного излучения/58/. Расчет технического потенциала электроэнергии производится по формуле:

$$W_{T\Phi} = \sum_i W_{T\Phi i}, \quad (1.6)$$

где технический потенциал i -го месяца равен:

$$W_{T\Phi i} = E_i \cdot k_{\Phi} \cdot q \cdot S \cdot \eta_1 \cdot [1 - \chi(T_i - T_1)] \quad (1.7)$$

среднемесячная рабочая температура фотопреобразователей T_i , К, равна:

$$T_i = \frac{\frac{E_i}{t_{Ci}} \cdot [\alpha - \eta_1 \cdot (1 + \chi \cdot T_1)] + \langle \lambda \rangle \cdot T_{Oi}}{\langle \lambda \rangle - \frac{E_i}{t_{Ci}} \cdot \eta_1 \cdot \chi}. \quad (1.8)$$

Расчет технического потенциала солнечной энергии региона. В отдельную таблицу вносятся месячные значения технического потенциала, $W_{Ti} = W_{Ti} + W_{T\Phi i}$ ($i = 1, 2, \dots, 12$), а также итоговое значение технического потенциала солнечной энергии зоны, W_T . После проведения расчета технического потенциала каждой зоны в соответствии с разделом 1 технический потенциал региона рассчитывается как сумма технических потенциалов его зон.

Валовой потенциал солнечной энергии, ежегодно приходящей на территорию Узбекистана (447,4 тыс. км²), значителен и превышает энергетический потенциал всех разведанных запасов углеводородного сырья страны (см. табл. 1)/21/. Климатические, географические условия страны и прогресс, достигнутый в мире в сфере солнечных технологий, позволяют использовать энергию солнца для получения электрической и тепловой энергии в промышленно значимых масштабах. Данные многолетних наблюдений на сети актинометрических станций (АС) Узбекистана показывают, что продолжительность солнечного сияния для различных регионов изменяется от 2410 до 3090 ч в год, с колебаниями в течение суток сезонов года, с продолжительностью летом – 11 ч, зимой – 4 ч в день. Также существует разница поступления сумм солнечной радиации, составляющая 27 МДж/м² в сутки летом и около 7 МДж/м² зимой [2].

Валовой потенциал солнечной энергии оценен с учетом данных каждой АС, репрезентативных для территорий с однотипными физико-географическими условиями, и солнечной радиации при реальной облачности.

Прогнозная оценка технического потенциала энергии солнечного излучения в Узбекистане проведена на основе прогнозной оценки валового потенциала и с учетом достигнутого в мире и Узбекистане развития технологий преобразования, созданных технических средств массового изготовления, возможностей их применения в промышленно значимых

масштабах.

Технический потенциал солнечной энергии, рассчитанный из условия создания солнечно-тепловых электростанций с общей установленной мощностью 8000 МВт оценивается в 1,29 млн т. н.э. в год.

Среди факторов, сдерживающих масштабное использования солнечной энергии для выработки электрической и тепловой энергии в Узбекистане, следует отметить следующие:

- режимные, проявляющиеся в существенной изменчивости уровня суммарной солнечной радиации как в течение сезонов года, так и суток по сезонам года, а также пространственную ее изменчивость для различных географических зон территории страны (горы, предгорья, равнины, полупустыни, пустыни); этот фактор оказывает существенное влияние на надежность энергоснабжения с использованием солнечных энергоустановок и требует применения дублирующих источников первичной энергии;

- отсутствие производств по массовому изготовлению солнечных энергоустановок с использованием местного сырья, комплектующих;

- отсутствие технологии и производств по изготовлению солнечных энергоустановок, отвечающих условиям эксплуатации в Узбекистане при резко континентальном или сухом субтропическом климате, соответствующих требованиям нормативных документов и показателям надежности энергоснабжения;

- существующая ценовая политика на энергоносители с субсидированием потребителей.

В последние годы в Узбекистане налажено производство определенных видов солнечных энергоустановок, а именно солнечных коллекторов двух модификаций, соответствующих требованиям нормативных документов, и изготавливаемых из материалов и комплектующих частей, производимых в республике [3].

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Турсунова Ф.З.
студент магистратуры
Академия банковского дела и финансов
Узбекистан

ОПТИМИЗАЦИЯ КОНТРОЛЯ ФИНАНСОВЫХ АКТИВОВ В БЮДЖЕТНЫХ ОРГАНИЗАЦИЯХ

Аннотация. В статье рассматриваются методы совершенствования контроля финансовых активов в бюджетных организациях. Проведен анализ существующих подходов к управлению финансовыми ресурсами и их эффективности. Особое внимание уделено внедрению современных информационных технологий и систем автоматизации для повышения прозрачности, точности и своевременности учета финансовых операций. Предложены рекомендации по улучшению финансового контроля, что способствует более рациональному использованию бюджетных средств и повышению эффективности деятельности бюджетных учреждений.

Ключевые слова: контроль финансовых активов, бюджетные организации, управление финансовыми ресурсами, прозрачность учета, точность учета, своевременность учета, информационные технологии, автоматизация систем, рациональное использование средств, эффективность бюджетных учреждений.

Tursunova F.
master's student
Academy of Banking and Finance
Uzbekistan

OPTIMIZATION OF CONTROL OF FINANCIAL ASSETS IN BUDGETARY ORGANIZATIONS

Annotation. The article discusses methods for improving control of financial assets in budgetary organizations. An analysis of existing approaches to financial resource management and their effectiveness was carried out. Particular attention is paid to the introduction of modern information technologies and automation systems to increase the transparency, accuracy and timeliness of accounting for financial transactions. Recommendations are proposed for improving financial control, which contributes to a more rational use of budget funds and increasing the efficiency of budgetary institutions.

Key words: control of financial assets, budgetary organizations, financial resource management, accounting transparency, accounting accuracy,

timeliness of accounting, information technology, systems automation, rational use of funds, efficiency of budgetary institutions.

ВВЕДЕНИЕ. Историческое развитие показывает, что бухгалтерский учет во все периоды на основе теоретических концепций в этой области отслеживаются практические ситуации, вот и все теоретические идеи формировались исходя из особенностей практики и случаев, которые необходимо решить. При этом можно сказать, что развитие области бухгалтерского учета сегодня сформировалось в результате потребностей, потребностей, требований и причин разных периодов в этих областях, и этот процесс происходит постоянно будет.

Об экономическом развитии в первые годы независимости экономические реформы проводятся с учетом специфики нашей страны повысился. Разработана и внедрена в практику нормативно-правовая база, регулирующая экономические отношения. Также были осуществлены реформы в бюджетной системе и введена казначейская система исполнения государственного бюджета. В настоящее время исполнение государственного бюджета, исполнение бюджета государственных специальных фондов и других внебюджетных фондов, кассовое исполнение смет бюджетных организаций осуществляется казначейством. Это, в свою очередь, означает целенаправленное расходование бюджетных средств и их рациональное использование, не сохраняя излишки средств, надежное и быстрое служащий для формирования информации. Составление и представление квартальных и годовых финансовых отчетов об исполнении бюджета и внебюджетных фондов в бюджетных организациях устанавливается Министерством финансов Республики Узбекистан.

Годовой денежный поток отчеты составляются по состоянию на 1 января года, следующего за отчетным, квартальные отчеты составляются по состоянию на 1 апреля, 1 июля и 1 октября отчетного года. Годовые и ежеквартальные деньги, вносимые бюджетными организациями Отчеты о движении денежных средств включают в себя следующее:

- Отчет о выполнении сметы расходов (форма 2);
 - Средства на развитие бюджетной организации отчет о деятельности;
 - Фонд финансового поощрения и развития медицинских учреждений отчет о движении денежных средств;
 - Оно пришло из платно-договорной формы обучения в учебных заведениях.
- отчет о движении денежных средств;
- Отчет о движении прочих внебюджетных средств [1].

Бюджетные организации осуществляют исполнение сметы доходов и расходов финансовые активы, то есть денежные счета, при увеличении

создаются отдельно. К финансовым активам относятся деньги на счете, деньги в кассе, деньги документы, денежные переводы и финансовые вклады. Бюджет

в организациях осуществлял целевую и бюджетную дисциплину из фондов контроль использования без него имеет особое значение. Бухгалтерский учет – это наблюдение за экономическими процессами, их систематизация и важный источник информации для оценки и принятия управленческих решений. Считается В настоящее время в нашей стране действуют более 25 000 бюджетных организаций действуют, и эти бюджетные организации делятся по сферам деятельности (образовательные учреждения, медицинские учреждения, учреждения культуры и спорта, органы управления, органы самоуправления, органы контроля и т. д.) - отличаются друг от друга. В настоящее время бухгалтерский учет в бюджетных организациях называется «Бюджетный» организован и управляется на основе «Руководства по ведению бухгалтерского учета в организациях». Данная инструкция считается нормативной основой бухгалтерского учета во всех бюджетных организациях, и учет ведется на основании изложенных в ней требований. Средства и счета в бюджетных организациях ведутся на основании настоящей инструкции.

Учет средств и расчеты в бюджетных организациях системы в инструкции «О бухгалтерском учете в бюджетных организациях» данный. Это руководство охватывает не только фонды и счета, по системе учета всех средств и источников средств в организациях содержит стандарты. Как мы уже упоминали выше, различные виды деятельности насчитывается более десяти тысяч организаций-исполнителей бюджета. деньги для бюджетных организаций с учетом их специфических особенностей. Мы считаем, что необходимо разработать стандарт учета денежных средств.

Реализуется в части рационального использования денежных средств состав средств бюджетных организаций, доходы фондов, необходимость достоверной и быстрой информации об использовании средств родился. Для удовлетворения этой потребности на уровне спроса «Бюджетным организациям необходимо вести учетную работу на основании инструкции «О бухгалтерском учете» будет сделано. С учетом операций по указанным внебюджетным фондам рефлексия «Учет внебюджетных средств» мемориал №3 реализация указана в ордере. Внебюджетные организации с учетом количества средств в одном мемориальном ордере вызывает затруднение. Роль контроля за деньгами важна в совершенствовании учета денежных средств и счетов в бюджетных организациях. В конце концов, фонды считаются текущими активами организации, и их расходование должно быть в рамках бюджета и осуществляться в соответствии со строгими правилами, установленными правительством. Из этого видно,

что это требует организации постоянной контрольной работы, связанной с отражением денежных средств и расчетов на счете.

Мониторинг экономических процессов, связанных со средствами и расчетами в бюджетных организациях, предоставление систематической информации о них если формирование предусмотрено бухгалтерским учетом, то изучение и анализ их расходования на основании нормативных документов, а также устранение ошибок и недостатков будут осуществляться путем контроля и проверки.

В заключение подчеркнем, что, в свою очередь, реализация реформ в сфере бухгалтерского учета в бюджетных организациях требует параллельного реформирования сферы контроля и аудита в бюджетных организациях. Бюджетные организации одновременно исполняют сметы (фактические и кассовые расходы) в бюджетной классификации и бухгалтерских счетах параллельно следует принять во внимание. Своевременное выполнение смет во всех организациях по принципу неучета, вызывающего несоответствия в бухгалтерской работе излучает.

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Ургенчбаев А.А.
студент магистратуры
Халмуратова З.П.
соискатель
Абдуллаева Г.Т.
студент бакалавриата
направление: «Биология»
Хидирова З. Ш.
студент магистратуры
Шукуруллаев М.Н.
базовый докторант

РЕЗУЛЬТАТЫ НАБЛЮДЕНИЯ ЗА РАЗВИТИЕМ ЯБЛОНЕВОЙ ЗЕЛЕННОЙ ТЛИ (APHIS POMI DE GEER, 1773) В ЯБЛОНЕВЫХ САДАХ В УСЛОВИЯХ ТАХТАКУПЫРСКОГО РАЙОНА

Аннотация. В статье рассматриваются результаты наблюдения за развитием яблоневой зеленой тли (Aphis pomi de geer, 1773) в яблоневых садах в условиях Тахтакупырского района. Яблоневая зеленая тля является одним из самых вредных видов, поэтому особое внимание уделяется изучению его биологии и экологических особенностей как серьезного вредителя семенных садов.

Ключевые слова: фауна, регион, тля, вид, сорт, насекомые, созревание, температура, вид.

Urgenchbaev A.A.
master's student
Khalmuratova Z.P.
applicant
Abdullayeva G.T.
bachelor's student
direction: "Biology"
Khidirova Z. Sh.
master's student
Shukurullaev M.N.
basic doctoral student

RESULTS OF OBSERVATION OF THE DEVELOPMENT OF THE APHIS POMI DE GEER (APHIS POMI DE GEER, 1773) IN APPLE ORCHARDS IN THE TAKHTAKUPIR DISTRICT

*Annotation. The article discusses the results of monitoring the development of green apple aphids (*Aphis pomi* de geer, 1773) in apple orchards in the conditions of the Takhtakupir region. The apple green aphid is one of the most harmful species, so special attention is paid to the study of its biology and ecological characteristics as a serious pest of seed orchards.*

Key words: fauna, region, aphid, species, variety, insects, maturation, temperature, species.

Введение. В мировой фауне известно 2500 видов тлей, из них 400 видов идентифицированы в Средней Азии и более 300 видов в Узбекистане. Подотряд тлей состоит из 12 семейств. В фауне Узбекистана встречаются представители 8 семейств. Среди многообразия насекомых выделяются тли, которые наносят сильный вред практически всем растениям.

Яблоневая зеленая тля распространена во всех регионах Узбекистана и является одним из самых вредных видов. Поэтому особое внимание уделяется изучению его биологии и экологических особенностей как серьезного вредителя семенных садов.

Результаты исследования. Наблюдения показывают, что в условиях Тахтакупырского района вегетация местных скороспелых сортов яблони соответствует второй декаде марта. В этот период начинают прорастать и яблоки, за которыми ухаживают в яблоневом саду. Появление основателей из яиц зеленого яблоневого тля наблюдаются также в соответствии с вегетацией пищевого растения. В 2021 году вылупление основателей наблюдалось 15-17 марта. Однако в связи с ранним приходом весны 2022 года в условиях Тахтакупырского района 14.03.2022 года были проведены фенологические наблюдения за тлей в саду фермерского хозяйства «Тайымбет». При первоначальных наблюдениях были отмечены все яблони и обнаружено наличие двух крупнокрылых тлей и их личинок. Таким образом, можно понять, что личинки-основатели этих видов тлей на какое-то время появились рано. Температура воздуха в этот день составила +9, +11⁰ С. Через 4-6 дней после вылупления тли вокруг точек роста ветвей растения начинают созревать основатели.

Созревание основателей занимает 8-15 дней. При дневной температуре в пределах 23-25⁰С зародыши созревают через 8-10 дней. Например, хотя в 2022 году основатели вылупились поздно, при резком повышении температуры развитие тлей ускорилось, и они быстро стали взрослыми и живородящими. В этот период вокруг каждого основателя наблюдалось по 4-5 личинок тли. После этого тля начинает быстро расти, и через короткое время, в среднем через 6 дней, бескрылые особи начинают размножаться.

Ранней весной вегетация яблони быстро разрастается, и соответственно ускоряется размножение и развитие тли. В результате к

середине апреля плотность тли достигает наивысшего предела. В этот период в колонии тли наблюдается развитие нимф и крыльев. Они начинают развиваться, переселяясь на неповрежденные растения.

В годы исследований максимальная плотность тли приходилась практически на один и тот же период - третью декаду апреля (21-24 IV). 25.03.2022 при дневных наблюдениях температура воздуха составляла +18⁰С, и мы встречали особей зеленого яблоневого тля, образующих разреженную колонию. Помимо тли, обнаруженной в саду, были обнаружены также сахарные жуки и красный яблоневый клещ.

В следующих наших наблюдениях в фермерском хозяйстве «Тайымбет» на обратной стороне листа яблони наблюдали яблоневго зеленого тля. Нами наблюдалась 1 пара зеленой яблоневой тли с 8 личинками с обратной стороны листа из среднего яруса дерева (10.04.2022, t +21⁰С). На втором контрольном яблоке в тот же день наблюдались две крылатые личинки зеленого яблоневого тля с 14 личинками. В следующем яблоке мы увидели 19 личинок и двух крылатых тлей.

Высокая плотность тли сохраняется до конца мая, а во второй половине июня тля резко снижается, а затем достигает крайне малой численности (16-21.VI). У позднеспелых сортов яблони появление основателей наблюдается только во второй декаде апреля (14-19.IV). В конце апреля - начале мая размножение и развитие тли ускоряется, а высокого уровня численность достигает в начале июня (7-11.VI).

В июне-июле наблюдается резкое повышение температуры, быстрое шероховатость листьев яблони, снижение относительной влажности. В этот период тля обитает преимущественно на листьях многолетних яблонь или на молодых ветвях близлежащих деревьев груши, абрикоса, персика, айвы. Небольшое увеличение количества сока у яблонь происходит в августе (27-30.VIII). Это вызвано понижением температуры окружающей среды и быстрым образованием новых молодых листьев.

Развитие его осеннего потомства происходит в октябре (15-20.X). Тля откладывает яйца вдоль молодых ветвей и в пазухах почек. Яйца вначале жидкие, через 1-2 дня становятся черными, блестящими и перезимовывают.

В заключение отмечено, что в условиях Тахтакупырского района первое отрождение яблоневого тля начинается со второй декады марта, а развитие следующего поколения продолжается до второй декады октября.

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Усманова К.Б.
докторант
Самаркандский государственный
университет имени Шарофа Рашидова

РЕФЛЕКСИВНЫЙ ДНЕВНИК КАК СРЕДСТВО ФОРМИРОВАНИЯ РЕФЛЕКСИВНОЙ КОМПЕТЕНТНОСТИ БУДУЩЕГО УЧИТЕЛЯ ИНОСТРАННОГО ЯЗЫКА

Аннотация. Проблема статьи связана с формированием будущих учителей иноязычная рефлексивная компетентность в вузе. В статье раскрывается значение рефлексии в формировании профессионального опыта студента вуза, характеризует рефлексивные действия, необходимые для его успешного развития, считает эффективными способы организации рефлексивного анализа работы студента.

Обращая внимание на необходимость формирования рефлексивной компетентности будущего учителя иностранного языка, автор статьи раскрывается рефлексивный потенциал спецкурса. Особое внимание уделено описанию «Рефлексивный дневник». Издание имеет как теоретическое и методологическое, так и практическое значение. Представлен опыт проектирования содержания и структуры рефлексивного дневника в статье. Его можно с успехом использовать в ходе спецкурса «Рефлексивная педагогическая практика» в будущей подготовке учителей.

Ключевые слова: рефлексия, будущий учитель иностранного языка, рефлексивная компетентность, рефлексивный дневник, саморазвитие, самоорганизация, самосовершенствование, само регуляция.

Usmanova K.B.
doctoral student
Samarkand State University named after Sharof Rashidov

REFLECTIVE DIARY AS A MEANS FOR FORMING REFLECTIVE COMPETENCE OF A FUTURE FOREIGN LANGUAGE TEACHER

Annotation. The problem of the article is connected with the formation of future teachers' foreign language reflective competence at a university. The article reveals the importance of reflection in the formation of a university student's professional experience, characterizes the reflective actions necessary for his successful development, and considers effective ways to organize a reflective analysis of a student's work.

Drawing attention to the need to develop the reflective competence of a future foreign language teacher, the author of the article reveals the reflective

potential of the special course. Particular attention is paid to the description "Reflective Diary". The publication has both theoretical and methodological, as well as practical significance. The article presents the experience of designing the content and structure of a reflective diary. One can successfully use during the special course "Reflective Pedagogical Practice" in future teacher training.

Key words: reflection, future foreign language teacher, reflective competence, reflective diary, self-development, self-organization, self-improvement, self-regulation.

Образование является одним из важнейших факторов конкурентоспособность Республики Узбекистан. Основа модернизации система высшего профессионального образования – это эффективное использование достижений науки. В его основе лежат принципы вариативности, многоуровневости, мобильности и гибкость. Анализ практики показывает, что при всем многообразии существующих в мировые модели подготовки учителей иностранных языков, современный стандарт профессиональные программы по методике подготовки будущих специалистов не разнообразны и гибкий.

Актуальность исследования определяется потребностями педагогических кадров, способных реализовать государственную концепцию развития иноязычного образования в Республика Узбекистан. Образование является одним из важнейших факторов конкурентоспособность Республики Узбекистан.

Однако проблема подготовки учителей-языковедов состоит в соотношении профессиональных учебных программ с учетом реальных потребностей клиентов и потребителей. Это все еще лишь частично реализуется в освоении профессионального иностранного языка образование в Республике Узбекистан. Соответственно, уровень требований к подготовка будущего учителя как специалиста нового поколения показывает, что человечность и конструктивность во взаимодействии со студентами, ответственность и также независимость в принятии решений, прогнозирование, мобильность, конкурентоспособность увеличивается.

В настоящее время недостаточно работ, посвященных целостному изучению средства адаптации будущего учителя иностранного языка к новой образовательной условиях, предполагающих овладение педагогом технологиями профессионального саморазвития и самореализации в системе непрерывного образования.

Проблема использования рефлексивного дневника является предметом нашего исследования. Целью статьи является описание работы как эффективного средства формирования рефлексивной компетентность будущих учителей иностранного языка по результатам проведения рефлексивный дневник. Исследование обусловлено требованиями новой

образовательной стандарт высшего образования в формировании будущих учителей иностранного языка способность отражать свои действия.

Анализ учебно-методической работы на кафедре базовых дисциплин, мы пришли к необходимости разработки и внедрения в учебную среду вуза «Рефлексивный дневник». Он предназначен для студентов и рекомендуется к использованию в ходе спецкурса. Цель – сформировать у учащихся с помощью данного дневника навыки самоорганизации и самоуправления учебно-профессиональной деятельности в области методических знаний, умений и владения, необходимых для будущей педагогической деятельности.

Анализ толкований слова «дневник» в современных словарях показано: во-первых, что дневник — это запись событий или наблюдений, характеризующихся по личностному характеру и регулярности, содержат отражение своих мыслей, чувств и действия.

Его можно сохранить во время обучения. Дневник считается особым литературным жанром и инструментом самоанализа. Ведение рефлексивного дневника как одна из форм педагогической диагностики направлены, прежде всего, на развитие навыка самонаблюдения – умения смотреть на себя, свои действия и отношения со стороны снаружи. Дневник – мощное универсальное оружие самообразования. С помощью дневника, формируется умение вести беседу с самим собой, а образование дает способность человека размышлять. Это делает его или ее настоящим человеком – образованный, интеллектуальный человек. Способ структурирования содержания рефлексивного дневника, помогает в планировании собственной деятельности. Кроме того, поскольку мы говорим о рефлексивный дневник в учебном процессе, он связан с освоением профессиональные компетенции [1, 5 с].

В специальной литературе последних лет личный дневник рассматривается как эффективный инструмент обучения или для развития сложных и междисциплинарных навыков, таких как расширенная обработка информации [2]. Е. В. Лексин считает целесообразным использовать рефлексивный дневник. Это иллюстрированный блокнот, включающий задания, предполагающие рефлексивное мышление действия на разных этапах урока. [3, 110 с].

Кармен Александракеа отмечает, что «рефлексивный дневник» — известный альтернативный метод оценки. С помощью него студент пишет об аспектах, которые он испытал в процессе познания. Обычно для улучшения своего собственного обучения, человек записывает в этот дневник свой опыт, чувства, мнения и мысли возникли в результате некоторого критического размышления над различными видами деятельности сделано [4, 20-24 с].

Патрик Валлин и Том Адави записывают дневник размышлений (журнал обучение/преподавание) является одним из наиболее известных

инструментов рефлексивной практики. Это «контейнер для письма, которое дает учащимся основу для структурирования своих мыслей и размышления» [4, 6 с].

При подготовке рефлексивного дневника мы поставили задачи:

1) Проанализировать состояние теории и практики образовательного процесса в университет, чтобы выявить специфику его образовательной среды;

2) охарактеризовать сущность и содержание компетенций самоорганизации и самоуправления студентов;

3) Определить основные направления процесса формирования рефлексивной компетентности при изучении спецкурса «Рефлексивная педагогическая практика»;

4) Разработка для студентов специальности 6В01705 – «Иностранный язык: два иностранных языка» «Рефлексивный дневник» как помощь в самоорганизации и самоконтроле по выполнению требований стандарта при изучении специального предмета, курс «Рефлексивная педагогическая практика»;

5) Провести экспериментальное исследование по внедрению рефлексивного дневника на базе высшего учебного заведения;

6) Сделать выводы и внести необходимые изменения и дополнения в структуру и содержание «Рефлексивного дневника». Применяя в учебной деятельности рефлексивный дневник, уровень по шкале «самоуправление» повысится и будет выше, чем у тех, кто его не применял. Методика призвана выявить структуру само отношения человека, а также выражение отдельных компонентов само отношения: уверенности в себе, самоконтроля, отраженного само отношения, само ценности, привязанности к себе, внутреннего конфликта и самообвинение. Шкала «само лидерство» отражает восприятие личностью главного источника собственной деятельности, результатов и достижений, источника развития собственной личности, подчеркивает доминирование либо собственного Я, либо внешних обстоятельств.

Ведение дневника является одним из методов, позволяющих преодолеть фрагментацию ситуативности в процессе обучения. Анализ рефлексивного дневника позволяет выяснить рефлексивные способности студента. Осознание этого в своей деятельности респонденты смогут понять. Сможут увидеть собственные перспективы и возможности в этой деятельности. Они будут способствовать процессу личностного развития, реализуют свой творческий потенциал, достигнут оптимального уровня жизненной активности, смогут развить самоконтроль и самоанализ. За годы обучения студент должен выработать свой индивидуальный стиль учебной деятельности, который в дальнейшем станет основой формирования индивидуального стиля профессиональной деятельности. Будущий преподаватель иностранного языка должен рефлексивно

воспринимать и оценивать всю учебную информацию через призму ее необходимости для своей профессиональной карьеры. Феноменологические аспекты обучения, ярко проявляющиеся при рефлексивном обучении, заключаются в возможности размышлять, описывать свой опыт, мысли, выводы [6; 5 с]

Начнем с того, для чего нам нужен дневник? 1) Будущий учитель иностранного языка учится анализировать события: это включает в себя: а) предварительную подготовку к чему-либо, прогнозирование собственных результатов и необходимых вложений; б) анализ полученного опыта, выявление недостатков, ресурсов; 2) дневника-рефлексии выступает поддержкой в планировании собственной деятельности. Кроме того, в него включены вопросы, связанные с предстоящими образовательными (и единственными) мероприятиями. Кроме того, что студент формально может проследить, что его ожидает или что с ним происходит в течение года. Они также могут осмысленно двигаться внутри этих мероприятий: отвечать на вопросы, заданные в дневнике, описывать впечатления, эффект от участия и т. д. 3) Рефлексивный дневник – это способ получения учеником информации и общей картины об уроке для дальнейшего построения работы. Идея дневника не нова для педагогической теории и практики. Однако имеющийся опыт использования дневника как документа, в котором каждый день в произвольной форме ведутся записи об итогах дня, оказался неэффективным. Не секрет, что многие студенты, не понимая, что от них требуется, или не имея опыта рефлексивного анализа своей деятельности, заполняют такой дневник формально, часто даже не во время практики, а по ее окончании. Чтобы дневник выполнял свою рефлексивную функцию, необходимо четко определить его структуру и содержание.

Таким образом, содержание дневника зависит от вида и задач педагогической практики. Тем не менее, общими для всех дневников практики могут быть следующие разделы: пояснительная записка, описывающая цели и содержание практики; личные характеристики студента; исходная информация; письменные наблюдения, размышления и аналитические заметки во время урока; листы рефлексивного анализа трудностей, эффективности практики, перспектив дальнейшего самообучения и саморазвития. Формат обучения с использованием рефлексивного дневника ориентирует нас на новейшие качественные изменения в современном высшем образовании, а именно на использование деятельностного и рефлексивного подхода. Деятельности подход обучения означает отказ преподавателя от традиции передачи ученику готовых знаний, ученик самостоятельно в процессе активной деятельности открывает новые знания, тем самым повышая качество получаемых знаний.

Благодаря деятельности в процессе воспитания формируется личность и ее способности к саморазвитию и самореализации. Реализация деятельностного подхода при применении рефлексивного дневника приводит к конкретизации гностического, кооперативного, рефлексивного и личностного компонентов формирования рефлексивной компетентности будущего учителя иностранного языка, что они соответствуют основным требованиям, которые были выявлены в ходе исследования. В работе рефлексивного дневника необходимо придерживаться следующей системы дидактических принципов: принцип профессиональной определенности, принцип соответствия социальному заказу, принцип рефлексивности и конкурентоспособности. При реализации принципа профессиональной детерминированности центральным звеном в процессе внедрения дневника является [7].

Этот принцип дает возможность «отточить» и усовершенствовать имеющиеся навыки и приемы, приобрести необходимый профессиональный опыт. Реализация этого принципа предполагает обязательное погружение будущих учителей в рефлексивную среду. Принцип соответствия социальному порядку. Согласно этому принципу образование должно содержать не только современные знания, умения и навыки, но и учитывать возможности выбранного личностью образовательного содержания, что в свою очередь способствует достижению всестороннего развития человека и личностному росту. Этот принцип можно реализовать при соблюдении следующих требований: а) в процессе обучения должны соблюдаться плановые документы (стандарты, учебные планы, программы, расписания занятий); б) строго соблюдать логику учебного процесса, последовательно распределять материал по периодам обучения.

Образование должно содержать не только современные знания, умения и навыки, но и учитывать возможности выбранного личностью образовательного содержания, что в свою очередь способствует достижению всестороннего развития человека и личностному росту. Принцип может быть реализован при соблюдении следующих требований: а) все плановые документы (стандарты, учебные планы, программы, расписания занятий) должны соблюдаться в процессе обучения; б) строго соблюдать логику учебного процесса, последовательно распределять материал по периодам обучения и достижения. В условиях гуманизации высшего педагогического образования принцип рефлексивности является одним из базовых. Принцип конкурентоспособности является одной из приоритетных задач современного образования. Рынок труда нуждается в грамотных и квалифицированных специалистах с развитым творческим потенциалом, способных творчески проявить себя в профессиональной деятельности, в том числе в конкурентной борьбе. В процессе формирования рефлексивной компетентности будущих учителей

иностранного языка необходимо уделять пристальное внимание их постоянному творческому саморазвитию, самореализации и самоопределению, трудолюбию и стремлению получать качественный продукт своей учебной деятельности, формированию их интеллектуальные, мотивационные, конкурентные и лидерские качества.

Результаты внедрения рефлексивного дневника как средства оценки личных и учебных достижений студентов позволили: привлечь внимание студентов к оценке личных и учебных достижений, сформировать у студентов рефлексивные умения; анализировать оценку личных и учебных достижений, разделяя оценки, полученные одновременно с позиций обучающегося и преподавателя; дать обучающимся возможность фиксировать и отслеживать динамику собственных учебных достижений на любом этапе освоения темы, модуля, дисциплины самостоятельно управлять своей индивидуальной образовательной траекторией в рамках одной темы, модуля, дисциплины; Наряду с очевидными преимуществами внедрения нестандартного инструмента самооценки выявлен и ряд сложностей, возникающих как у студентов, так и у преподавателей [8; 488 с].

Со стороны студентов среди недостатков отмечено: - дополнительные затраты времени на заполнение дневника; неготовность открыто презентовать результаты своей работы, которые не всегда хороши; желание показать себя в лучшем свете. Ведение рефлексивных дневников, на мой взгляд, дало положительный эффект. Студенты стали более свободно высказываться по любым вопросам. Они быстрее и легче анализируют свою учебную деятельность без напоминаний. Кроме того, можно сказать, что рефлексивные дневники были достаточно хорошо интегрированы в рамки образовательного мероприятия, а результаты, полученные в результате работы на образовательных площадках, были адресованы: - самообучению человека, развитие мотивации личностного развития, образования; - к решению индивидуальных задач, творческой деятельности; - появление новых творческих инициатив увенчалось успехом.

Заключение. На основании проведенного исследования можно сказать о положительной динамике изменения уровня сформированной рефлексивной компетентности у студентов в процессе обучения в вузе. Иными словами, внедрение рефлексивного дневника способствует активному взаимодействию, уважительному и доброжелательному отношению к каждому участнику, обеспечивая накопление знаний, опыта, обеспечивая обратную связь и возможность саморазвития и умения рефлексировать свою деятельность. Подводя итог, можно сказать, что современные темпы изменений в обществе задают новые образовательные форматы. Миру не нужны люди, которые не умеют думать, знают только то, что заложили себе в голову и предоставили в «готовом» виде. Новая

парадигма обучения основана на том, что учащиеся должны действовать самостоятельно для достижения больших результатов в обучении, а учитель должен управлять их обучением, мотивировать, организовывать, координировать, консультировать и контролировать их учебную деятельность.

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*Халиков Т.Т.
ассистент*

Термезский инженерно-технологический университет

МОДЕЛИРОВАНИЕ СИСТЕМЫ ТРУДОУСТРОЙСТВА ВЫПУСКНИКОВ ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЙ В ЭПОХУ ЦИФРОВОЙ ЭКОНОМИКИ

Аннотация. Целью статьи является построение математической модели для оптимизации подбора вакансий для выпускников ВУЗов технического направления, с учётом индивидуального уровня освоения компетенций выбора предметов.

Ключевые слова: Моделирование, цифровая экономика, выпускники, экономика.

*Khalikov T.T.
assistant*

Termez Engineering and Technology Institute

MODELING THE EMPLOYMENT SYSTEM FOR GRADUATES OF HIGHER EDUCATION INSTITUTIONS IN THE ERA OF THE DIGITAL ECONOMY

Annotation. The purpose of the article is to build a mathematical model to optimize the selection of vacancies for graduates of technical educational institutions, taking into account the individual level of mastery of competencies.

Key words: Modeling, digital economy, graduates, economics.

Введение.

В настоящее время мировая цифровая трансформация охватила практически все виды деятельности. В это же время в индустриально процветающей экономике Республики Узбекистан остро стоит вопрос нехватки инженеров. В состоявшемся 20 июня 2024 года под председательством Президента Республики Узбекистан Шавката Мирзиёева в видео-селекторном совещании по вопросам подготовки инженерных кадров и совершенствования деятельности высших учебных заведений сказано, президент отметил «...для ускоренного развития экономики нам как воздух нужны высококвалифицированные инженеры-технологи. Если каждый министр, руководитель отрасли, ректор, профессор и преподаватель будут глубоко чувствовать ответственность и усердно работать, мы обязательно этого добьёмся.»⁸⁶

⁸⁶ <https://president.uz/ru/lists/view/7333>

Технологические изменения, основанные на масштабной интеграции науки в производство, сделали образование ключевым фактором производства человеческого капитала для современной экономики. Однако следует отметить, что в ходе отбора претендентов на должность выпускники образовательных организаций высшего образования не всегда способны успешно продемонстрировать все свои знания и практические навыки.

Часто это приводит к тому, что молодой специалист «уходит из профессии», трудоустраивается не по специальности. При этом не оправдываются затраты государства на обучение потенциального инженера в течении 2 лет. Поэтому задача разработки математической модели, формализующей сематические связи «студент-оценка компетенции» и «компетенции-вакансия» является актуальной.

Основная часть

Целью исследования является разработка и описание инструментария, которая даёт возможность оптимизировать и автоматизировать процесс подбора мест трудоустройства для выпускников вузов, которые получили образование в сфере Энергетики, Автоматизации и управления технологических процессов.

В рамках выполняемого исследования были поставлены следующие задачи:

- сформулировать семантическую модель, оптимизирующий процесс трудоустройства выпускника образовательной организации высшего образования;
- реализовать математическое моделирование процесса оптимального трудоустройства выпускника по направлениям “Энергетика” и “Автоматизация и управление технологических процессов”.

Данная модель позволит грамотно управлять кадровыми ресурсами с учётом потребностей рынка труда. В основу предлагаемой модели положен компетентностный подход, соответствующий стандарту высшего образования. В качестве математического инструментария выбрана график модели семантической сети.

Исходные данные:

- выпускник вуза, имеющий диплом и приложение к диплому с оценками (например, Абдуллаев А.А – бакалавр направления «Автоматизация и управление технологическими процессами», окончивший Термезский инженерно-технологический институт со средним GPA 3,5)
- вакансии от работодателей (например, КИП автоматчик со средней зарплатой 4.500.000 узбекских сумов.).

В упрощённом варианте представленные данные могут быть вершинами двудольного графа, дуги которого будут соответствовать трудоустройству молодого специалиста на предлагаемую вакансию которая

показана на рисунке 1. Пунктиром обозначены возможные варианты трудоустройства выпускника, то есть полный двудольный граф отображает случай, когда каждый выпускник может быть трудоустроен на любую из открытых вакансий КИП автоматчика.

Данный граф можно описать (таблица 1) как матрицу смежности $\|S_{ij}\|_{n \times m}$, элементы которой будут определяться следующим образом:

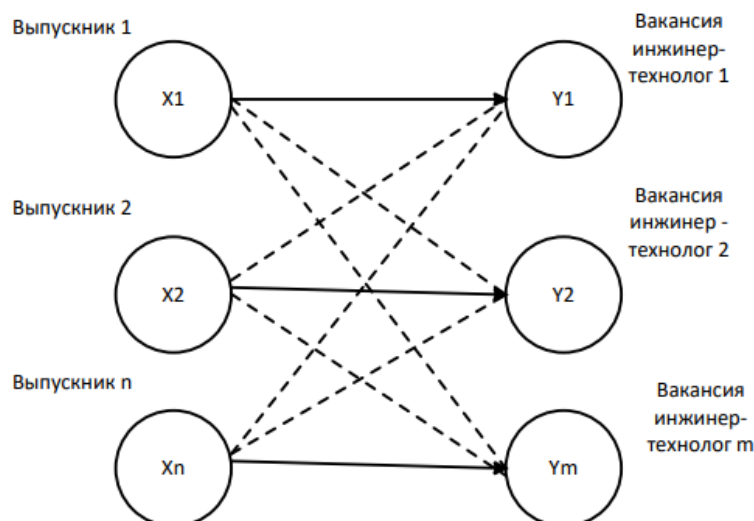


Рисунок 1. График потенциального трудоустройства выпускников по вакансиям

$$S = \begin{cases} 2, & \text{если } i - \text{й выпускник трудоустроился на } j - \text{ю должность} \\ 1, & \text{если } i \text{ выпускник может трудоустроиться на } j - \text{ю должность} \end{cases}$$

Таблица 1

	y ₁	y ₂		y _m
x ₁	2	1		1
x ₂	1	2		1
.....				
x _n	1	1	1	2

Таблица 1. Таблица смежности

Данная модель может допускать следующие вариации:

- Фактически не все выпускники могут быть трудоустроены на вакансии в силу недостаточного соответствия требованиям работодателя;
- Матрица не будет квадратной, то есть в общем случае количество вакансий и профиль выпускников не совпадает, а следовательно формируемая математическая система станет открытой;
- Элементы матрицы, обозначающей вероятность трудоустройства выпускника, должны иметь математическую интерпретацию для дальнейшего применения модели в задачах прогнозирования и оптимизации распределения.

Таким образом, целью прогностического моделирования процесса трудоустройства выпускника по направлениям профессиональной

деятельности на основе компетентного подхода является трудоустройство выпускников на вакантные должности по результатам их учебной деятельности. То есть, на основе оценок выпускников по различным компетенциям необходимо назначить их на определенные вакансии, так, чтобы сумма этих оценок была максимальной по требуемым компетенциям.

Таким образом, моделируется максимальное соответствие «знаний, умений и практических навыков» соискателя требованиям работодателя.

В данной статье, предложена методика оценивания компетенций на основе матрицы компетенций, которая представляет собой отношение множеств $K(K=\{k_1, k_2, \dots, k_i\})$ - множество компетенций) и $D(D=\{d_1, d_2, \dots, d_i\})$ - множества дисциплин).

Элементы матрицы.

$$r_{ij} = \begin{cases} 1, & \text{если } i - \text{я компетенция вырабатывается } j - \text{й дисциплиной} \\ 0, & \text{в противном случае} \end{cases}$$

В общем виде матрица компетенций может быть представлена следующим образом (таблица 3), где каждая компетенция имеет строго определенную семантику:

- Способностью устанавливать программное и аппаратное обеспечение для автоматизированных систем (ОПК-1);
- Способностью осваивать методики использования аппаратных и программных средств для решения практических задач в производстве (ОПК-2);
- Проектно-технологическая деятельность: способностью разрабатывать компоненты аппаратно-программных комплексов, используя современные инструментальные средства и технологии (ПК-2) и т.д.

Таблица 2

	d_1 (Технические средства автоматизации)	d_2 (Основы проектирование автоматизированных систем)		Количество дисциплин, формирующих данную компетенцию.
d_1 (ОПК-1)	0	0		0
d_2 (ОПК-2)	1	1		2
....				

Таблица 3. Матрица «дисциплина d- компетенция K»

Заключение.

Данная модель может дать:

- работодателям получить работников на вакантные места максимизируя выгоды исходя из способностей каждого соискателя и минимизируя риски приёма специалиста, не обладающего требуемым набором компетенций;

- выпускникам позволит оценить свои возможности для трудоустройства по различным профессиям, досконально рассмотреть рекомендуемую им вакансию. Рассматриваемая модель позволит автоматизировать распределение кадровых ресурсов в Республики Узбекистан для обеспечения развития цифровой экономики.

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Халиков Т.Т.
ассистент
Термезского инженерно-технологического института
Республики Узбекистан, г.Термез

СОВЕРШЕНСТВОВАНИЕ СИСТЕМЫ ТРУДОУСТРОЙСТВА ВЫПУСКНИКОВ ВЫСШЕГО УЧЕБНОГО ЗАВЕДЕНИЯ В РЕСПУБЛИКЕ УЗБЕКИСТАН

Аннотация. В статье были рассмотрены и проанализированы недостатки в системе трудоустройства выпускников высшего учебного образования. Анализируя всех недостатков в системе трудоустройства выпускников были выявлен основной недостаток взаимосвязь между выпускниками, работодателями и вузами. На основе этих недостатков и учитывая отношение современных выпускников к новым технологиям было разработано методика цифровизации системы трудоустройства выпускников.

Ключевые слова: трудоустройство, цифровизация, выпускники, глобализация, работодатель.

Khalikov T.T.
assistant
Termez Engineering and Technology Institute
Republic of Uzbekistan, Termez

IMPROVING THE EMPLOYMENT SYSTEM FOR GRADUATES OF HIGHER EDUCATIONAL INSTITUTIONS IN THE REPUBLIC OF UZBEKISTAN

Abstract. The article examined and analyzed shortcomings in the system of employment of graduates of higher education. Analyzing all the shortcomings in the system of employment of graduates, the main shortcoming was identified - the relationship between graduates, employers and universities. Based on these shortcomings and taking into account the attitude of modern graduates to new technologies, a methodology for digitalizing the graduate employment system was developed.

Key words: employment, digitalization, graduates, globalization, employer.

Введение

Многие сферы человеческой деятельности подвержены влиянию цифровой трансформации: экономика, бизнес-структуры, социальные организации и образовательные системы. Этот процесс неизбежно меняет

требования к уровню образования современного работника. Цифровая экономика выдвигает как необходимые так называемые «компетенции XXI века» (способность к непрерывному самообразованию, критическое мышление, умение уверенно использовать цифровые инструменты и онлайн-сервисы в своей профессиональной деятельности) и требует проявления творческого подхода к решению поставленных задач. И, как следствие, профессионально-исследовательская и научно-исследовательская деятельность становится обязательной для студента университета независимо от профиля подготовки.

Процесс глобализации образования усилил престиж творческих конкурсов, исследовательских проектов, связанных с региональными проблемами в социально-экономической сфере. Для талантливой молодёжи возросли возможности реализации исследовательских компетенций в конкретной творческой работе, связанной с предметной областью интересов студентов. Но в образовательном процессе вуза должна решаться задача формирования готовности к исследовательской деятельности всех обучаемых, и эта задача останется актуальной и в ближайшем будущем.

Трудоустройство выпускников высших учебных заведений остается одной из наиболее острых и актуальных проблем рынка труда Республике Узбекистан, характеризующегося в настоящее время противоречивыми тенденциями. С одной стороны, работодатели все чаще жалуются на нехватку квалифицированных кадров и их недостаточную мотивацию. С другой стороны, существует безработица, которая в значительной степени затрагивает молодёжь после окончания вузов и техникумов. К тому же в последнее время появилось достаточно много прогнозов относительно грядущей безработицы в связи с развитием информационных технологий и роботизации, что ставит вопрос о целесообразности подготовки такого количества специалистов. Исследование трудоустройства выпускников вузов актуально во все времена. Состояние трудоустройства молодых специалистов аккумулирует целый комплекс вопросов — от востребованности выпускников реальным сектором экономики и соответствия рынка образовательных услуг потребностям текущего и перспективного рынка труда до обоснования контрольных цифр приёма в вузы и определения направлений развития высшего образования в целом. Кроме того, нельзя забывать, что безработица среди молодёжи создаёт риски для общественно-политической стабильности в регионе и стране в целом.

И. Н. Гарькин в своих работах определил основные направления деятельности данных структурных подразделений [2]. Условно их можно объединить в несколько блоков: – развитие партнёрства в области трудоустройства. Данный блок связан с построением и развитием партнёрских отношений между образовательной организацией и

работодателями, центрами занятости населения, кадровыми агентствами, общественными объединениями, заказчиками целевого обучения и другими организациями, непосредственно участвующими в трудоустройстве студентов и выпускников или выступающими в качестве экспертов по оценке и повышению качества образовательного процесса. Сюда также можно отнести работу по развитию вузовской ассоциации выпускников.

– сопровождение элементов образовательного процесса. Этот блок включает в себя направления, связанные с сопровождением целевой подготовки студентов, организацией учебных, научно-исследовательских и производственных практик.

– консультативная помощь студентам и выпускникам. Блок связан с оказанием индивидуальной помощи студентам и выпускникам, обратившимся за помощью в трудоустройстве, которая не ограничивается поиском подходящих соискателю вакансий, но и может включать в себя профориентационные и обучающие мероприятия, такие как тестирования, тренинги и т. д.

– блок организации массовых профориентационных мероприятий включает в себя организацию и проведение массовых мероприятий, направленных на знакомство обучающихся с профессиональным сообществом и повышение престижа трудоустройства в определённой профессиональной области. Для достижения указанных целей нередко проводятся ярмарки вакансий, встречи с работодателями, дни карьеры, выездные экскурсии на предприятия, презентации профессий, конкурсы профессионального мастерства.

– блок аналитической работы подразумевает проведение социологических опросов среди студентов, выпускников и работодателей, проведение исследований о потребностях рынка труда региона, подготовка аналитических отчётов о трудоустройстве студентов и выпускников в рамках ведомственных запросов.

– информационный блок. В целях повышения информированности студентов и выпускников о возможностях трудоустройства структурными подразделениями проводятся собственные информационные кампании, в рамках которых освещаются актуальные вакансии от работодателей и проводимые мероприятия. Описанные нами выше блоки характеризуют основные рабочие процессы, протекающие в структурных подразделениях, отвечающих за содействие занятости студентов и выпускников.

По Указ Президента Республики Узбекистан, от 05.10.2020 г. № УП-6079 “Об утверждении стратегии «Цифровой Узбекистан-2030» и мерах по ее эффективной реализации”⁸⁷ одной из ключевых целей развития определена цифровая трансформация, включающая в себя такой

⁸⁷ Указ Президента Республики Узбекистан, от 05.10.2020 г. № УП-6079

качественный показатель, как обеспечение «цифровой трансформации» отечественного образования.

Отношение к цифровой трансформации высшего образования у исследователей складывается неоднозначное. С одной стороны, цифровизация в системе образования повышает возможности обработки больших объёмов информации, создаёт предпосылки для обеспечения индивидуализации образовательного процесса и развития инновационных методов обучения, с другой – может стать причиной снижения качества образования и деградации человеческих компетенций. Единственное, в чём представители Российской науки единодушны, так это в том, что цифровизация системы образования является ответом на вызовы, стоящие перед современным российским обществом.

Основная часть.

Одним из инструментов для работы сотрудников образовательной организации с обучающимися и работодателями является официальный сайт образовательной организации. Во многих национальных официальных сайтах не создаются специальные разделы, которые посвящены трудоустройству студентов и выпускников или деятельности соответствующих структурных подразделений.

Работодатель не имеет возможности рассмотреть выпускников, и распознать одарённых студентов и выпускников. Если рассматривать зарубежных вузов, то они во много приспособлены к конкуренции трудоустройству своих выпускников.

В ходе исследования трудоустройство выпускников национальных вузов, было выявлено несколько недостатков:

1. Нет взаимосвязь с предприятиями, с которыми они сотрудничают и для которых они готовят специалистов;
2. Студенты и выпускники не имеют понятия кем и куда они могут устроиться;
3. Слабая работа сотрудников центра карьеры;
4. Слабая реклама своих выпускников.

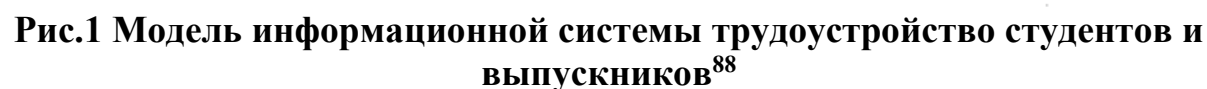
Анализируя все эти недостатки, мы можем понять, что национальные вузы не готовы к конкуренции трудоустройству своих выпускников. Во многих вузах убеждены тем, что у них очень низкая качество обучения и пытаются улучшить качество обучения. Да во много этот оправдающий подход, но это старых подход оставшуюся след от СССР. Вузы пытаются сотрудничать с предприятиями, составляя договоры сотрудничества, научные практики, стажировки, день открытых дверей и другие меры для трудоустройство своих выпускников, но этот подход не решает проблему хотя бы на 60%.

Рассматривая недостаток, основной недостаток — это реклама своих выпускников.

Решением всех недостатков, это создание единый сервис для студентов и выпускников, работодателей, а также для сотрудников вуза. Сервис, позволяет выстраивать взаимодействие между сотрудниками вузов, занимающимися вопросами содействия занятости, обучающимися, ищущими место работы, практики, стажировки, и работодателями, нуждающимися в квалифицированных кадрах.

Работодателям сервис должен позволяет использовать возможности онлайн-рекрутинга для поиска кадров среди выпускников и обучающихся высших учебных заведений, а также быстро актуализировать вакансии.

Исходя из всех предложенных, решений был создан модель для создания онлайн сервиса приведён в рис.1



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В разработанной модели учтены все недостатки в содействия трудоустройству выпускников.

Выпускники через онлайн систему могут создавать свои резюме и портфолио, ознакомления вакансиями.

Работодатели могут объявлять свои вакансии, поиск одаренных студентов.

Сотрудники вуза могут установить взаимосвязь между выпускниками и работодателями.

Заключение

В условиях цифровизации системы высшего образования система содействия занятости обучающихся и выпускников вузов также неуклонно меняется и подвергается цифровой трансформации. Результатом такой трансформации стали: активное использование для работы с обучающимися, выпускниками и работодателями онлайн сервисы;

автоматизация части таких рабочих процессов, как размещение вакансий на цифровых информационных ресурсах;

Использование цифровых технологий позволяет оптимизировать часть работы сотрудников структурных подразделений образовательных организаций высшего образования, занимающихся вопросами занятости обучающихся и выпускников, и даёт им возможность уделить достаточно времени задачам, требующим личного заинтересованного участия сотрудника.

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*Хожамбергенова Г.А.
стажёр-преподаватель
кафедра общей биологии и физиологии
Каракалпакский государственный университет им. Бердаха
Абдиганпаров Ж.Д.
главный специалист отдела по контролю качества образования
Каракалпакский институт сельского хозяйства и агротехнологий
Республики Узбекистан*

БИОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ТОНКОПАЛОГО СУСЛИКА (SPERMOPHYLLUS LEPTODACTYLUS)

Аннотация. В статье рассматриваются биологические особенности тонкопалого суслика (spermophyullus leptodactylus). Приведены сведения об ареале распространения, образе жизни, размножение, питание, а также хозяйственные значения данного вида. Тонкопалый суслик является одним из ключевых звеньев пищевой сети в своем регионе.

Ключевые слова: род, семейство, питания, размножения, звено, цепь, ареал.

*Khozhambergenova G.A.
trainee-teacher
Department of General Biology and Physiology
Karakalpak State University named after Berdakh
Abdigapparov Zh.D.
chief specialist of the department for quality control of education
Karakalpak Institute of Agriculture and Agrotechnology
Republic of Uzbekistan*

BIOLOGICAL FEATURES OF THE THIN-TOED GOUTHER SQUIRREL (SPERMOPHYLLUS LEPTODACTYLUS)

Annotation. The article discusses the biological characteristics of the thin-toed ground squirrel (Spermophyullus leptodactylus). Information is provided on the distribution area, lifestyle, reproduction, nutrition, as well as the economic significance of this species. The thin-toed ground squirrel is one of the key links in the food web in its region.

Key words: genus, family, nutrition, reproduction, link, chain, area.

Тонкопалый суслик (*Spermophyullus leptodactylus*) – вид млекопитающих из отряда грызунов. Относятся к роду грызунов в семейство беличьих (*Sciuridae*), является представителем особого

подсемейства африканских земляных белок — *Xerinae*. Длина тела тонкопалого суслика составляет 22–30 см, хвоста 4,5–10 см. Задние конечности значительно длиннее передних; задняя ступня длинная (5,6—6 см), густо покрытая по всей поверхности подошвы волосами.

Длинные волосы на пальцах обычно заходят за концы когтей. Когти тонкие и длинные, наиболее длинные из них превышают 1 см. Защечные мешки отсутствуют. Окраска летнего меха светлая, яркожелтая или с красновато-охристым налетом. Зимняя шерсть длинная, мягкая и шелковистая, соломенно-желтого цвета с мелкими темными пестринками; подшерсток хорошо развит. Хвост сверху той же окраски, что и спина; снизу концевая часть хвоста окрашена в черный цвет. Весенняя линька начинается в различные сроки, от конца февраля до конца апреля, осенняя — с конца сентября. Сосков восемь.

Тонкопалый суслик (*Spermophyylus leptodactylus*) характерный обитатель барханных и бугристых песков. В основном обитает в песчаных пустынях Средней Азии от Каспийского моря до песков Прибалхашья включительно и Казахстана, Узбекистана, Таджикистана, в северные районы Ирана и Афганистана. Населяет преимущественно бугристые пески в различной стадии закрепления, реже участки с лёссово-песчаными, лёссовыми и щебнистыми грунтами, окраины саксауловых и тамарисковых зарослей.

Тонкопалые суслики полностью адаптированы к пустынной среде, где существуют крайне ограниченные ресурсы. Они обычно строят свои норы в песчаных дюнах или скалистых районах, в которых находятся подземные преграды, обеспечивающие надежную защиту от хищников. Их норы сложно заметить, так как вход часто маскируется в окружающей среде. В отличие от других видов, тонкопалый суслик никогда не селится большими колониями. Обычно в норе живёт пара сусликов, а иногда даже один зверёк. Нора сусликов глубиной до 5 м, с многочисленными разветвлениями, слепыми боковыми ходами и несколькими камерами, расположенных в местах разветвлений. Также роет и временные норы, имеющие более простое устройство, чем постоянные.

Тонкопалый суслик ведёт дневной образ жизни, и в нору прячется только в жаркие часы, не впадает в зимнюю спячку. Зимой не выходит из норы лишь в самые сильные морозы. В отличие от других видов, тонкопалый суслик быстро бежит и в поисках пищи и может уходить на далёкие расстояния от своей норы.

Тонкопалые суслики — всеядные, их рацион включает в себя разнообразные растения, семена, корни, листья и иногда насекомых. Они питаются как подземными, так и надземными частями растений. Поедает стебли песчаной осоки, семена, клубни луковичного мятлика, луковички тюльпанов, дикого лука, плоды каллигонума, саксаула и другие, в поисках плодов часто забирается на кусты. Тонкопалый суслик также могут

питаться пищей, содержащей соли, что помогает им приспособиться к пустынной среде с низким содержанием влаги.

Имея развитую систему размножения, тонкопалые суслики способны кратко размножаться и порождать большое количество потомства, что обеспечивает сохранение вида в условиях непостоянного ресурса пищи.

Брачный период тонкопалых сусликов начинается приблизительно с середины февраля. Один раз (реже два) в год самка приносит 2-5, реже до 7 детёнышей. Рождение детёнышей приходится на конец апреля - начало мая. Голос напоминает резкое стрекотание. Его редко удастся слышать, преимущественно, когда зверек испуган. Различают два подвида:

➤ Обыкновенный тонкопалый суслик (*Spermophilopsis leptodactylus leptodactylus*) отличается светлой палево-песчаной окраской летнего меха;

➤ Тонкопалый суслик Шумакова (*Spermophilopsis leptodactylus schumakovi*) — Размеры несколько крупнее. Летний мех с примесью серовато-рыжих тонов, зимний мех темнее, чем у обыкновенного подвида.

Тонкопалые суслики встречаются обычно далеко от культурных площадей и не вредит земледелию. Вредная деятельность тонкопалого суслика сказывается в уничтожении закрепляющих песок растений, например, посаженных лесозащитной службой железной дороги. Своей роющей деятельностью, а также выеданием посеянных семян вредит пескоукрепительным посадкам и способствует раскреплению песков.

Норы тонкопалого суслика в песчаной пустыне - очаги выплода членистоногих, переносящих трансмиссивные болезни человека и домашних животных. Он является носителем возбудителя кожного лейшманиоза, в меньшей степени — чумы.

Таким образом, тонкопалый суслик является не только уникальным существом, но и важным компонентом экосистемы. Его присутствие в природе свидетельствует о биологическом балансе и о важности сохранения его среды обитания. Исчезновение тонкопалого суслика может привести к нарушению пищевой цепи и уничтожению других видов, ведь он является одним из ключевых звеньев пищевой сети в своем регионе.

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*Хожамуратова Р.Т., доктор географических наук
профессор
Каракалпакский государственный
университет им. Бердаха
Хожиев Э.Б.
базовый докторант
Самаркандский государственный университет
Республика Узбекистан*

**АНТРОПОГЕННОЕ ВОЗДЕЙСТВИЕ НА РЕЧНЫЕ ЭКОСИСТЕМЫ
УЗБЕКИСТАНА И ОЦЕНКА ЕГО ПОСЛЕДСТВИЯ (НА ПРИМЕРЕ
НИЖНЕГО ТЕЧЕНИЯ АМУДАРЬИ)**

Аннотация. В статье рассматривается антропогенное воздействие на речные экосистемы Узбекистана и оценка его последствия на примере Нижнего течения Амударьи. Использование водных ресурсов в низовьях Амударьи увязывается с дефицитом воды и экологическими проблемами. Вода нижнем течении реки Амударьи слишком загрязнена, чтобы использоваться для питьевого водоснабжения, но является единственным источником воды для населения.

Ключевые слова: населения, питьевая вода, экологическая проблема, водные ресурсы.

*Khozhamuratova R.T., doctor of geographical sciences
professor
Karakalpak State University named after Berdakh
Khozhiev E.B.
basic doctoral student
Samarkand State University
Republic of Uzbekistan*

**ANTHROPOGENIC IMPACT ON RIVER ECOSYSTEMS OF
UZBEKISTAN AND ASSESSMENT OF ITS CONSEQUENCES (BASED
ON THE EXAMPLE OF THE LOWER STREAM OF THE AMUDARYA)**

Annotation. The article discusses the anthropogenic impact on river ecosystems of Uzbekistan and assessing its consequences using the example of the Lower Amu Darya. The use of water resources in the lower reaches of the Amu Darya is linked to water scarcity and environmental problems. The water in the lower reaches of the Amudarya River is too polluted to be used for drinking water supply, but is the only source of water for the population.

Key words: population, drinking water, environmental problem, water resources.

Интенсивно возрастающее использование в народном хозяйстве водных ресурсов приводит к существенным изменениям стока рек, водного режима территории их бассейнов и водоприемников. Особенно велико это влияние в аридных и полупустынных областях. В ряде районов деятельность человека в области управления водными ресурсами суши по своим масштабам становится соизмеримой с воздействием на них природных факторов. Влияние антропогенных факторов увеличивается по мере интенсификации использования водных ресурсов и на определенном уровне рациональное использование последних уже невозможно без достоверных знаний об изменениях, произошедших в водном режиме территории и стоке рек под их воздействием [3].

Бассейн реки Амударьи - самой многоводной реки Центральной Азии, охватывает более 80 крупных рек, расположенных на территории Узбекистана, Таджикистана, Туркмении. С севера на юг он вытянут на 1230 км и с запада на восток на 14070 км, а расстояние от устья до наиболее удаленной точки речной системы (по руслу) составляет 2602 км.

Амударья – крупнейшая река Центральной Азии, сток которой в значительной мере питал Аральское море. С 60-х годов 20 века началось резкое снижение его уровня, связанное с широким развитием ирригации прежде всего в бассейне реки Амударьи. Уменьшение стока в низовьях реки привело к кардинальному изменению всей гидрографии дельты.

Бассейн Амударьи делится на три участка: верхнее течение (выше гидропоста Келиф — граница между Туркменистаном и Узбекистаном); среднее течение (между гидропостом Келиф и Туямуяном) и нижнее течение (ниже Туямуяна). По территории Каракалпакстана она проходит нижним течением, и её протяженность когда-то составляла 460 км. [2].

Низовья Амударьи относятся к древнейшей зоне орошаемого земледелия и развитие народного хозяйства тесно связано водными ресурсами. Использование водных ресурсов в низовьях Амударьи увязывается с дефицитом воды и экологическими проблемами.

Влияния антропогенных факторов на сток р.Амударьи начались с конца 60-х годов XX века в связи с интенсивным ростом орошаемых земель, строительством гидротехнических сооружений, ирригационных и осушительных сетей, регулированием стока рек, строительством водохранилищ, что привело к изменению режима стока рек, уменьшению объема воды и увеличению ее минерализации [4,7].

Широкомасштабное развитие градостроительства, промышленности, сельского хозяйства и ограниченный вклад в решение экологических проблем привело к росту загрязнению природных вод всего бассейна. Здесь получили развитие различные отрасли промышленности: легкая,

пищевая, текстильная, угольная, черной и цветной металлургии, химической и др.

Всплеск антропогенного воздействия на речную экосистему приходится на современный период, когда началось широкомасштабное вовлечение земель в возделывание хлопка, риса и других культур с проведением комплекса ирригационных и мелиоративных мероприятий. Это объясняется тем, что в бассейне р. Амударьи агрогеокомплексы служат основной зоной постоянной аккумуляции минеральных веществ, принесенных транзитным речным стоком [5].

Общий обзор по примыкающим к реке Амударья областям показал, что из трех факторов самое значительное влияние на изменение качества воды оказывают сельскохозяйственные сточные воды. Если промышленные сточные воды имеют локальные источники размещения, их легче контролировать и проводить очистку, а коммунально-бытовые сточные воды зависят от численности населения и типа населенных пунктов, то сельскохозяйственные сточные воды имеют более широкое площадное распространение [6].

Нарушение экологического равновесия в нижнем течении Амударьи происходит в результате сброса сильно минерализованных промывных и дренажных вод, где активно формируются заболоченные земли, заросшие камышом и расширяются площади антропогенных соленых озерных систем [1].

Анализ концентрации загрязняющих веществ в нижнем течении Амударьи показывает превышения ПДК нефтепродуктов и фенолов, а также ртути, фтора и мышьяка. По сумме лимитирующих показателей первого и второго классов опасности воды в нижнем течении Амударьи не пригодны для хозяйственно-питьевого водоснабжения [8].

Повышение антропогенных нагрузок на речной бассейн приводит к количественному истощению водных ресурсов и ухудшению качества воды.

В засушливые годы ситуация с водными ресурсами приобретает критический характер. В годы экстремальных проявлений климатической изменчивости могут начаться значительные потери в сельскохозяйственном производстве и проблемы в обеспечении населения питьевой водой.

Таким образом, вода в нижнем течении реки Амударьи слишком загрязнена, чтобы использоваться для питьевого водоснабжения, но является единственным источником воды для населения, проживающего в низовьях реки. На сегодняшний день очень мало сделано для улучшения управления водозабором, что свидетельствует о том, что проблема минерализации вод будет только усугубляться в ближайшем будущем. Поэтому необходимо регулировать использование водных ресурсов. Это может включать в себя ограничение добычи воды для

сельскохозяйственных нужд, контроль над использованием химических удобрений. Регулирование использования водных ресурсов помогает сохранить экосистему и поддерживать ее устойчивость.

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*Холмуродова Н.
студент 4 курса
факультет начального образования
Бухарский государственный педагогический институт*

СПОСОБЫ ИСПОЛЬЗОВАНИЯ МУЛЬТИМЕДИЙНЫХ СРЕДСТВ НА УРОКАХ НАЧАЛЬНОЙ МАТЕМАТИКИ

Abstract. Increasing the interest and motivation of students, improving understanding and memorization of the material. Various methods for introducing multimedia are described, including the use of interactive whiteboards, educational applications, video lessons and computer programs. The advantages of multimedia learning and recommendations for its integration into the educational process to achieve the best results are presented.

Keywords: multimedia, elementary mathematics, interactive whiteboards, educational applications, video lessons.

*Kholmurodova N.
4th year student
Faculty of Primary Education
Bukhara State Pedagogical Institute*

WAYS OF USING MULTIMEDIA IN PRIMARY MATHEMATICS LESSONS

Аннотация. Повышения интереса и мотивации учеников, улучшения понимания и запоминания материала. Описаны различные методы внедрения мультимедийных средств, включая использование интерактивных досок, образовательных приложений, видеоуроков и компьютерных программ. Представлены преимущества мультимедийного обучения и рекомендации по его интеграции в учебный процесс для достижения наилучших результатов.

Ключевые слова: мультимедийные средства, начальная математика, интерактивные доски, образовательные приложения, видеоуроки.

Современное образование неразрывно связано с использованием мультимедийных средств, которые делают учебный процесс более интересным и эффективным. В начальной школе, где дети только начинают свое знакомство с основными математическими понятиями, мультимедийные технологии могут стать мощным инструментом для улучшения понимания и запоминания материала. В данной статье мы рассмотрим различные способы использования мультимедийных средств

на уроках начальной математики, а также их преимущества и методы внедрения.

Значимость мультимедийных средств в обучении. Мультимедийные средства, такие как компьютерные программы, интерактивные доски, образовательные приложения и видеоуроки, играют важную роль в современной педагогике. Они позволяют разнообразить методы преподавания, сделать уроки более динамичными и привлекательными для детей. Благодаря мультимедийным средствам, ученики могут лучше визуализировать абстрактные математические понятия, что способствует более глубокому пониманию и усвоению материала.

1. Интерактивные доски. Интерактивные доски становятся все более популярными в образовательных учреждениях. Они позволяют учителям создавать наглядные и интерактивные презентации, которые помогают ученикам лучше понять материал. Например, учитель может использовать интерактивную доску для объяснения геометрических фигур, демонстрируя их построение в реальном времени. Дети могут самостоятельно выполнять задания на доске, что способствует активному участию в учебном процессе.

2. Образовательные приложения. Существует множество образовательных приложений, разработанных специально для обучения математике. Эти приложения предлагают интерактивные задания и игры, которые помогают детям закрепить изученный материал. Например, приложения могут предложить ученикам решить математические задачи в игровой форме, что делает процесс обучения более увлекательным и мотивирующим. Такие приложения также часто включают элементы обратной связи, позволяя детям сразу увидеть результаты своих действий и исправить ошибки.

3. Видеоуроки и анимации. Видеоуроки и анимации являются эффективным средством визуализации сложных математических понятий. Учителя могут использовать готовые видеоматериалы или создавать собственные анимации для объяснения новых тем. Например, анимации могут показать процесс сложения и вычитания чисел, делая его более наглядным. Видеоуроки также позволяют детям изучать материал в удобное для них время, повторяя сложные моменты столько раз, сколько необходимо.

4. Компьютерные программы и симуляции. Компьютерные программы и симуляции позволяют детям выполнять виртуальные эксперименты и исследования. Например, программа может предложить ученикам изучить свойства геометрических фигур, изменяя их параметры и наблюдая за результатами. Такие симуляции помогают детям лучше понять абстрактные концепции и развить навыки анализа и критического мышления.

Для успешного внедрения мультимедийных средств на уроках математики необходимо учитывать несколько ключевых моментов. Учителя должны быть готовы к использованию мультимедийных средств в своей работе. Для этого могут проводиться специализированные тренинги и курсы повышения квалификации. Школы должны быть оснащены необходимым оборудованием, таким как интерактивные доски, компьютеры и планшеты. Важно также обеспечить доступ к качественным образовательным программам и приложениям. Мультимедийные средства должны быть интегрированы в учебный процесс таким образом, чтобы они дополняли традиционные методы обучения, а не заменяли их. Важно сохранять баланс между использованием технологий и традиционными методами преподавания. Для оценки эффективности использования мультимедийных средств необходимо проводить регулярный анализ результатов обучения. Это поможет выявить сильные и слабые стороны методики и внести необходимые коррективы.

Использование мультимедийных средств на уроках начальной математики открывает новые возможности для эффективного и интересного обучения. Интерактивные доски, образовательные приложения, видеоуроки и компьютерные программы помогают детям лучше понимать и запоминать математические понятия, развивать навыки анализа и критического мышления. Важно, чтобы внедрение мультимедийных средств было системным и учитывало индивидуальные особенности учеников, что позволит достичь наилучших результатов в обучении.

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*Хурмаматов А.М.
УЗФА умумий ва ноорганик кимё институти
асосий технологик жараён ва қурилмалар
лабаратория мудири т.ф.н проф.
Мирсаидов М.Х.*

Наманган Муҳандислик-қурилиш институти ўқитувчиси

САНОАТ СУВЛАРИНИ ЮМШАТИШ ВА ОРГАНИК БИРИКМАЛАРДАН ТОЗАЛАШ ЖАРАЁНИ САМАРАДОРЛИГИНИ ОШИРИШ

Аннотатсия. Ушбу мақолада саноат чиқинди сувларни қайта ишлаш системаси, “Азамат зиё савдо” МЧЖ ишлаб чиқариш корхонаси ҳосил бўлаётган чиқинди сув таркибидаги органик бирикмаларни ажратиш олиш ва қайта ишлаб саноат иқтисодиётига ҳамда экология ва атроф муҳитга чиқиши мумкин бўлган зарарли моддаларни саноатга ёналтириш тўғрисида сўз юритилган.

Калит сўзлар: чиқинди сувлар, “Азамат зиё савдо” МЧЖ, оқава сувлар, фосфатлаш, мойсизлантириш, дисперс системалар, тозалаш, ифловловчи компонент, органик бирикмалар, мойлар, оҳак сути.

*Khurmamatov A.M., Ph.D.
professor
Head of the Laboratory of Main Technological Processes
and Devices of the Institute of General and Inorganic Chemistry of UZFA
Mirsaidov M.Kh.
teacher
Namangan Institute of Engineering and Construction*

INCREASING THE EFFICIENCY OF THE PROCESS OF SOFTENING INDUSTRIAL WATERS AND CLEANING FROM ORGANIC COMPOUNDS

Abstract. This article deals with the extraction of organic compounds from the waste water produced by the industrial waste water treatment system, the production enterprise of "Azamat Ziya Trade" LLC, and the recycling of harmful substances that can be released into the industrial economy and the ecology and environment.

Key words: waste water, "Azamat ziya trade" LLC, wastewater, phosphating, degreasing, dispersed systems, cleaning, pollutant component, organic compounds, oils, milk of lime.

Кириш. Ишлаб чиқариш корхоналарининг саноат чиқинди сувларини тозалаб технологияга жорий этиш иқтисодиётга ҳамда экологияга жуда катта фойда келтиради.

Сувни муҳофаза қилиш объектларининг қурилиши ва сувни қайта ишлатиш тизими қувватини ошириш сув манбаларини умуман қуришдан ёки ифлосланишдан яхшироқ муҳофаза қилиш, корхоналарда сувдан фойдаланишнинг нооқова тизимини қўллаш ва шунингдек, сув хўжалиги комплексларини бошқаришнинг автоматлашган тизимини ташкил этиш, мамлакатимиздаги сув ресурсларидан тўғри фойдаланиш, уларни хўжалик, саноат корхона чиқиндилари орқали ифлосланишдан сақлаш ва сувни тозалаш жараёнини яхши ташкил этиш орқали амалга оширилади. Юқоридагилардан кўриниб турибдики атроф-муҳитни ва сув ҳавзаларини муҳофаза қилиш учун оқова сувларни ҳавзаларга ташлашдан олдин чуқур тозалаш керак. Бундан ташқари ишлаб чиқариш (саноат) оқова сувлари жуда заҳарли ҳисобланиб, кимёвий (реагент) элементларга бой бўлади. Шу сабабдан ҳам ишлаб чиқариш (саноат) корхоналари оқова сувини қайта ишлашда ёпиқ тизим қўлланилса мақсадга мувофиқ ҳисобланади [1].

Экспериментал қисм. Оқава сувнинг дастлабки қаттиқликларини аниқлашда, сув таркибидаги яни эритма муҳитидаги кальций ва магний тузлари ҳиссобида аниқланади. Бунда ГОСТ 31954-2012 ёрдамида эриган кальций ва магний тузларини аниқлашимиз мумкин бўлади. Карбонатсиз ва карбонатли қаттиқликлар биргаликда сувнинг умумий қаттиқлиги деб аталади. Умумий қаттиқлик 1л сувдаги кальций ва магний ионларини грамм-эквивалент миқдори билан ифодаланади. 1 мг- экв қаттиқлик 20,04 мг/л Ca^{2+} ёки 12,16 мг/л Mg^{2+} га тўғри келади. Қаттиқлик катталигига кўра сув жуда юмшоқ қаттиқлиги 1,5 мг/л гача, юмшоқ 1,5 дан 4 гача, ўртача қаттиқ 4 дан 8 гача, қаттиқ 8 дан 10 гача, жуда қаттиқ 12 дан юқори бўлади [2].

Сувнинг қаттиқлиги аналитик усулда аниқланади. Сувнинг қаттиқлиги ионитлар ёрдамида ва оҳак содали усулда аниқланади. Қолган усулларнинг қўлланилиши анча чегараланган. Сувни юмшатиш қуйидагича амалга оширилади [2].

1. Кальций ионларини одатда магний ионлари билан биргаликда чўктириш, шунингдек чўкмани йўқотиш билан [3];

2. Кальций иони (магний иони)ни ион алмаштириш усули билан йўқотиш. Ион алмашиниш усули ионитларни эритмадан бирор ионни йўқотиши ва бунинг ўрнига бошқа ионни беришига асосланган [3].

Агар ионитлар эритмада бўлган катионларни алмаштириш қобилиятига эга бўлса, булар катионитлар деб аталади. Катионитларга алюмосиликатлар, сульфурланган кўмир, синтетик силикатлар киради. Катионитларнинг ҳарактерли қобилиятларидан улар таркибида кўпгина кислотали гуруҳлар: силикатли, карбоксилли ва сульфо гуруҳларнинг борлигидир. Бу кислотали гуруҳлар водород ионларини сақлайди. Бу

ионлар ҳаракатчан ва булар ҳар ҳил катионитларга алмашилиши мумкин [2].

Сувнинг умумий қаттиқлигини аниқлаш. Конуссимон колбага 100 мл гача дистилланган сув билан суюлтирилган текширилаётган сувдан 100 мл ёки камроқ ҳажмдан солинади. Олинган бу ҳажмдаги сув кальций ва магний ионларининг умумий миқдори 0,5 молдан ошмаслиги керак. Кейин шу сувнинг устига 5 мл олинган буфер эритмасидан солинади, унга яна 5-7 томчи индикатор ёки қуруқ натрий хлорид аралаштирилган эриохром қора-Т дан 0,1 гр қўшилади ва дарҳол аралаштириб турган ҳолда трилон Б эритмаси (0,05N) билан эритма ранги кўк яшил рангга ўтгунча титрланади. Эритма рангининг кўк яшил рангга бўйлиши Ca^{2+} ва Mg^{2+} ионларининг трилон Б билан тўлиқ боғланганлигини, яъни эритмада Ca^{2+} ва Mg^{2+} ионларининг йўқлигини кўрсатади. Агар титрланган 0,05N трилон Б эритмасидан 10 мл дан кўпроқ сарф бўлса, бу олинган сувда кальций ва магний ионларининг умумий миқдори 0,5 ммолдан кўпроқ эканлигини кўрсатади. Бундай ҳолда дистилланган сув билан 100 мл гача суюлтирилган сувдан камроқ ҳажмда олиб аниқлашни қайтадан такрорлаш керак, эквивалент нуқтада рангининг аниқ ўзгармаслиги сувда мис ва рух борлигини билдиради. Олинган намунадаги ҳалақит берувчи моддаларни йўқотиш учун 1-2 мл натрий сульфид эритмасидан қўшилади. Шундан сўнг юқорида кўрсатилган тартибда анализ ўтказилади [3].

Агар ўлчаб олинган сувга буфер эритма ва индикатор қўшилгандан сўнг титрланадиган эритма ранги аста секин рангсизланиб, кулранг ҳосил қилса, бу марганец борлигини кўрсатади. Бундай ҳолда анализ учун олинган сувга аввал 5 томчи 1% ли $(\text{NH}_2\text{OH})_2 \cdot \text{H}_2\text{SO}_4$ қўшилади ва кейин сувнинг қаттиқлиги аниқланади. Агар титрлашнинг эквивалент нуқтасида беқарор ва аниқ ранг ҳосил бўлмаса, бу сувнинг ишқорийлиги юқори даражада эканлигини кўрсатади. Бундай ҳолатда 0,1N ли HCl эритмаси билан олинган намуна нейтралланади, кейин қайнатилади. Шундан сўнг буфер эритмаси ва индикатор солиниб сувнинг қаттиқлиги аниқланади [7].

Ишлаб чиқариш жараёнига келаётган артезан сувнинг қаттиқлик даражасини текширганимизда 21 мг/л дан 27 мг/л оралиғида эканига гувоҳ бўлдик. Демак бундан хулоса қилиш мумкинки ишлаб чиқаришга берилаётган сувнинг қаттиқлик даражаси жуда юқори, лекин бу ишлаб чиқаришга таъсири юқ, шунинг учун дастлабки келаётган тоза артезан сувини юмшатишга катта эътибор қаратилмайди. Ишлаб чиқаришдан ҳосил бўлган оқава сувининг қаттиқлик даражаси пасайганини кўришимиз мумкин, 10,46 мг/л бунга сабаб гальваника жараёнида ишлатилаётган NaOH ва Na_3PO_4 бирикмалар ёрдамида сувнинг қаттиқлиги пасайтиради.

Сувнинг умумий қаттиқлигини қуйидаги формула билан аниқланади:

$$Q_{\text{um}} = V_1 \cdot 0.05 \cdot K \cdot 1000 / V_2$$

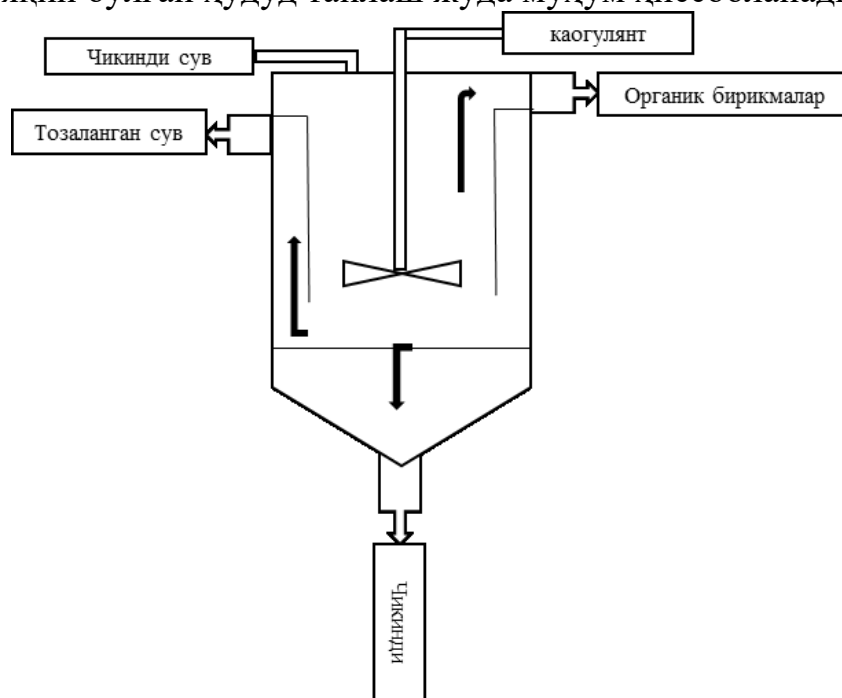
V_1 - титрлашда сарфланган трилон Б эритмасининг ҳажми, мл;

К - трилон Б эритмасининг нормал концентрация учун тузатиш коэффициенти;

V_2 - умумий қаттиқликни аниқлаш учун олинган сув ҳажми, мл;

Сувнинг умумий қаттиқлигини аниқлашдаги параллел анализлардаги нисбий хатолар 2% дан ошмаслиги керак [5].

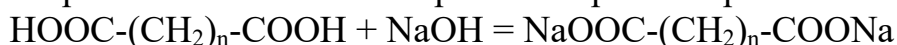
Муҳокама ва натижалар. Саноат корхоналарида ишлаб чиқариш шароитида келиб чиққан ҳолда ишлаб чиқариш жараёнлари ҳисоб китоб қилиш натижасида корхона жихозлари (стаконлар) ўрнатилади. Таклиф қилинаётган лаборатория қурилмасининг конструктив ҳисоб китоблар асосида саноатни ишлаб чиқариш жараёнига ҳамда ишлаб чиқариш жараёнига яқин бўлган ҳудуд танлаш жуда муҳим ҳисобланади.



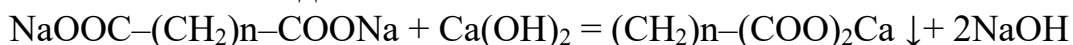
1-расм. Техник сувларни тозалаш ва юмшатиш қурилмаси.

Таклиф этилаётган лаборатория қурилмасининг ишчи параметри ва конструктив ўлчамлари ишлаб чиқариш кўлаmidан келиб чиқилган ҳолда бўлади. 1-расмда келтирилган лаборатория қурилмаси чиқинди сув таркибидаги органик ва неорганик бирикмалардан сувни тозалаш ва кегинги жараён учун тайёрлаш вазифасини бажаради. Бу қурилмада органик бирикмаларни ажратиб олиб қайта ишлаш бўлимига юборилади.

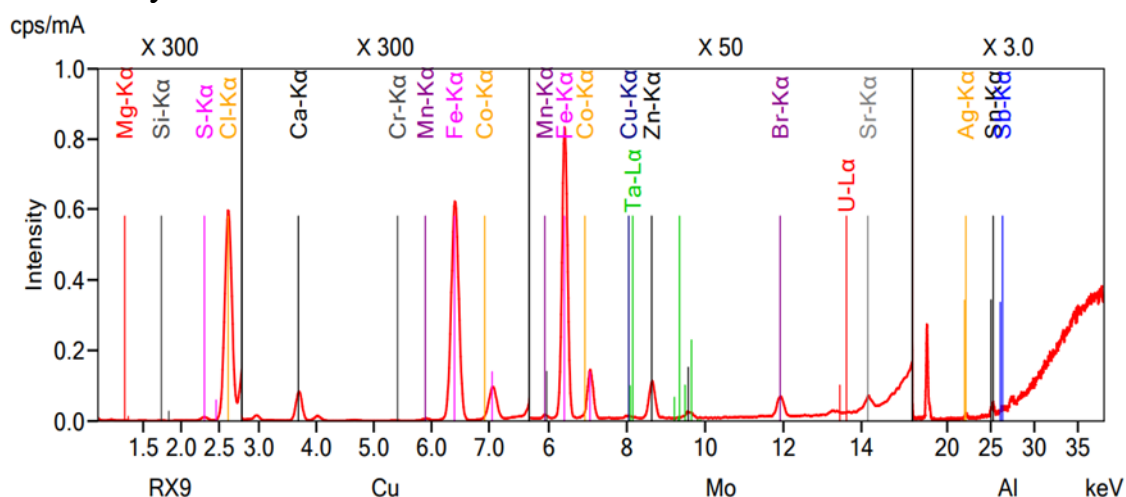
Ажратиб олинган мой ва органик бирикмалар:



Оҳак сути билан ишлов бериш эмулгирланган мойни дестабилизация қилишга имконият яратади, эркин мойлардан эримайдиган калцийли совун ҳосил қилади ва ҳосил бўладиган чўкиндилар юзасида мойларни сорбциясини таъминлайди:



Органик бирикмаларни NaOH ёрдамида тозалаш натижасида ҳосил бўлган мойни натрийли бирикмалари ($\text{NaOOC}-(\text{CH}_2)_n-\text{COONa}$) суюқлик тубига чўмайди, аксинча бу жараён экстракторда олиб борилади. Экстрактorda температура 60-70 °C да олиб борилади, ҳамда мой ва мой маҳсулотлари кўпик билан юқорига чиқади ва диски ротор ёрдамида ажратиб олинади. Ажратиб олинган ёғ маҳсулотлари қайта ишлаш жараёнига берилади, мой маҳсулотларини физик-кимёвий таркиби қуйидагича бўлади.



2- расм. NaOH ёрдамида ажратиб олинган мой маҳсулоти рентгенофлуоресцент қурилмасидаги таҳлили

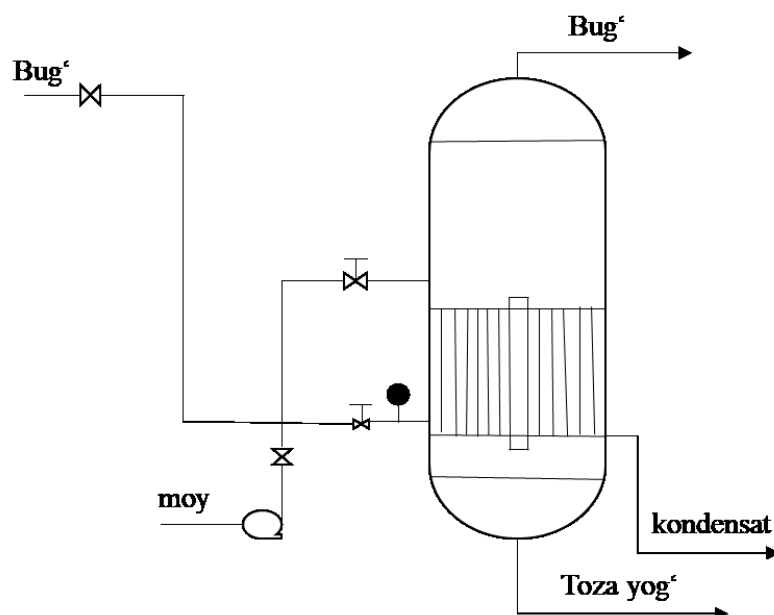
1-жадвал

Органик бирикмалар NaOH ёрдамида ажратиб олинган суюқ фаза таркиби

H ₂ O	Na	C	Fe	Ca	P	Cl	S
96,8	0,161	0,384	0,0241	0,191	0,175	0,075	0,173

2-расм ҳамда 1- жадвалдан умумий экстрактордан ажратиб олинган мойни NaOH ёрдамида экстракти келтирилган. Бунга кўра экстракт таркибида H₂O 96,8 % ни, Na 0,161 % ни, C-0,384% ни ва қолган чўкмага тушадиган бирикмалардан иборат. 1 – жадвалда келтирилган қийматларни сувни буғлатиш ёрдамида органик бирикмаларни миқдорини кўтаришимиз ва қайта ишлашга беришимиз мумкин.

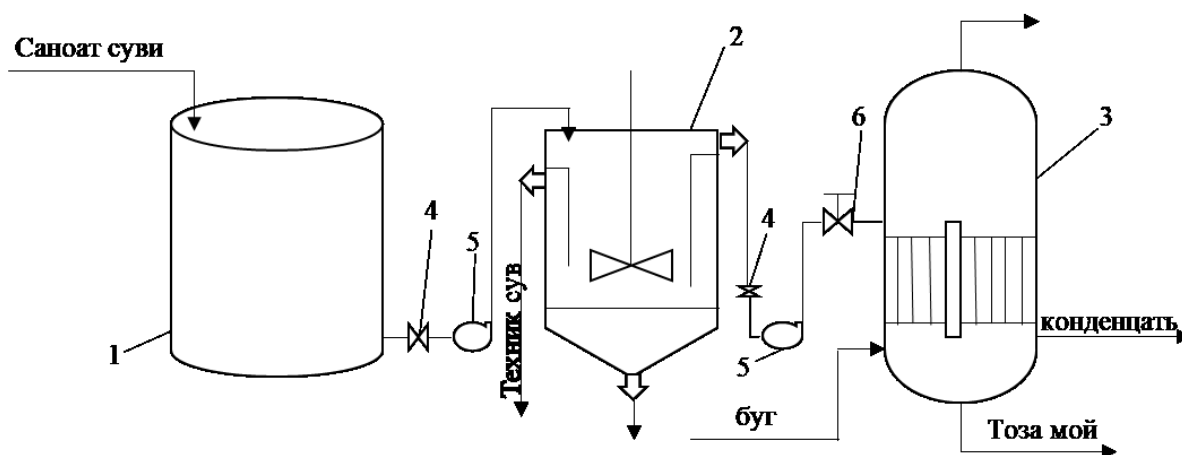
Термик ишлов бериш жараёнида хомашё углерод билан тўйинтирилади ва тақсимланиш бўлимига берилади, ушбу жараён оралиғида хомашёни кескин совитиш натижасида углеродни структураси сақлаб қолинади. Совитиш жараёнида И 20 ва трансформатор ёғдан фойдаланамиз. Хомашё мойга ботирилиб кейинги жараёнга берилганда метал юзаси мой билан чиқади. Углерод тақсимлаш бўлимига киришдан олдин 60-70 °C температурада сув билан ювилади ва сув тозалаш бўлимига берилади.



3-rasm. Moyni bug'latish qurilmasi

Бизга маълумки мойнинг қовушқоқлиги паст бўлганлиги сабабли сув билан мой ўз-ўзидан ажралади, тиндирғичда 2-3 соат давомида чўктирилади. Бу вақт оралиғида мой тўлиқ сув ва мойга ажралади, ҳосил бўлган сув тозалаш иншоотида берилади. Мой еса органик бирикмалар дастлаб центрифугадан ўтказиб сувсизлантирилади, натижада ёғ таркибида 15-20 % намлик қолади. 4-расмда намликни камайтириш мақсадида иссиқлик алмашғич (буғлатиш) бўлимига берилади, бу жараёнда иссиқлик алмашғич қурилма трубаларига 140 °C да буғ берилади. Қурилмада иссиқлик миқдори ўртача 100 -110 °C да сувсизлантирилади, тозаланган ёғ ишлаб чиқаришга қайтарилади. Ишлаб чиқариш қувватидан келиб чиқиб яни 1 кунда ўртача 750 л мой ишлаб чиқаришга берилади, 1 ойда еса 20 тонна мой ишлаб чиқариш учун сарф бўлади. Биз таклиф этаётган қурилма ёрдамида мойни тозалаб ишлаб чиқаришга ёналтирганимиздан сўнг 1 ойда 6 тонна мой сарф бўлмоқда 14 тонна мой тозалаш жараёнидан чиқаётган қайта ишланган ёғ ҳисобидан қопланди.

“Азамат зиё савдо” МЧЖ ишлаб чиқариш корхонасида самарез (бурама мих) ишлаб чиқаришда термик қайта ишлов берилади. Термик ишлов бериш жараёнида хом ашё углерод билан тўйинтирилади ва тақсимланиш бўлимига берилади, ушбу жараён оралиғида хом ашёни кескин совутиш натижасида углеродни структураси сақлаб қолинади. Совутиш жараёнида И 20 мойдан фойдаланамиз. Хом ашё мойга ботирилиб кегинги жараёнга берилганда метал юзаси мой билан чиқади. Углерод тақсимлаш бўлимига киришдан олдин 60 -70 °C температурада сув билан ювилади ва сув тозалаш бўлимига берилади.



4-расм. Наманган саноат суви таркибидаги мойларни тозалаш лаборатория қурилмаси

Термик қайта ишлов жараёнидан чиқаётган саноат суви таркибида мой ювилиш билан чиқади ва сувни қайта ишлаш бўлимига тушади. Дастлаб сув қувурлар ёрдамида йиғгич 1 га тўпланади ва насос 5 лар билан аралаштиргич – тиндиргич 2 га берилади. Тиндиргичда сув мойнинг қовушқоқлиги ва зичлиги ҳиссобига юзага чиқади, мойни ажратиш учун қўшимча каогулянт ёки эритувчи қўшиш шарт эмас. Тиндиргич юқори қисмидан 80 % намлик билан мой қовуш ёрдамида ажратиб олинади, пастки қисмда техник сув қолади. Мойдан тозаланган сув ишлаб чиқаришдан чиқаётган сув билан биргаликда тозалаш бўлимига берилади. Ажратиб олинган мой насос 5 ёрдамида буғлатгич 3 га берилади ва мой таркибидаги сув буғлатилиб мойни концентрацияси кўтарилади. Тозаланган мой идишларга қуйилиб ишлаб чиқаришга юборилади.

2-жадвал

Наманган саноат чиқинди сувидан (термик қайта ишлаш) ажратиб олинган мойнинг буғлатиш вақти (мин)

№	Вақти(мин)	H ₂ O	мой
1	30	40	60
2	40	20	80
3	50	15	85
4	60	10	90

2-жадвалда буғлатгичда мой таркибидаги сувни чиқариб юбориш натижасида мойни тозалаш ва мой концентрацияси кўтарилиши кўриш мумкин. Бунга кўра 110 – 120 °C да 30 минутдан 60 минут оралиғида кўриб чиқилди ва 30 минутда мой таркибидаги намлик 40 % ни 60 минутда эса 10 % ни ташкил этади. Ишлаб чиқариш ҳоссасидан келиб чиқиб 10 - 15 % намликдаги мой ишлаб чиқариш жараёнига салбий тасир кўрсатмаслиги тажриба – синов натижалари асосида ўрганиб чиқилди.

Органик бирикмаларни NaOH ёрдамида тозалаш натижасида ҳосил бўлган мойни натрийли бирикмалари ($\text{NaOOC}-(\text{CH}_2)_n-\text{COONa}$) лаборатория шароитида буғлатилди ва таркибидаги углерод бирикмалари концентрацияси кўтарилди. Лаборатория қурилмасида экстрактордан ажратиб олинган мойни дастлаб тиндирилди ва центрифугада 2-3 дақиқа айланттирилди, бунда қисман сув ва чўкма ажратиб олинди. Мой қисман тоза ҳолда ажратиб олиниб буғлатгичда 110-120 °C ҳароратда буғлатилди.

№	Вақти(мин)	H ₂ O	C	Na	Қўшимча
1	30	70,6	18,7	6,65	2,1
2	40	52,4	33,64	11,26	2,7
3	50	48,6	36,03	12,27	3,1
4	60	42,2	40,26	14,04	3,3

3-жадвал

Наманган саноат чиқинди сувида экстрактор ёрдамида ажратиб олинган мойнинг кимёвий таркиби (% улушларда)

3-жадвалда буғлатгични бир ҳил температурада турли вақт оралиғидаги намликни чиқариб юбориш кўрсаткичлари келтирилган. Сув буғланиши натижасида C - 18,7 - 40,26 % гача, Na – 6,65 – 14,04 гача, қўшимча миқдор эса 2,1 – 3,3 % эканлиги аниқланди. Буғлатгичда 40 минут давомида буғлатиб ажратиб олинган мойнинг натрийли бирикмаси оптимал деб ҳисобланиб ҳом – ашё сифатида ювиш воситалари ишлаб чиқариш жараёнига берилди.

Хулоса ва таклифлар. Саноат сувларини таркибидаги мой ва мой маҳсулотларини тозалаш ҳамда органик бирикмаларни ажратиб олиб саноат учун хизмат қилишини таъминлаш жуда катта ишлаб чиқариш учун иқтисодий самара келтиради. Бундан ташқари чиқинди сув таркибидаги органик бирикмалар екин майдонлари канализатсия экология учун жуда хавфли ҳисобланади шундай экан органик бирикмалар тозалаб шунчаки чиқинди сифатида ташлаб юбормаслик аксинча ишлаб чиқаришга тадбиқ этиш жуда муҳим ҳисобланади.

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Хусанжонов А.С.

докторант

Научный руководитель: Базаров Б.И., д.т.н.

Ферганский политехнический институт

Узбекистан, г. Фергана

ОПРЕДЕЛЕНИЕ ГОДОВЫХ ЗАТРАТ НА УЛУЧШЕНИЕ ЭКСПЛУАТАЦИОННЫХ ПОКАЗАТЕЛЕЙ ЛЕГКОВЫХ АВТОМОБИЛЕЙ ЧЕРЕЗ ВЫБОР ПАРАМЕТРОВ И СРОКОВ СЛУЖБЫ МАСЛЯНЫХ ФИЛЬТРОВ

Аннотация. Масляные фильтры являются важными компонентами любого автомобиля, отвечающими за фильтрацию загрязняющих веществ из моторного масла, тем самым защищая двигатель от повреждений.

Оптимизация эксплуатационных показателей автомобилей требует комплексного подхода, включающего поддержание транспортного парка в исправном состоянии, рациональное использование производственных ресурсов и разработку эффективных методов технического обслуживания и текущего ремонта. Особое внимание уделяется оптимизации процессов очистки моторного масла внутренних сгорающих двигателей, что позволяет сократить затраты и улучшить качество обслуживания, повышая в итоге эксплуатационные характеристики автомобилей.

Ключевые слова: эксплуатация автомобилей, двигатели внутреннего сгорания, масляный фильтр, фильтрующий элемент.

Khusanjonov A.S.

doctoral student

Scientific supervisor: Bazarov B. I., doctor of technical sciences

Fergana Polytechnic Institute

Uzbekistan, Fergana

DETERMINING ANNUAL COSTS FOR IMPROVING THE PERFORMANCE OF PASSENGER VEHICLES THROUGH THE CHOICE OF PARAMETERS AND SERVICE LIFE OF OIL FILTERS

Annotation. Oil filters are important components of any vehicle, responsible for filtering contaminants from the engine oil, thereby protecting the engine from damage.

Optimizing vehicle performance requires an integrated approach, including maintaining the vehicle fleet in good condition, rational use of production resources and developing effective methods for maintenance and

repair. Particular attention is paid to optimizing engine oil purification processes for internal combustion engines, which reduces costs and improves the quality of service, ultimately increasing vehicle performance.

Key words: vehicle operation, internal combustion engines, oil filter, filter element.

Введение

Динамичный рост количество эксплуатируемых автомобилей в мире создают новые проблемы с позиций рационального использования материально-технических ресурсов и загрязнения окружающей среды.

Достижение эффективной работы легковых автомобилей зависит от нескольких факторов, включая поддержание подвижного состава в хорошем состоянии, оптимальное использование ресурсов производственно-технической базы и разработку эффективных методов технического обслуживания (ТО) и текущего ремонта (Р). В условиях реальной эксплуатации улучшение показателей работы легковых автомобилей во многом зависит от объема затрат и сложности выполнения процедур ТО и Р, включая системы очистки моторного масла внутренних сгорающих двигателей.

Особенно важным становится разработка оптимальных методов обслуживания системы очистки масла в условиях высокой нагрузки двигателя и загрязнения масла. Этот подход способствует сокращению трудозатрат и экономии ресурсов при обслуживании, а также повышает качество работы, что в конечном итоге улучшает эксплуатационные характеристики легковых автомобилей.

Основная часть

Методы и средства исследований

Исследование направлено на определение годовых затрат на улучшение эксплуатационных показателей легковых автомобилей через выбор параметров и сроков службы масляных фильтров. В контексте динамичного роста парка автомобилей по всему миру, основное внимание уделяется эффективному управлению материально-техническими ресурсами и минимизации негативного воздействия на окружающую среду.

Основной акцент исследования делается на разработке оптимальных подходов к обслуживанию системы очистки масла в условиях интенсивной эксплуатации автомобилей. Полученные результаты способствуют не только снижению эксплуатационных расходов и улучшению качества техобслуживания, но и обеспечивают повышение общей эффективности и экологической устойчивости легковых автомобилей.

Результаты и обсуждение

Автомобильная промышленность является одним из крупнейших источников опасных отходов, поскольку в автомобилях используется

большое количество масла, а большинство компонентов со временем требуют замены или обслуживания. Использованные масляные фильтры от автомобилей считаются опасными отходами, так как содержат остатки масла и металлические примеси.

В настоящее время регенерированные использованные масляные фильтры привлекают внимание как способ снижения воздействия на окружающую среду за счет их повторного использования. Восстановленные фильтры дешевле новых фильтров и могут выполнять ту же функцию.

Общеизвестно, что эффективность представляет собой экономическое понятие, определяющее систему через соотношение между затратами и достигаемыми результатами.

Определение общей стоимости годовых расходов определяется по формуле

$$\sum Z = (C_{p.m.} + C_{\varepsilon}) \cdot N_a \cdot \frac{P_{сг}}{P_n} \cdot K_v + A_{o.b.}, \text{ сум/год (1)}$$

где, $C_{p.m.}$ – сумма затрат материальных ресурсов (промывочная жидкость) очистку 1 отработанного масляного фильтра (МФ), сум/ шт. (таб. 1);

C_{ε} – стоимость электроэнергии, затраченной на очистку 1 отработанного МФ, сум/ шт.;

K_v – коэффициент вероятности использования, принимаем $K_v = 0,21$;

$A_{o.b.}$ – сумма амортизации технологического оборудования;

N_a – количество легковых автомобилей, шт;

$P_{сг}$ – годовой пробег автомобиля, тыс. км (моточасов) – по данным предприятия;

P_n – норма пробега до замены фильтра, тыс. км, принимаем $P_n = 7500$ км;

Таблица 1.

Определение затрат на расходные материалы⁸⁹

Вид применяемого материала (расходного компонента)	Норма расхода, л/шт.	Цена за ед, тыс. сум	$C_{p.m.}$ – затраты, тыс. сум/ шт.
Промывочная жидкость (ацетон)	0,2–0,4 *0,25	8–12 *10	1,6–4,8 *2,5

* – средний количественный показатель

Состав средства для промывки двигателя и масляной системы автомобиля. Действительно, существует множество доступных для использования композиций для очистки или промывки двигателя, многие из которых могут содержать ацетон, уайт-спирит или другие растворители.

⁸⁹ <https://www.olx.uz/tashkent/q-ацетон/>

Считается, что типичные промывочные жидкости для двигателей иногда могут содержать 60-98% ацетон⁹⁰.

Таблица 2.

Определение затрат на электрическую энергию

Название оборудования (электрического инструмента)	Потребляемая мощность M_y , кВт	Цена на электроэнергию ⁹¹ , тыс. сум/ кВт · час	$C_{\text{Э}}$ – затраты, тыс. сум/ шт.
Оборудование для очистки МФ	1,6	0,9	~ 0,5

Затраты на электроэнергию определяются на основном общего потребления электроэнергии оборудованием, задействованным в процессе очистки одного отработанного масляного фильтра [1-9,14]:

$$C_{\text{Э}} = \frac{M_y \cdot K_B \cdot K_{\text{П}} \cdot C_{\text{Э}} \cdot \tau}{\eta}, \text{ сум/ шт. (2)}$$

где M_y – потребляемая оборудованием (инструментом) мощность, кВт

K_B – величина коэффициента загрузки электродвигателей по времени, принимаем $K_B = 0,5$;

$K_{\text{П}}$ – величина коэффициента потерь электроэнергии в сети, принимаем $K_{\text{П}} = 1,04$;

$C_{\text{Э}}$ – электрической стоимости энергии, сум/ кВт · час;

τ – среднее время, необходимое для промывки и сушки одного отработанного МФ, принимаем $\tau = 0,5$ час;

η – коэффициент полезного действия технологического оборудования, выбираем по нормам $\eta = 0,8$.

Результаты, полученные путем расчета этих выбранных значений в вышеуказанном выражении, приведены в таблице 2.

Определение амортизации технологического оборудования ведется по формуле:

$$A_{\text{ОБ}} = C_{\text{ОБ}} \cdot H_{\text{ОБ}} \text{ сум/ год (3)}$$

где $C_{\text{ОБ}}$ – цена оборудования, сум;

$H_{\text{ОБ}}$ – норматив на амортизацию оборудования, %, определяется в соответствии с нормативными документами и закрепляется законодательно [11-14].

Таблица 3.

Расчет отчислений на реновацию и амортизацию оборудования

Название оборудования (электрического инструмента)	Цена, тыс. сум	Норматив отчислений на амортизацию, %	$A_{\text{ОБ}}$ – затраты на амортизацию, тыс. сум/ год
Оборудование для очистки МФ	2400	11	264

⁹⁰ https://www.youtube.com/watch?v=_YcmTP-ALb4

⁹¹ <https://uznews.uz/posts/67910>

Согласно формуле (1), общая стоимость годовых расходов для предприятия МП «ЛОЧИН», обеспечивающего автомобильное транспортное обслуживание жителей, владеющих 194 автомобилями, подсчитывается следующим образом:

$$\sum Z = (2,5 + 0,5) \cdot 194 \cdot \frac{36600}{7500} \cdot 0,21 + 264 = 860,43 \text{ тыс. сум/ год}$$

Принимаем $N_a = 194$ шт и $L_{\text{сг}} = 36600$ км

Таблица 4.

Итоговая смета годовых расходов по предприятию

Наименование статьи расходов	Расходы, тыс. сум
$C_{\text{р.м.}}$ – сумма затрат материальных ресурсов (промывочная жидкость)	2,5
$C_{\text{э}}$ – стоимость электроэнергии	0,5
$A_{\text{об}}$ – затраты на амортизацию	264
Всего по подразделению	860,43

Таблица 5.

Итоговая смета годовых расходов по предприятию

Наименование статьи расходов	Расходы, тыс. сум
$C_{\text{р.м.}}$ – сумма затрат материальных ресурсов (промывочная жидкость)	2,5
$C_{\text{э}}$ – стоимость электроэнергии	0,5
$A_{\text{об}}$ – затраты на амортизацию	264
Всего по подразделению	763,59

Заключение

В настоящей статье были исследованы аспекты определения годовых затрат на улучшение эксплуатационных показателей легковых автомобилей через выбор параметров и сроков службы масляных фильтров. Динамичный рост числа эксплуатируемых автомобилей в мире создает необходимость в рациональном использовании ресурсов и снижении негативного влияния на окружающую среду.

Основными факторами, влияющими на эффективность работы автомобилей, являются поддержание транспортного парка в хорошем состоянии и разработка эффективных методов технического обслуживания и текущего ремонта. Особое внимание уделено системам очистки масла внутренних сгорающих двигателей, что является ключевым аспектом сокращения затрат и улучшения эксплуатационных характеристик автомобилей.

Разработка оптимальных методов обслуживания системы очистки масла при высоких нагрузках двигателя и интенсивном загрязнении масла способствует значительной экономии ресурсов и повышению качества техобслуживания. Полученные результаты позволяют предложить практические рекомендации для автомобильной промышленности и

сервисных центров с целью улучшения общей эффективности и экологической устойчивости автопарка.

Таким образом, дальнейшие исследования в этом направлении могут способствовать развитию более эффективных технологий и стратегий обслуживания автомобилей, направленных на сокращение затрат и улучшение эксплуатационных характеристик, что важно, как для экономики, так и для экологии.

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Чалышова Г.А.
студент

Нукусский инновационный институт
Узбекистан, Республика Каракалпакстан, г.Нукус
Жусупова А.Т.
ассистент
кафедра «Финансы и бухгалтерский учёт»
Нукусский инновационный институт
Узбекистан, Республика Каракалпакстан, г.Нукус

КРИТЕРИИ ОПРЕДЕЛЕНИЯ МАЛОГО БИЗНЕСА И ПРЕДПРИНИМАТЕЛЬСТВА В РЕСПУБЛИКЕ УЗБЕКИСТАН

Аннотация. В данной статье рассмотрены этапы развития критериев определения малого бизнеса и предпринимательства в Республике Узбекистан, а также выявлены особенности малого бизнеса и предпринимательства.

Ключевые слова: малый бизнес, предпринимательство, критерии, льготы.

Chalishova G.A.
student

Nukus Innovation Institute
Uzbekistan, Republic of Karakalpakstan, Nukus
Jusupova A.T.
assistant

Department of Finance and Accounting
Nukus Innovation Institute
Uzbekistan, Republic of Karakalpakstan, Nukus

CRITERIA FOR DETERMINING SMALL BUSINESS AND ENTREPRENEURSHIP IN THE REPUBLIC OF UZBEKISTAN

Abstract. This article examines the stages of development of criteria for defining small business and entrepreneurship in the Republic of Uzbekistan, and also identifies the features of small business and entrepreneurship.

Key words: small business, entrepreneurship, criteria, benefits.

Введение.

В современной экономике значение бизнеса и предпринимательства имеет тенденцию роста. В число задач малых предприятия входят поддержка чистой конкурентной среды, развитие инновационной

деятельности, обеспечение занятости населения, снижение социального неравенства. [1]

В целях эффективного развития и поддержки малого бизнеса и предпринимательства в Республике Узбекистан приняты много законодательных актов. Среди них Закон Республики Узбекистан «О гарантиях свободы предпринимательской деятельности», [2] Указ Президента Республики Узбекистан №УП-193 от 10 ноября 2023 года «О мерах по поддержке малого и среднего предпринимательства». [3]

Методы и исследования.

С целью более глубокого изучения данной темы в статье были проанализированы законодательная база в рамках малого бизнеса и предпринимательства. Для достижения целей исследования были использованы методы статистики, анализа и сравнения.

Результаты и анализы.

Размер доходов от бизнеса, налоги, выплачиваемые стране, способность быстро реагировать на изменения внутренней и внешней среды – все это определяется размером бизнеса, который обычно классифицируется на крупный, средний и малый бизнес.

Отличие малых предприятий от других предприятий заключается лишь в их небольших размерах, они не представляют собой новую форму экономического субъекта. Причиной необходимости отделения этой группы от других является определение круга субъектов, обладающих различными льготами и преимуществами, оказывающих различное стимулирующее воздействие на их экономическую деятельность со стороны государства.

В каждой стране используются определенные критерии для классификации бизнеса по группам.

Например, в США предприятия делятся на следующие группы по численности работающих: самые мелкие предприятия - не более 10 человек; мелкие предприятия - не более 20, малые предприятия - не более 100 человек, средние предприятия - не более 500, крупные предприятия - от 500 человек. [4]

За годы независимости в Республике Узбекистан критерии определения масштаба предприятий менялись 5 раз. До 1995 года численность занятых на малых предприятиях в промышленности и строительстве составляла до 200 человек, в других отраслях производственного сектора - до 50 человек, в науке и научном обслуживании - до 100 человек, в розничной торговле - до 15 человек. После 1995 года эти критерии были установлены на уровне 50, 25, 10 и 5 человек соответственно.

Позднее в Законе «О гарантиях свободы предпринимательской деятельности», принятом 25 мая 2000 года, а затем в Указе Президента Республики Узбекистан от 30 августа 2003 года «О мерах по дальнейшему

стимулированию развития частного предпринимательства, малого и среднего бизнеса» были снова внесены изменения. В результате этих изменений понятие «среднего бизнеса» было потеряно. И с 2003 года предпринимательская деятельность подразделялась на малый и крупный бизнес.

Новые критерии отнесения субъектов предпринимательства к субъектам малого, среднего и крупного бизнеса определены Указом Президента Республики Узбекистан № УП-21 от 10 февраля 2023 года. С помощью этой классификации определяют, могут ли получить компании льготы и преференции в налогообложении. Согласно этому Указу, предприятия делятся на категории по следующим критериям, которые представлены в таблице 1.

Таблица 1.

Критерии разделения субъектов предпринимательства на категории в Республике Узбекистан.

Субъекты малого бизнеса	Субъекты среднего бизнеса	Субъекты крупного бизнеса
индивидуальные предприниматели		
микрофирмы – субъекты предпринимательства, организованные физическими лицами, имеющие совокупный доход до 1 млрд сумов за 1 календарный год	предприятия - с совокупным доходом от 10 миллиардов до 100 миллиардов сумов за 1 календарный год	предприятия с годовым доходом более 100 миллиардов сумов.
малые предприятия – субъекты предпринимательства, которые за 1 календарный год имеют общий доход от 1 миллиарда сумов до 10 миллиардов сумов, а также микрофирмы, созданные юридическими лицами.		

Источник: составлено автором на основе Указа Президента Республики Узбекистан № УП-21 от 10.02.2023.

В случае превышения указанных критериев предприятие будет лишено льгот на период указанного превышения и на последующие месяцы.

Субъекты малого бизнеса могут получать следующие виды льгот и преимуществ: сниженные налоговые ставки, различные системы льготного кредитования, упрощенные системы бухгалтерского учета и отчетности и другие меры поддержки малого бизнеса.

Заключение.

Таким образом малый бизнес имеет несколько уникальных характеристик, которые отличаются от крупных хозяйствующих субъектов. Отметим наиболее важные из них:

1. Малые предприятия обладают способностью быстро реагировать на рыночные условия, придавая необходимую мобильность рыночной экономике.

2. Важным отличием малых фирм от крупных является их непосредственный контакт с потребителями, что позволяет им учитывать требования клиентов, формировать постоянный коллектив и привлекать новых.

3. По сравнению с крупным производством малые предприятия имеют меньшие затраты на их содержание, ремонт и эксплуатацию. Для них характерна быстрая окупаемость затрат и быстрая оборачиваемость денежных средств.

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СОТРУДНИЧЕСТВО В ОБЛАСТИ БЕЗОПАСНОСТИ МЕЖДУ КИТАЕМ, РОССИЕЙ И МОНГОЛИЕЙ: СОВМЕСТНОЕ РЕШЕНИЕ РЕГИОНАЛЬНЫХ ПРОБЛЕМ

Аннотация. В данной статье рассматриваются текущая ситуация, проблемы и перспективы сотрудничества Китая, России и Монголии в области безопасности. Подчеркивается важность совместного решения тремя странами проблем региональной безопасности, включая борьбу с терроризмом, наркотиками и транснациональной преступностью. В то же время отмечается далеко идущее значение трехстороннего сотрудничества в поддержании региональной стабильности, укреплении взаимного доверия и содействии развитию. Перед лицом будущих вызовов, таких как изменение климата и кибербезопасность, три страны призываются продолжать углублять сотрудничество, совместно строить более безопасную, стабильную и процветающую региональную среду и вносить вклад в мир и развитие всего мира.

Ключевые слова: сотрудничество в области безопасности между Китаем, Россией и Монголией, региональная стабильность, ответ на вызовы, углубление сотрудничества.

**Zhang Xin, master
Ih Zasag International University**

SECURITY COOPERATION BETWEEN CHINA, RUSSIA AND MONGOLIA: JOINTLY ADDRESSING REGIONAL CHALLENGES

Abstract. This article examines the current situation, problems and prospects of security cooperation between China, Russia and Mongolia. The importance of the three countries jointly addressing regional security issues, including the fight against terrorism, drugs and transnational crime, is emphasized. At the same time, the far-reaching significance of trilateral cooperation in maintaining regional stability, building mutual trust and promoting development is noted. In the face of future challenges such as climate change and cyber security, the three countries are encouraged to further deepen cooperation, jointly build a safer, more stable and prosperous regional environment, and contribute to world peace and development.

Keywords: security cooperation among China, Russia and Mongolia, regional stability, responding to challenges, deepening cooperation.

Введение

Китай, Россия и Монголия находятся во внутренних районах Евразийского континента, занимают уникальное географическое положение и являются важными соседями друг друга. Исторически сложилось так, что между тремя странами существует глубокая традиция культурного обмена и сотрудничества, а также глубокая историческая память о совместном противостоянии иностранным вторжениям и поддержании регионального мира и стабильности. В настоящее время международная обстановка сложна и нестабильна, а вызовы региональной безопасности усиливаются, включая терроризм, транснациональную преступность и борьбу за ресурсы. [1] На этом фоне сотрудничество в области безопасности между Китаем, Россией и Монголией приобретает особую важность. Оно не только связано с безопасностью и развитием трех стран, но и имеет большое значение для поддержания региональной и глобальной стабильности и процветания. Поэтому данная статья ставит своей целью обсудить текущую ситуацию, проблемы и будущие перспективы сотрудничества Китая, России и Монголии в области безопасности, чтобы способствовать углубленному развитию отношений между тремя странами и дать ориентиры для совместного решения региональных проблем.

Анализ предпосылок сотрудничества Китая, России и Монголии в области безопасности

Китай, Россия и Монголия расположены на стыке Северо-Восточной и Центральной Азии, где сложилась сложная и нестабильная геополитическая обстановка. Регион характеризуется разнообразием политических моделей, частой военной динамикой и переплетением международных сил. Три страны сталкиваются с общими вызовами безопасности, включая угрозу терроризма, разгул транснациональной преступности и региональную напряженность, вызванную борьбой за ресурсы.

Исторически Китай, Россия и Монголия имели глубокие дружественные обмены и сотрудничество, заложив прочный фундамент для современного сотрудничества в области безопасности. В последние годы главы государств и министры иностранных дел трех стран часто встречались и создали эффективный механизм связи, что способствовало углубленному развитию сотрудничества в области безопасности.

В настоящее время Китай, Россия и Монголия достигли значительных результатов в военной, политической, экономической и других областях сотрудничества. Особенно в сфере безопасности, три страны укрепили сотрудничество в области обмена разведданными, совместных военных учений, пограничного контроля и других областях, эффективно повышая свою способность справляться с региональными вызовами безопасности. Сотрудничество в сфере безопасности стало

важной основой отношений между Китаем, Россией и Монголией и играет незаменимую роль в обеспечении общих интересов трех стран и региональной стабильности". [2]

Основные направления сотрудничества в области безопасности между Китаем, Россией и Монголией

В области военного сотрудничества три страны регулярно проводят совместные военные учения, укрепляют обмен разведывательными данными и пограничный контроль - меры, которые эффективно повышают их способность справляться с вызовами региональной безопасности и обеспечивают надежную гарантию поддержания региональной стабильности.

Что касается политического сотрудничества, то Китай, Россия и Монголия всегда придерживались принципов взаимного уважения и равного отношения, совместно защищали многосторонность и решительно выступали против гегемонизма и односторонности. Такой способ сотрудничества не только укрепил дружбу между тремя странами, но и внес позитивный вклад в мир и развитие региона и всего мира". [3]

Что касается экономического сотрудничества и безопасности, то такие проекты, как строительство экономического коридора Китай-Россия-Монголия и обеспечение безопасности энергетических коридоров, оказали глубокое влияние на региональную безопасность. Экономическое сотрудничество не только способствует процветанию и развитию региона, но и играет важную роль в укреплении взаимного доверия и углублении сотрудничества, закладывая прочную основу для устойчивого развития отношений между тремя странами.

Вызовы и меры противодействия сотрудничеству в области безопасности между Китаем, Россией и Монголией

Сотрудничество Китая, России и Монголии в области безопасности сталкивается как с внешними, так и с внутренними вызовами. С внешней стороны, стратегическая игра между Китаем, Россией и Монголией усилилась, что повлияло на региональную модель безопасности. Стратегия "третьего соседа" Монголии осложняет дипломатическую обстановку и требует осторожного реагирования. [4] Внутри страны сотрудничество Китая и России и Монголии в области безопасности сталкивается как с внешними, так и с внутренними вызовами. Внутри страны существуют факторы политической, экономической и социальной нестабильности, которые могут препятствовать углублению сотрудничества в области безопасности.

Для решения этих проблем рекомендуется укреплять связь и координацию между тремя странами и совершенствовать механизмы сотрудничества, чтобы обеспечить бесперебойный поток информации и эффективное принятие решений. В то же время следует расширить возможности комплексного реагирования, включая укрепление военного

сотрудничества, углубление политического взаимодоверия и содействие экономической интеграции, чтобы всесторонне повысить влияние и эффективность сотрудничества трех стран в вопросах региональной безопасности.

Перспективы сотрудничества Китая, России и Монголии в области безопасности

Сотрудничество Китая, России и Монголии в области безопасности имеет широкие перспективы, и в будущем оно будет углублять сотрудничество в традиционных областях безопасности, таких как борьба с терроризмом, наркотиками и транснациональной преступностью, а также совместно противостоять региональным угрозам безопасности. В то же время большой потенциал имеет сотрудничество в нетрадиционных областях безопасности, таких как защита окружающей среды и гуманитарные обмены, что придаст новую жизненную силу отношениям между тремя странами". [5]

Создание регионального сообщества судьбы является важной целью сотрудничества Китая, России и Монголии в области безопасности, и благодаря расширению сотрудничества три страны будут вместе работать над поддержанием международного порядка и содействовать миру и развитию во всем мире. Перед лицом возможных новых вызовов в будущем, таких как изменение климата и кибербезопасность, Китай, Россия и Монголия должны продолжать укреплять сотрудничество и совместно изучать стратегии противодействия для обеспечения региональной безопасности и стабильности.

Заключение

Сотрудничество Китая, России и Монголии в области безопасности играет ключевую роль в совместном решении региональных проблем. Благодаря тесному сотрудничеству между тремя странами удалось сохранить региональную стабильность, постоянно укреплять взаимное доверие и заложить прочный фундамент для устойчивого развития. Такой способ сотрудничества не только затрагивает общие интересы трех стран, но и имеет далеко идущие последствия для регионального мира и процветания.

Перед лицом возможных вызовов безопасности в будущем Китай, Россия и Монголия должны продолжать углублять свое сотрудничество и совместно работать над их решением. Укрепляя связь и координацию, совершенствуя механизмы сотрудничества и расширяя возможности комплексного реагирования, три страны будут совместно способствовать созданию более безопасной, стабильной и процветающей региональной среды. Это не только отвечает коренным интересам Китая, России и Монголии, но и внесет позитивный вклад в дело мира и развития во всем мире.

Поэтому мы призываем Китай, Россию и Монголию продолжать двигаться вперед рука об руку, добиваться более значительных результатов в области сотрудничества в сфере безопасности и вносить свой посильный вклад в лучшее будущее региона и всего мира.

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Эгамова М.Э., PhD.
доцент
кафедра «Банковское дело»
Ташкентский государственный экономический университет

ТЕНДЕНЦИИ РАЗВИТИЯ МЕЖБАНКОВСКОЙ КОНКУРЕНЦИИ В УЗБЕКИСТАНЕ

Аннотация. В статье рассматриваются текущие тенденции развития межбанковской конкуренции в Узбекистане. Анализируются ключевые факторы, влияющие на конкурентную среду банковского сектора, включая государственные реформы, рыночные условия, технологические инновации и влияние международных финансовых институтов. Особое внимание уделяется изменениям в регуляторной политике, направленным на стимулирование конкуренции и повышения эффективности банковской деятельности. Выводы статьи основаны на анализе статистических данных, экспертных оценках и результатах опросов представителей банковского сектора.

Ключевые слова: межбанковская конкуренция, банковский сектор Узбекистана, регуляторная политика, финансовые реформы, технологические инновации, рыночные условия, международные финансовые институты.

Egamova M.E., PhD
associate professor
Department of Banking
Tashkent State University of Economics

TRENDS IN THE DEVELOPMENT OF INTERBANK COMPETITION IN UZBEKISTAN

Abstract. The article examines the current trends in the development of interbank competition in Uzbekistan. The key factors influencing the competitive environment of the banking sector, including government reforms, market conditions, technological innovations and the influence of international financial institutions, are analyzed. Particular attention is paid to changes in regulatory policy aimed at stimulating competition and improving the efficiency of banking activities. The conclusions of the article are based on the analysis of statistical data, expert assessments and the results of surveys of representatives of the banking sector.

Keywords: Interbank competition, banking sector of Uzbekistan, regulatory policy, financial reforms, technological innovations, market conditions, international financial institutions.

Введение.

В банковской сфере наблюдается интенсивное соперничество, представляющее собой сложный экономический процесс, в рамках которого банки, и другие участники рынка борются за привлечение клиентов и предоставление разнообразных банковских услуг. Разнообразие участников рынка, которые конкурируют между собой и используют различные методы рыночного воздействия.

Банковская конкуренция представляет собой процесс соперничества между коммерческими банками и другими кредитными организациями, направленный на укрепление своей позиции на рынке кредитов и банковских услуг. Этот процесс обладает рядом характеристик, которые делают его уникальным по сравнению с конкуренцией в других отраслях рынка.

Метод и результаты.

Характеристики банковской конкуренции включают в себя следующие особенности:

- Банковская конкуренция характеризуется разнообразием форм и значительной интенсивностью.
- Коммерческие банки имеют множество конкурентов из различных сфер деятельности. Универсальные банки конкурируют с различными видами специализированных банков, небанковскими кредитными организациями и другими участниками рынка, такими как кредитные союзы, ломбарды, лизинговые компании, инвестиционные фонды, финансовые брокеры и другие.
- Банковская сфера представлена многочисленными рынками, на некоторых из которых банки выступают в роли продавцов, а на других - в роли покупателей.
- Внутриотраслевая конкуренция в банковской сфере в основном связана с различиями в предлагаемых банками продуктах и услугах.
- Банковские продукты и услуги могут быть взаимозаменяемыми, но отсутствуют конкурентоспособные альтернативы извне банковской сферы, поэтому межотраслевая конкуренция осуществляется преимущественно через перелив капитала.
- В банковской отрасли отсутствуют многие входные барьеры, присущие другим отраслям, что приводит к более высокой интенсивности конкуренции.
- Ограничения ценовой конкуренции подчеркивают важность управления качеством банковских продуктов и услуг, а также разработки рекламных стратегий.
- Банковские рынки представляют собой дифференцированную олигополию, где существуют широкие возможности для кооперации и согласования рыночной политики между различными банками.

- В банковской сфере может происходить как индивидуальная, так и групповая конкуренция между банками.

В настоящее время наблюдается несколько ключевых тенденций в сфере банковской конкуренции на национальном рынке. Заметное усиление конкурентной борьбы между различными участниками рынка. Фокусировка на сохранении и расширении клиентской базы. Направленность банков на расширенное обслуживание физических лиц с учетом индивидуальных потребностей. Повышение качества услуг и их привлекательности для клиентов. Активное открытие филиалов по всей стране для расширения охвата клиентов. Привлечение консультационных услуг по управлению финансовыми ресурсами клиентов. Внедрение современных технологий и инноваций в банковскую деятельность. Усиленное стремление крупных узбекских банков к выходу на рынки развитых стран и доступу к более выгодным финансовым ресурсам. Совершенствование системы управления персоналом и повышение требований к квалификации сотрудников. Усиление конкуренции с небанковскими учреждениями и другими нефинансовыми организациями. Стремление к снижению стоимости услуг и увеличению денежных поступлений, включая комиссии за услуги. Основное внимание на улучшение репутации и имиджа банковского учреждения. Внедрение систем управления конкурентоспособностью банковских продуктов. Усиленная ориентация на управление и совершенствование расчетных операций, включая ускоренные процессы списания и зачисления средств в течение одного дня.

Увеличение конкуренции в банковском секторе и повышение ожиданий клиентов от банковских услуг заставляют банки активно применять маркетинговые подходы и стратегии. Это необходимо для приспособления к изменениям в окружающей среде и обеспечения успеха в соревновательной борьбе. Учитывая, что банковские продукты и услуги оказывают прямое и косвенное воздействие на банковскую конкуренцию, следует проанализировать их возможное разнообразие.

Структура банковской системы Узбекистана входит 33 банка, включая 12 государственных коммерческих банков (ГКБ), на долю которых к концу 2021 года приходилось 86% от общего объема кредитов в экономике страны. Также в системе присутствуют 15 частных и 5 иностранных банков.

Активы и обязательства банков на 1 ноября 2021 года активы банков составляли 39 миллиардов долларов (419 трлн сумов), при этом 82% приходилось на государственные банки. Обязательства банков достигли 33 миллиардов долларов (352,6 трлн сумов), из которых 40% составляли депозиты.

Финансовая устойчивость за прошедший период текущего года рост активов, взвешенных по риску, составил 21%, а совокупный капитал

банков увеличился на 14%³. Показатель достаточности капитала соответствует минимальным требованиям.

Показатель краткосрочной ликвидности (LCR) достиг 167%, что выше минимальных нормативных требований на 67 процентных пунктов. Показатель долгосрочной ликвидности (NSFR) составил 113%³.

Рентабельность на 1 ноября 2021 года банковского сектора зарегистрирована на уровне 364 миллиона долларов чистой прибыли, что на 12% больше по сравнению с аналогичным периодом прошлого года.

Центральный банк Узбекистана активно работает над реформированием банковской системы, чтобы обеспечить макроэкономическую стабильность и непрерывное функционирование всей системы.

За два года в Узбекистане созданы три цифровых банка (TBC Bank, Anor Bank, Apelsin Bank) и 32 финтех-компаний, специализирующихся на предоставлении удалённых финансовых услуг. Предприниматели проводят 85% своих платежей дистанционно (7-кратный рост с 2017 года).

В 2022 году в банковском секторе Узбекистана произошли несколько интересных событий⁹²:

Центральный банк Республики Узбекистан выпустил отчет о финансовой стабильности за 2022 год. В этом отчете были проанализированы макрофинансовые уязвимости и риски, показатели финансовой устойчивости, рынок недвижимости и устойчивость банковской системы к различным шокам. Индекс финансового стресса в банковской системе Узбекистана указывает на то, что к концу 2022 года уровень стресса снизился.

Показатели финансовой устойчивости: в первом полугодии 2022 года показатели финансовой устойчивости банковского сектора были выше минимальных нормативных требований. За последние 3-4 года отношение общего объема кредитов к ВВП в Узбекистане значительно увеличилось²³.

Активы банковской системы: По состоянию на 1 июня 2022 года активы банковской системы Узбекистана составили 493,7 трлн сумов (рост к 1 июня 2021 года на 25%). Обязательства, кредиты и вклады также продемонстрировали рост.

Кредит от Всемирного банка: В 2022 году Всемирный банк выделил Узбекистану кредит в размере 15 млн долларов США на реформирование финансового сектора.

Активы банковской системы республики по состоянию на 1 декабря 2023 года⁹³ составили 631,4 трлн. сумов, что на 14% больше, чем годом ранее; обязательства выросли на 13% до 539 трлн. сумов, остаток

⁹² Статья Центрального Банка Республики Узбекистан на тему «Отдельные показатели деятельности коммерческих банков, сгруппированных по величине активов по состоянию на 1 февраля 2022 года»

⁹³ Статистический анализ Рейтинга активности банков Узбекистана по итогам 2023 года от www.yuz.uz

кредитного портфеля составил 465,5 трлн. сумов с ростом на 22%, а остаток депозитов составил почти 230 трлн. сумов с ростом на 6%, против 51% к прошлому году.

Изменения в рейтинге банков: Центром экономических исследований и реформ (ЦЭИР) рассчитал “Индекс активности банков” за первое полугодие 2023 года. Среди крупных банков с гос.долей только 4 банка («Алокабанк», «Микрокредитбанк», «Национальный банк» и «Асака банк») были понижены в рейтинге, а среди частных банков «Азия Альянс банк», «Зираат банк», «Мадад инвест банк» и «Равнак банк» потеряли свои позиции.

Показатели финансовой стабильности банковской системы Узбекистана превысили минимальные требования Базеля III. Коэффициенты адекватности регулятивного капитала составили 16,8%, а капитала первого класса - 14,2%, что оказалось в 1,5 раза выше минимальных требований.

Рост уровня прибыльности в первом полугодии отмечен рост уровня прибыльности банков. Процентный доход увеличился на 34,3%, беспроцентный доход вырос на 23,2%, а чистая прибыль увеличилась на 40,5%.

Доверие населения: Население проявляет большее доверие к банкам, что также способствует развитию банковской системы в стране.

Тем не менее, сохраняются некоторые характерные черты банковской системы, включая негативные аспекты: территориальные различия в доступности банковских услуг, неравномерное распределение привлеченных кредитными организациями средств по регионам, а также территориальные различия на рынке кредитования юридических и физических лиц. Современные особенности банковской системы и межбанковской конкуренции можно выделить следующим образом: в финансовом секторе экономики доминируют банки как ключевые финансовые учреждения. Небанковские финансовые институты играют незначительную роль в привлечении инвестиций, так как находятся на этапе становления, однако активно развиваются такие учреждения, как негосударственные пенсионные фонды и страховые компании. Финансовый рынок характеризуется высокой степенью дифференциации, при этом крупнейшие финансовые институты контролируют более половины всех активов сектора. Финансовые институты развиваются территориально неравномерно: большинство из них сконцентрировано и успешно функционирует в столице. Ежегодно из-за экспансии крупных финансовых институтов в регионы многие региональные учреждения не могут конкурировать и часто покидают рынок.

Сегодня отечественный рынок демонстрирует все характерные черты монополистической конкуренции. Во-первых, банковские услуги отличаются по своим характеристикам, что указывает на продуктовую

дифференциацию. Во-вторых, в этом секторе функционирует более 28 банков, среди которых государственные банки занимают доминирующие позиции. Также следует отметить низкие барьеры для входа на рынок и высокий уровень консерватизма среди мелких компаний и населения.

Центр экономических исследований и реформ (ЦЭИР) опубликовал обзор деятельности банков Узбекистана за первый квартал 2024 года, в котором банки были разделены на 11 малых и 17 крупных.

Среди 17 крупных банков Узбекистана четыре улучшили свои позиции. «Народный банк» поднялся на две позиции, а «Азия альянс банк», «Ипак йули банк» и «Узнацбанк» поднялись на одну позицию. Однако пять банков, включая «Алока банк», «Ипотека банк», «Агробанк», «Инвест Финанс банк» и «Хамкор банк», потеряли по одной позиции. Остальные восемь банков сохранили свои позиции.

По показателю финансового посредничества «Узнацбанк» поднялся с последнего места на 16-е, в то время как «Ипак йули банк», «Агробанк» и «Асака банк» улучшили свои позиции на один пункт, а «Узпромстрой банк» сдал свои позиции. «Ориент Финанс» снова оказался на последнем месте по финансовой доступности, в то время как «Инвест Финанс банк» потерял 4 пункта. По качеству активов «Ипотека банк» потерял 2 позиции и оказался на последнем месте в рейтинге, а другие банки, такие как «Инвест Финанс банк», «Ориент Финанс банк» и «Банк развития бизнеса», также снизили свои позиции. По доходности «Ипак йули банк», «Инвест Финанс банк» и «Алока банк» также понесли потери в рейтинге.

В общем рейтинге крупных банков «Капитал банк» и «Траст банк» продолжают лидировать, «Азия Альянс банк» укрепился на третьем месте, а «Хамкор банк» занял четвертое место.

Рост активов банковской системы замедлился с 20-30% в 2022-2023 годах до 15,4% к началу марта 2024 года. Общий объем активов достиг 648,6 трлн сумов, а обязательства составили 549,6 трлн сумов. Государственные банки контролируют 67,4% активов, что составляет 437 трлн сумов; 70,1% кредитного портфеля — 331,2 трлн сумов; и 50,7% депозитов — 120,6 трлн сумов. Остальные активы принадлежат 25 частным банкам.

В государственных банках на каждые 100 сумов кредита приходится 36 сумов депозитов, тогда как у частных банков этот показатель составляет 83 сума. Рост банковских депозитов замедлился до 13% за первый квартал, а доля валютных вкладов снизилась с 38% до 29%.

Участие населения в банковской системе увеличилось, доля физических лиц в кредитном портфеле возросла с 26,5% до 32,1%, в то время как доля юридических лиц сократилась с 73,5% до 67,9%. Депозиты физических лиц выросли на 6%, достигнув 36,1%, тогда как доля юридических лиц уменьшилась с 70% до 63,9%.

Доля проблемных кредитов увеличилась до 4,4%, включая кредиты сроком более 90 дней, достигнув объема 20,9 трлн сумов. Показатели достаточности капитала банков остаются выше минимальных требований в 1,3 раза.

В результате ситуация напоминает игру в монополию, когда отдельные банки устанавливают цены для групп своих лояльных клиентов. Однако в ней также есть черты свободной конкуренции: на рынке много участников, вход и выход из него свободный, и банки реагируют на ценовую политику друг друга. В работах отечественных исследователей отмечается, что низкий уровень конкуренции проявляется в недостаточной конкурентоспособности банков по сравнению с зарубежными. Однако трудно согласиться с мнением некоторых авторов, которые утверждают, что конкурентные отношения в банковской системе недостаточно развиты.

На сегодняшний день в научной литературе описано множество различных подходов к кластеризации банковского сектора. Проведённый нами анализ показывает, что большинство исследователей различают банки главным образом по размеру активов и типу собственности (государственные, частные и с иностранным капиталом). Это позволяет, например, определить степень участия каждой группы в межбанковской конкуренции, включая международную. В рамках этого подхода количество кластеров обычно варьируется от 4 до 9. В кластеры, как правило, входят: опорные банки с государственным участием; крупные государственные, частные и иностранные банки; частные и иностранные банки первого и второго эшелонов; а также средние и мелкие частные банки.

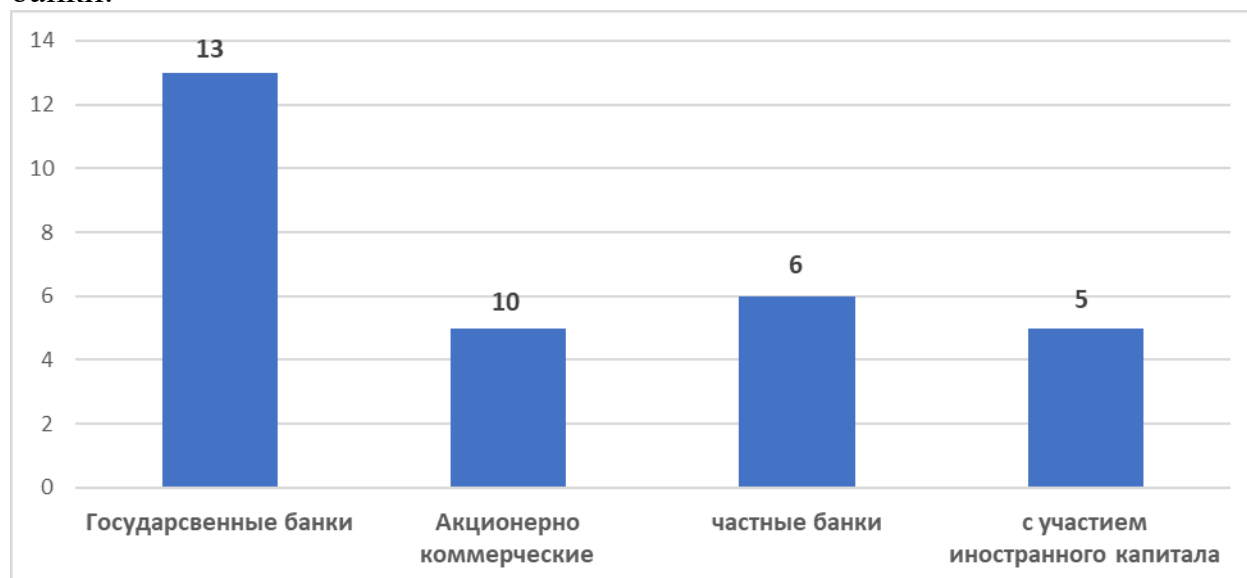


Рисунок 1. Группировка банков по формам собственности в Республике Узбекистан на 01.01.2024 год⁹⁴

⁹⁴ Статья «О разновидности коммерческих банков на рынке» веб-сайт www.cbu.uz

Таким образом, конкуренция, как уникальная система принятия решений, управления информацией и мотивации, служит механизмом контроля и регулирования микро- и макроэкономических процессов.

Проблема формирования мировых банковских монополий нарастает в связи с укреплением влияния крупнейших государств. Процесс глобализации сопровождается расширением роли крупных банков, которые всё чаще ориентируются на отраслевые принципы в своей деятельности, а не на принципы, связанные с определенной страной (банковская конкуренция в широком смысле). Кроме того, они всё чаще объединяются в финансовые группировки. Параллельно наблюдается усиление концентрации банковского капитала, усиление влияния крупнейших государств и углубление процесса формирования финансовой олигархии в мировом масштабе.

Выводы.

Современная межбанковская конкуренция находится в стадии формирования зрелой структуры. Этот процесс начался с развития монополий и олигополий, включающих коммерческие банки с участием государства и иностранных инвесторов. К 1998 году эти структуры стали более устойчивыми и нашли свою нишу, а именно, частные коммерческие банки с разнообразными услугами. Параллельно происходит формирование региональных банков, которые должны будут конкурировать с крупными национальными и иностранными банками на региональном уровне. Это отражает особенности национальной банковской конкуренции. Также определены основные направления развития конкурентных отношений в банковском секторе.

В процессе анализа деятельности банков с государственным участием было выявлено, что их стратегии развития и подход к конкурентному поведению имеют общие черты и недостаточно учитывают особенности каждого региона.

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Юнусова Н.Х., к.п.н.
заведующий кафедрой узбекского и русского языков
профессор
Ташкентский государственный экономический университет

СОВЕРШЕНСТВОВАНИЕ МЕХАНИЗМОВ ИСПОЛЬЗОВАНИЯ ЦИФРОВЫХ ТЕХНОЛОГИЙ В ОБУЧЕНИИ ЯЗЫКАМ

Аннотация. В статье освещены проблемы использования цифровых технологий будущими учителями русского языка и литературы для формирования лингвокультурной речевой компетенции.

Ключевые понятия: цифровые технологии, русский язык, русская литература, формирование, лингвистическая культура, речь, компетенция, учебный материал, профессиональный рост будущего специалиста.

Yunusova N.Kh., PhD
Head of the Department of Uzbek and Russian Languages
professor
Tashkent State University of Economics

IMPROVEMENT OF MECHANISMS OF USING DIGITAL TECHNOLOGIES IN TEACHING LANGUAGES

Abstract. The article highlights the problems of using digital technologies by future teachers of the Russian language and literature to develop linguistic and cultural speech competence.

Key concepts: digital technologies, Russian language, Russian literature, formation, linguistic culture, speech, competence, educational material, professional growth of the future specialist.

В центре внимания методики обучения языкам высшего образования остаются вопросы формирования речевых способностей будущих специалистов, систематизации их знаний и умений для ведения профессионального диалога.

Реализация культурологического и компетентностного подходов в современном учебном процессе способствует совершенствованию подготовки будущих учителей русского языка и литературы на основе обеспечения непрерывности и преемственности обучения на основе международных общеевропейских стандартов.

В век цифровизации важны системы, методы и инструменты для решения разнообразных задач обучения и воспитания, с апелляцией на подготовку педагогических кадров, способных творчески мыслить, креативно планировать и регулировать дидактическую деятельность.

«Государственная политика в языковой сфере базируется на принципах равноправия всех языков, независимо от численности и характера расселения носителей языка. Статус и законодательные основы функционирующих в Узбекистане языков predeterminedены Законом» «О государственном языке».⁹⁵ В Республике Узбекистан обеспечивается развитие и свободное пользование русским языком как языком межнационального общения. А также создаются благоприятные условия для развития национально-русского и русско-национального языкового общения»⁹⁶. Становится реальной практикой использование цифровых технологий в образовательной деятельности, создана образовательная среда, в которой предоставлена возможность для субъектов образовательного процесса изучение новейших научных сведений из сети интернет и применение полученной информации в научных целях; обладание основными методами и средствами сбора, обработки и хранения информации, полученной из Интернет-ресурсов. Наряду с этим, изучение вопроса использования цифровых технологий будущими учителями русского языка и литературы при дистанционном обучении, является актуальным и своевременным. Совершенствование методики использования цифровых технологий будущими учителями русского языка и литературы при дистанционном обучении соответствует педагогическому профилю и связана не только с формированием лингвокультурной речевой компетенции, но и с потребностью развития компетенций педагогов по использованию цифровых технологий и с отсутствием соответствующих учебных материалов, способствующих формированию собственно лингвистической и коммуникативной компетенции для профессионального роста будущих специалистов.

В указах и постановлениях главы государства обозначены ориентиры, указывающие на повышение эффективности и качества обучения.

Вопросы цифровизации образовательного процесса, внедрение в систему непрерывного образования мультимедиа, повышению навыков использования инновационных методов в учебно-воспитательном процессе разрабатывались в научных изысканиях У.Ш. Бегимкулова, Р.Х.Джураева, Ф.А.Абдуллаева, З.К.Исмоиловой[47], А.Р.Ходжабаевой[52], Н.А.Муслимова. Вопросы совершенствования коммуникативных компетенций при обучении дисциплин гуманитарного профиля средствами медийных технологий с точки зрения, современных требований времени, изучались в исследованиях Н.Рустамовой, И.В.Морховой, С.М.Саиджалаловой, Ш.Ш.Алимовой и др.

⁹⁵ Закон Республики Узбекистан от 21 декабря 1995 г. № 167-I «О внесении изменений и дополнений в Закон «О государственном языке Республики Узбекистан»/ <https://lex.uz/acts/108915>

⁹⁶ <https://lex.uz/>

Учёными из стран СНГ Т.М.Балыхиной⁹⁷, А.А. Вербицким, А.А. Леонтьевым, А.Н. Щукиной, Е.И. Пассова, А.А. Миролубовым, В.Г. Костомаровым, О.Д. Митрофановой, О.Я. Гойхман, Л.А. Вербицкой, И.И. Халеевым, Н.И. Гез и др. рассматривались проблемы взаимодействия компетентностных компонентов в обучении русскому языку, а также совершенствованию методики преподавания русского языка и развитие речевых навыков обучающихся.

Зарубежные ученые: Э. Хауген, Ч. Осгуд, Дж. Миллер, G. Halasz, Barrik M.R., M. Warschauer, J. Abbit, J. Ophus, M. Barahona, B. Dodge, G. Dudeney, N. Hockly, J.A. Farreny, T. March в своих работах осветили вопросы изучения языка с точки зрения планирования и организации проектных технологий в вузах. Анализ существующей литературы указывает, что вопрос развития цифровых компетенций будущих учителей русского языка и литературы и использования цифровых технологий при дистанционном обучении специально не исследовался.

Методика обучения русскому языку как иностранному, в новых геополитических условиях, стремительно формируется, базируясь на наработках теории дидактики и опирается на лингвистические и психологические концепции о роли языка в социальном развитии, о связи языка и сознания, речи и мышления. Следовательно, «одной из ведущих причин для изучения русского языка как иностранного является развитие идей толерантности, взаимопонимания и сотрудничества, повышение свободы передвижения населения, тенденций к преодолению предрассудков и дискриминации. Основной причиной выбора того или иного языка для изучения, остаются: распространенность языка в мире; желание приобщиться к ценной мировой сообществом культуре, в том числе лингвоэстетической ценности языка; возможность его применения в практической деятельности». Мы полагаем, что при этом важно, чтобы индивид не «хранил» новые языки и культуры обособленно друг от друга, а формировал многоязычную коммуникативную компетенцию, оказывающую помощь система формального и неформального образования.

За последние годы в Узбекистане подготовке педагогических кадров, в особенности, учителей русского языка и литературы, уделяется значительное внимание, проводятся масштабные реформы, определяющие системные изменения в области образования в контексте третьего поколения образовательных стандартов высшего педагогического образования, и одним из приоритетных направлений развития

¹ Т.М. Балыхина - . Методы обучения русскому языку как неродному - Балыхина Т. М. Методика преподавания русского языка как неродного... <http://lib.convdocs.org/docs/index-225214.html?page=5>

современной системы образования, является внедрение информационных технологий в образовательный процесс.

Проблема использования цифровых технологий будущими учителями русского языка и литературы в высшей школе является одной из наиболее острых проблем в современном обществе, т.к. в условиях массовой востребованности высшего образования, от состояния образовательной системы, сегодня фактически зависит построение общества в будущем»⁹⁸. Исходя из этого, мы считаем, что рассматриваемая проблема- совершенствование методики использования цифровых технологий будущими учителями русского языка и литературы соответствует педагогическому профилю и связана не только с формированием лингвокультурной речевой компетенцией, но и с потребностью развития компетенций педагогов по использованию цифровых технологий, а также, с отсутствием соответствующих учебных материалов, способствующих формированию собственно лингвистической и коммуникативной компетенции для профессиональной ориентации будущих специалистов в век цифровизации.

Как известно, в педагогических вузах страны готовят кадры по направлению бакалавриата и магистратуры- «Родной язык и литература (русский язык и литература)» и «Родной язык и литература (русский язык и литература в иноязычных группах)».

Практика свидетельствует о том, что студенты, обучающиеся по направлению бакалавриата «Родной язык и литература (русский язык и литература в иноязычных группах)» испытывают необходимость в увеличении уровня сформированности коммуникативной компетенции, так важной для овладения будущей профессией. Тем не менее, остро ощущается не полная разработанность проблемы по созданию педагогических условий внедрения цифровых технологий при обучении данной дисциплины. В связи с тем, что систематизация и совершенствование педагогических условий внедрения технологий при обучении русскому языку требует специальной подготовки учителей и рассматривается, иногда, как теоретическое осмысление данных технологий, что не соответствует ее широким практическим целям, целесообразно раскрыть психологические, педагогические и методические аспекты данного явления.

Своевременность исследования настоящей проблемы заключается еще и в том, что в Узбекистане, в системе непрерывного образования, имеется потребность в грамотных, высококвалифицированных кадрах, способных планировать учебно-воспитательную деятельность на уровне мировых стандартов, читающих лекции в группах с русским языком обучения. Нет сомнения, что дисциплины- Педагогика, Психология,

⁹⁸ Махмадиева Г.С.-А. Психологические особенности применения иммерсивных технологий при обучении русскому языку. Ж: Наука XXI века.М-2023г, №1.стр.61-67) <http://www.uch21vek.com/>

Физиология, Экология и др. читают квалифицированные специалисты, однако, иногда, наблюдаются тенденция того, что, лекторы, ведущие занятия, не всегда владеют грамотным произношением, соответствующим нормам современного русского литературного языка. В связи с этим, в студенческих аудиториях филологического направления информация подается студентам не полностью выдерживающая грамотную языковую конструкцию. Поэтому, на сегодняшний день, вопрос изучения русского языка как иностранного с применением цифровых технологий представляет собой приоритетное направление, имеющее свои специфические трудности и проблемы. А именно:

- малоизученность вопроса в осуществлении исследовательской деятельности на стыке русского языкознания, истории русского языка и литературы, методики преподавания русского языка и цифровизации образования;

- имеющиеся разногласия среди методистов, ученых использовать традиционные и нетрадиционные методы обучения и передовые педагогические технологии в совокупности в процессе преподавания специальных дисциплин;

- не состыкованность вопросов в изучении и применении в сфере профессиональной деятельности новейших научных достижений или научно-исследовательских проектов;

- проведение экспериментальных исследований в научно-исследовательских институтах и научных центрах, лишь для получения оценки результатов данной деятельности;

- не своевременная методическая поддержка в проведении мотиторинга по анализу, оценке, переработке и осуществление экспертизы существующей информации в сфере методики обучения русскому языку в режиме дистанционного обучения;

- внедрение результатов научно-исследовательской работы в сферу деятельности учителей русского языка и литературы, и др.

В квалификационных требованиях по направлению образования бакалавриата Родной язык и литература (Русский язык и литература) (2023г.) отмечается, что будущий педагог должен обладать следующими квалификациями:

- умение разработать и применять учебно-методическую документацию для эффективного проведения учебных занятий по читаемым дисциплинам, особенно, при осуществлении самостоятельного поиска информации, самообразования, научно-творческой деятельности;

- использование инновационных, информационных педагогических технологий в преподавании русского языка и литературы;

- владение методикой преподавания читаемых дисциплин;

- владение методами дистанционного образования;

-проведение нетрадиционных учебных занятий с использованием современных информационных и педагогических технологий;

-разработка дидактического обеспечения для проведения учебных занятий по читаемым дисциплинам;

-обладание современными знаниями о различных научных концепциях и школах в сфере истории русского языка и литературы, а также языкознания и литературоведения и др.

Как видно из требований, современный педагог ищет возможности регулярно совершенствовать педагогическую деятельность по читаемым дисциплинам, владеть методами дистанционного образования, использовать цифровые технологии.

В 2018 году 19 октября на встрече с Президентом Российской Федерации Президент Республики Узбекистан Ш.М. Мирзиёев подчеркнул, что «Великая русская культура всегда была и будет неотъемлемой частью духовной жизни узбекского общества.»¹ В полиэтническом обществе русский язык является ключом к пониманию и оценке духовных достижений русской культуры и литературы. Оно также выступает основным инструментом социального развития личности, обеспечивая его интеграцию в культурно-историческое наследие всего человечества. В этом случае мотивация к общению является основным стимулом к овладению языком, и при благоприятных условиях она усваивается как «второй родной язык». В одних случаях изучение русского языка является самоцелью, а в других, новый иностранный язык необходим для социализации личности.

Очевиден тот факт, что русский язык на территории современного Узбекистана получил распространение с 1860-х годов и с тех пор прошёл длительный этап развития и становления, сопровождавшийся неоднократным изменением своего социально-правового статуса.

В Узбекистане на русском языке между собой общаются узбеки, казахи, таджики, киргизы, корейцы и др. Согласно статистическим данным, к 2020-2024 гг. разговорным русским языком в Узбекистане владеет от 50% до 80% населения, количество русских групп в колледжах и лицеях составляет от 50% до 90%, соответственно. В 10 693 школах Узбекистана изучают русский язык.

Понятие «русский язык как иностранный» имеет несколько значений. С одной стороны, это означает, что это средство межнационального общения жителей республики и стран СНГ, а с другой стороны, что это предмет о дисциплине изучения в государственной системе дошкольного, школьного и образовательного учреждения, также, высшего образования, и предназначен для усвоения языковых структур в

¹ Речь Президента Республики Узбекистан Ш.Мирзиёева на встрече с Президентом Российской Федерации В.В. Путиным; 2018 год, 19 октября./ <https://cis.minsk.by/news/10043/gosudarstvennyj-vizit-prezidenta>

иноязычных потоках, и, как для подготовки учителей русского языка и литературы в педагогических вузах.

В настоящее время в вузах России обучается свыше 25 тыс. узбекских студентов, а в самом Узбекистане открыты филиалы образовательных учреждений МГУ имени Ломоносова, Российского экономического университета имени Плеханова, Университета нефти и газа имени Губкина, Российского государственного педагогического университета имени А. Герцена.

Обучение русскому языку в республике направлено на организацию единого целенаправленного процесса воспитания и обучения, который является общественно значимым благом и осуществляется в интересах обучающихся.

Узбекистан – открытая демократическая страна, страна демократических преобразований, больших возможностей и практических дел, где в условиях ситуативного двуязычия реализуется главная цель: принимать решения на будущее, формулировать мысли на иностранном языке, вести диалог, обладать коммуникативными способностями. Основные педагогические особенности содержания обучения русскому языку определяются **объективной необходимостью, продиктованной нынешними политико-правовыми, социально-экономическими и культурно-гуманитарными условиями, однако, имеющими** конкретные трудности, с которыми сталкиваются будущие специалисты в процессе своей образовательной деятельности.

Современный рынок труда обусловил необходимость подготовки высококвалифицированных кадров, в связи с чем актуализируется использование инновационных технологий и в образовательном пространстве. Недаром, прогнозируя достижения в области экономики, Президент Узбекистана Ш.Мирзиёев заявил, что «Россия — стратегический и торговый партнер Узбекистана. Российские инвестиции в нашей экономике превышают 8,5 млрд долларов. Подготовлен пакет новых инвестиционных соглашений и торговых контрактов с ведущими российскими компаниями «Газпром», «Росатом», «Форус», «Внешэкономбанк», «Газпромбанк», «ЛУКОЙЛ», на сумму около 25 млрд долларов. Товарооборот вырос с 2024 года на 30%; объем торговли составляет до 6 млрд долларов, а в ближайшие годы достигнет 10 млрд долларов» ¹[8]. В связи с этим, Узбекистан заинтересован в развитии прямых контактов в области индустриализации, газификации, образования, развития науки и техники. Следовательно, в настоящее время необходимы выпускники, умеющие работать с цифровыми технологиями,

¹ Речь Президента Республики Узбекистан Ш.Мирзиёева на встрече с Президентом Российской Федерации В.В. Путиным; 2018 год, 19 октября./ <https://cis.minsk.by/news/10043/gosudarstvennyj-vizit-prezidenta>

обладающими речевыми и коммуникативными компетенциями русского языка. Одной из приоритетных задач образовательного учреждения становится не только получение студентами теоретических знаний, но и развитие у них умений пользоваться информационными технологиями, самостоятельно добывать и анализировать информацию.

Таким образом, изучение русского языка как иностранного можно охарактеризовать с нескольких точек зрения. Произнесенное слово всегда обращено к говорящему, даже если говорящий сам является членом диалога. Владение русским языком и навыки эффективного общения играют ключевую роль в достижении успеха. Эти качества, наряду с активным участием в общественной и профессиональной жизни, не только способствуют достижению личных целей в различных сферах, но и облегчают процесс адаптации к постоянно меняющемуся миру. В связи с этим изучение русского языка как иностранного, на основе цифровизации образовательного процесса, в высших учебных заведениях осуществляется с точки зрения требований рыночной экономики и потребностей работодателей.

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СОВРЕМЕННЫЕ ТЕХНОЛОГИИ УПРАВЛЕНИЯ ОРГАНИЗАЦИЕЙ

УДК 338.2+664.8.037

Смирнова Л.Н.
обучающийся
Научный руководитель:
Свечникова Т.М., канд. экон. наук
доцент
ФГБОУ ВО Пермский ГАТУ
Россия, г.Пермь

СТРАТЕГИЧЕСКИЕ НАПРАВЛЕНИЯ РАЗВИТИЯ АО «МИЛКОМ» ПРОИЗВОДСТВЕННАЯ ПЛОЩАДКА ПЕРМСКИЙ ХЛАДОКОМБИНАТ «СОЗВЕЗДИЕ»

Аннотация. В статье анализируется современное состояние холодильной отрасли в России и уровень зависимости от импортного оборудования. Для повышения эффективности производственных предприятий определены стратегические цели и направления развития, направленные на формирование технологического суверенитета холодильной промышленности.

Ключевые слова: стратегические цели, производство, холодильная отрасль, холодильная промышленность, производственная площадка.

Smirnova L.N.
student
Scientific supervisor: Svechnikova T.M., Ph.D. in Economics
associate professor
Federal State Budgetary Educational Institution of Higher Education Perm
State Agrarian University
Russia, Perm

STRATEGIC DIRECTIONS OF DEVELOPMENT OF JSC «MILCOM» PERM REFRIGERATING PLANT «SOZVEZDIE» PRODUCTION SITE

Annotation. The article analyzes the current state of the refrigeration industry in Russia and the level of dependence on imported equipment. In order to increase the efficiency of production enterprises, strategic goals and development directions aimed at forming the technological sovereignty of the refrigeration industry have been identified.

Keywords: strategic objectives, production, refrigeration industry, refrigeration industry, production site.

В современных условиях развития экономики для повышения эффективности производства промышленных предприятий необходима стратегия развития бизнеса, направленная на формирование и максимальное использование конкурентных преимуществ с учетом влияния факторов внутренней и внешней среды. Такой подход позволяет концентрировать имеющиеся ресурсы, рационально использовать человеческий потенциал, учитывать потребности и запросы рынка [4]. Особое внимание уделяется вопросам стратегического развития промышленных предприятий холодильной отрасли.

Постановка проблемы. Вопросами импортозамещения и формирования технологического суверенитета в холодильной отрасли занимается Российский союз предприятий холодильной промышленности (далее – Россоюзхолодпром). Оценка современного состояния импортозависимости по холодильным машинам составляет: по холодильным компрессорам от 95 до 100%, по приборам холодильной автоматике и запорно-регулирующей аппаратуре 95%, по установкам сжиженного природного газа от 70 до 90%, по хладагентам и маслам 100%. Большая зависимость от производственного оборудования импортного производства от наличия запчастей и комплектующих приводит к все чаще к остановке производств, снижает качество продукции и повышает ее себестоимость. При производстве самого мороженого также существует проблема, связанная с зависимостью от импортных пищевых красителей и упаковки. Поэтому в период до 2030 года Россоюзхолодпром определил стратегическую цель развития холодильной отрасли, связанную с координацией и объединением усилий государства и бизнеса в развитии отечественной холодильной промышленности [1]. В рамках данной цели было создано акционерное общество «МИЛКОМ» – флагманская компания агрохолдинга «КОМОС ГРУПП», объединившая несколько молокоперерабатывающих площадок на территории Удмуртии, Татарстана и Пермского края.

Результаты исследования. Под управлением «КОМОС ГРУПП» работает единый субхолдинг АО «МИЛКОМ» по переработке молока, представленный шестью производственными площадками – «Ижмолоко», «Сарапул-молоко», «Глазов-молоко», «Кезский сырзавод», Пермский хладокомбинат «Созвездие» и ООО «Казанский молочный комбинат» (рисунок 1).



Рисунок 1 – Структура компании АО «МИЛКОМ»

АО «МИЛКОМ» активно инвестирует средства в модернизацию, обновление производственных мощностей, увеличение объемов переработки и расширение номенклатуры выпускаемой продукции. Продукция производственных площадок субхолдинга поставляется в 73 региона России и несколько зарубежных стран.

Холдинг занимает четвертое место в топ-30 переработчиков молока в России по выручке за 2022 год и третье место по объему розничных продаж продукции молокопереработки (без учета мороженого) [2]. По темпам роста в 2023 году холдинг входит в тройку самых быстрорастущих молочных предприятий. Производственные площадки «МИЛКОМ» выпускают весь ассортимент цельномолочной и кисломолочной продукции, а также мороженое и десерты. Объем выпуска готовой продукции за 2023 достиг 430 тыс. тонн. Среди брендов компании: «Село Зелёное», «Топтыжка», «Молочная речка», Fitness Time, «Варвара краса», «Кезский сырзавод», «Ижмолоко», ANGELATO.

Над созданием флагманского бренда «МИЛКОМ» – «Село Зелёное» – специалисты компаний начали работу с 2010 года. Сегодня марка «Село Зелёное» является федеральной и входит в топ-3 брендов по знанию, потреблению и лояльности в традиционных молочных категориях. Более 80% потребителей молочной продукции знают бренд в целевых регионах присутствия, 60% покупают продукцию этой марки [3].

АО «МИЛКОМ» ПП «Пермский хладокомбинат «Созвездие» уже более 60-ти лет является одним из основных предприятий пищевой индустрии на Урале. Входит в реестр предприятий, представляющих страны – экспортеры в Китай, Монголию и ЕВРАЗЭС. Предприятие оснащено самыми большими в Пермском крае низкотемпературными

холодильными мощностями на 12000 тонн единовременного хранения продукции, железнодорожными подъездными путями и развитой инфраструктурой. Также на предприятии установлена одна из скоростных в РФ линия по производству мороженого SL-1100, Датской компании Tetra Pak.

Среди клиентов Пермский хладокомбинат «Созвездие» транснациональные, федеральные, региональные и локальные сети: «Ашан», «Метро», «Х5», «Тандер», «Лента», «Агат», «Гастроном», «Мясная компания». Собственный автопарк компании составляет более 300 единиц специализированного транспорта со спутниковой системой навигации GPS. Автомобили соответствуют всем стандартам и требованиям перевозки продуктов питания. Полуприцепы-рефрижераторы обладают объемом кузова 86 м³, грузоподъемностью 20 т., вмещают до 33 евро-паллеты и позволяют соблюдать температурные режимы перевозки от +20 до –25 °С. Эффективность эксплуатации транспорта повышается за счет единых требований к структурному составу автопарка и системе, регулирующей процессы логистики. Круглосуточный и ежедневный режим работы позволяет оперативно доставлять товары в торговые сети и соответствовать требованиям форматов розничной торговли в отношении логистики, доставки и сервиса.

В 2023 году на Производственной площадке Пермский хладокомбинат «Созвездие» успешно пройден надзорный аудит на соответствие требованиям FSSC v5.1, подтвержден сертификат, который подтверждает качество и безопасность выпускаемой продукции. Стратегические цели в области обеспечения качества и пищевой безопасности представлены на рисунке 2.

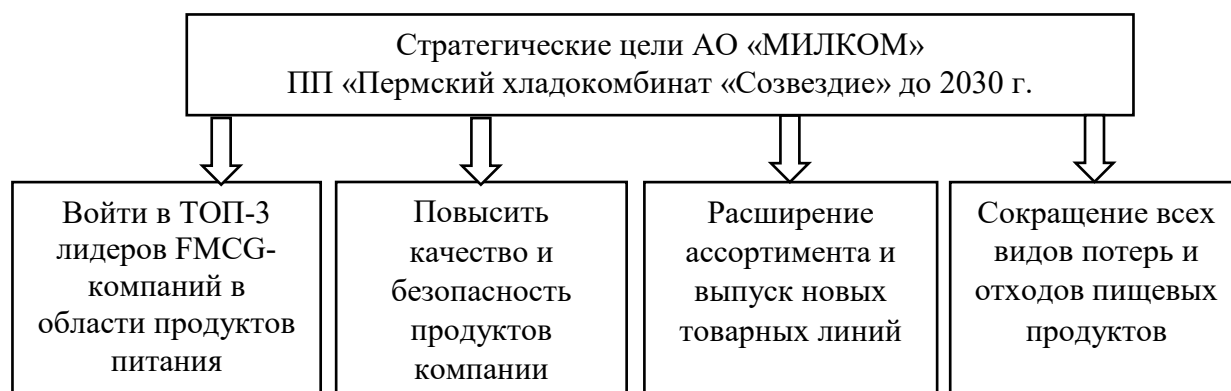


Рисунок 2 – Стратегические цели АО «МИЛКОМ» ПП «Пермский хладокомбинат «Созвездие» до 2030 г.

Стратегические направления развития АО «МИЛКОМ» ПП «Пермский хладокомбинат «Созвездие» связаны, прежде всего, с обеспечением качества продукции и удовлетворением все растущих потребностей клиентов, потребителей мороженого. Достижение

поставленных целей напрямую связано с соблюдением стандартов качества ISO 9001, ISO 14000, HACCP. Большое внимание должно уделяться проведению входного контроля молоко-сырья на соответствие физико-химическим и микробиологическим показателям, только в этом случае возможно обеспечить качество готовой продукции и снизить издержки производства [5].

Выводы и предложения. Стратегическое развитие предприятий холодильной промышленности необходимо для обеспечения продовольственной безопасности государства, для отечественного наращивания темпов технического перевооружения и модернизации производства, для внедрения передовых современных технологий производства готовой продукции и повышения производительности труда.

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*Жэнь Инин, магистр
Московский государственный университет имени М.В. Ломоносова
Россия, Москва*

СТРАТЕГИИ ЦИФРОВЫХ ПЛАТФОРМ С ТОЧКИ ЗРЕНИЯ УСТОЙЧИВОГО РАЗВИТИЯ

Аннотация. В данной статье рассматривается важная роль и стратегии цифровых платформ в устойчивом развитии с акцентом на технологические инновации, инновации бизнес-моделей, соблюдение политики и нормативных требований, а также вовлечение пользователей. В исследовании отмечается, что цифровые платформы способствуют беспроигрышной ситуации между экономической выгодой и защитой окружающей среды с помощью зеленых технологий, экономики совместного использования и других инновационных средств; в то же время они активно соблюдают нормативные требования и повышают осведомленность пользователей об охране окружающей среды, формируя таким образом добродетельный круг устойчивого развития. В перспективе цифровые платформы должны продолжать углублять технологические инновации, оптимизировать бизнес-модели, укреплять соответствие нормативным требованиям и повышать вовлеченность пользователей, чтобы внести больший вклад в глобальное устойчивое развитие.

Ключевые слова: технологические инновации, инновации бизнес-моделей, соответствие политике и нормам, вовлечение пользователей.

*Ren Yining, master
Moscow State University named after M.V. Lomonosov
Russia, Moscow*

DIGITAL PLATFORM STRATEGIES FROM A SUSTAINABLE DEVELOPMENT PERSPECTIVE

Abstract. This paper examines the important role and strategies of digital platforms in sustainable development, focusing on technological innovation, business model innovation, policy and regulatory compliance, and user engagement. The study finds that digital platforms promote a win-win situation between economic benefits and environmental protection through green technology, sharing economy, and other innovative means; at the same time, they actively comply with regulations and enhance users' environmental awareness, thus forming a virtuous circle of sustainable development. Looking

ahead, digital platforms should continue to deepen technological innovation, optimize business models, strengthen regulatory compliance, and enhance user engagement to make greater contributions to global sustainable development.

Keywords: technological innovation, business model innovation, policy and regulatory compliance, user engagement.

Введение

Являясь важной движущей силой экономического развития в новую эпоху, цифровые платформы глубоко меняют способ социально-экономического функционирования и образ жизни людей. Их мощная связь, возможности обработки данных и инновационные модели обслуживания не только способствуют быстрому экономическому росту, но и открывают беспрецедентные возможности для глобального устойчивого развития. [1] Однако стремительное развитие цифровых платформ сопровождается и такими проблемами, как потребление ресурсов, давление на окружающую среду и социальная ответственность. Поэтому очень важно и актуально изучить, как цифровые платформы могут сформулировать и реализовать стратегии устойчивого развития, чтобы способствовать развитию "зеленой" экономики, эффективному использованию ресурсов и улучшению социальной среды. [2] Целью данной статьи является глубокий анализ этой темы, выявление потенциала и проблем цифровых платформ в области устойчивого развития, а также предложение соответствующих решений.

Понятие и аспекты устойчивого развития цифровых платформ

Устойчивое развитие цифровых платформ находит глубокое отражение в трех аспектах - экономике, окружающей среде и обществе. На экономическом уровне цифровые платформы опираются на технологические инновации, такие как искусственный интеллект и анализ больших данных, чтобы оптимизировать распределение ресурсов и повысить операционную эффективность, тем самым добиваясь устойчивого роста и долгосрочной устойчивости экономических выгод. В то же время платформа развивает новые точки роста за счет инноваций в бизнес-моделях, чтобы обеспечить устойчивость роста.

Что касается экологического аспекта, то цифровая платформа активно применяет "зеленые" концепции, снижает углеродный след за счет мер по энергосбережению и сокращению выбросов, а также способствует повышению энергоэффективности центров обработки данных и других инфраструктур. Кроме того, платформа изучает пути утилизации ресурсов, содействует переработке и повторному использованию использованных электронных продуктов, а также широко применяет "зеленые" технологии, чтобы вести отрасль в направлении низкоуглеродных и экологичных технологий.

На социальном уровне цифровая платформа стремится к построению инклюзивной модели роста, содействию социальному равенству и гармонии путем создания рабочих мест, повышения качества государственных услуг и сокращения цифрового разрыва. [3] В то же время платформа придает большое значение защите частной жизни пользователей, создает надежную систему управления безопасностью данных, обеспечивает безопасность информации пользователей и выполняет свою важную обязанность как члена общества.

Ключевые элементы стратегии устойчивого развития Цифровой платформы

В стремлении к устойчивому развитию цифровая платформа опирается на четыре ключевых элемента. Во-первых, технологические инновации, несомненно, являются основным двигателем этого процесса. Разработка и применение "зеленых" технологий, таких как повышение энергоэффективности и использование чистой энергии, оказывают мощную поддержку цифровым платформам в снижении их воздействия на окружающую среду. В то же время глубокая интеграция искусственного интеллекта и больших данных не только оптимизирует операционную эффективность платформы, но и обеспечивает пользователям более персонализированный и эффективный сервис, а также способствует эффективному распределению и использованию ресурсов.

Во-вторых, инновации в бизнес-моделях открыли новый путь устойчивого развития для цифровых платформ. Модель экономики совместного использования эффективно снижает общее потребление и растрату ресурсов в обществе за счет совместного и повторного использования ресурсов. Концепция циркулярной экономики, с другой стороны, побуждает платформы включать элементы защиты окружающей среды во весь жизненный цикл продукта - проектирование, производство, использование и переработку, достигая беспроектной ситуации с точки зрения экономической и экологической выгоды.

Кроме того, соблюдение правил и норм является необходимой гарантией стабильного развития цифровых платформ. [4] В условиях все более жесткого глобального регулирования цифровые платформы должны активно соблюдать соответствующие законы и правила, укреплять систему обеспечения соответствия, а также обеспечивать законность и стандартизацию деловой активности. Это поможет не только снизить правовые риски, но и завоевать хорошую социальную репутацию и доверие к платформе, заложив прочный фундамент для устойчивого развития.

Наконец, образование и участие пользователей - неотъемлемая часть устойчивого развития цифровых платформ. Повышая экологическую осведомленность и участие пользователей, платформа может стимулировать внимание и поддержку всех слоев общества к устойчивому

развитию, формируя хорошую ситуацию совместного управления между правительством, предприятиями и пользователями. Активное участие пользователей не только обеспечивает ценные отзывы и предложения для платформы, но и способствует позитивному взаимодействию и общему развитию между платформой и обществом.

Вызовы и контрмеры для устойчивого развития цифровых платформ

Анализ проблем: цифровые платформы сталкиваются с многочисленными проблемами в деле обеспечения устойчивого развития. На технологическом уровне исследования, разработки и применение передовых технологий, таких как "зеленые" технологии и искусственный интеллект, требуют больших инвестиций и долгосрочного накопления; на экономическом уровне трудно обеспечить экономическую выгоду при эффективном использовании ресурсов и защите окружающей среды; на социальном уровне необходимо срочно решить такие вопросы, как цифровое неравенство и защита частной жизни пользователей; а на экологическом уровне цели охраны окружающей среды, такие как энергосбережение, сокращение выбросов и переработка ресурсов, выдвигают более высокие требования к работе платформы.[5]

Предложения по противодействию: В ответ на вышеуказанные вызовы цифровые платформы должны усилить технические исследования и разработки, способствовать глубокой интеграции зеленых технологий и традиционных технологий; оптимизировать бизнес-модели, изучить новые модели, такие как экономика совместного использования и круговая экономика, и добиться эффективного распределения и использования ресурсов; улучшить политику и правила, активно участвовать в разработке соответствующих стандартов и норм и усилить работу по обеспечению соответствия; расширить участие пользователей, повысить их экологическую осведомленность и участие посредством рекламы, образования и интерактивного опыта и так далее. Расширять участие пользователей, с помощью рекламы и образования, интерактивного опыта и других способов повышать осведомленность пользователей об охране окружающей среды и их участие, формировать хорошую ситуацию совместного управления со стороны правительства, предприятий, пользователей и других сторон.

Заключение

В данной работе подробно рассмотрены роль и стратегии цифровых платформ в устойчивом развитии, а также прояснена важность таких ключевых элементов, как технологические инновации, инновации бизнес-моделей, соблюдение политики и нормативных требований, а также обучение и участие пользователей. Полученные результаты показывают, что цифровые платформы являются не только новым двигателем экономического роста, но и ключевой силой в продвижении "зеленой"

экономики, эффективном использовании ресурсов и улучшении социальной среды. В перспективе, в условиях непрерывного научно-технического и социального прогресса, цифровым платформам необходимо обновить стратегическое мышление, углубить трансграничное сотрудничество и решать новые задачи устойчивого развития с более открытым и инклюзивным отношением, чтобы внести свой вклад в реализацию глобальных целей устойчивого развития.

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*Зейналова Ш.Я.
студент 4 курса бакалавриата
Институт специального образования
Уральский государственный педагогический университет
Россия, Екатеринбург*

ВЗАИМОДЕЙСТВИЕ УЧИТЕЛЯ-ДЕФЕКТОЛОГА И ВОСПИТАТЕЛЯ В ГРУППЕ КОМПЕНСИРУЮЩЕЙ НАПРАВЛЕННОСТИ ДЛЯ ДЕТЕЙ С ТЯЖЕЛЫМ НАРУШЕНИЕМ РЕЧИ

Аннотация. В данной статье рассматривается взаимодействие и организация работы учителя-дефектолога и воспитателя в группе компенсирующей направленности для детей с тяжелым нарушением речи. Исследование основано на наблюдении и анализе практического опыта работы учителя-дефектолога и воспитателя Муниципального автономного дошкольного образовательного учреждения — детский сад № 395, а также на анализе специальной литературы. В статье обсуждаются различные методы и техники взаимодействия, приведены основные формы коррекционной работы. Отдельное внимание уделено направлениям работы педагогов в группе. Описана важность и характер сотрудничества воспитателя и учителя-дефектолога в группе для эффективной коррекционно-развивающей работы.

Ключевые слова: тяжелое нарушение речи, группа компенсирующей направленности, сотрудничество, взаимодействие, специалисты, учитель-дефектолог, воспитатель, коррекционно-развивающая работа, педагог, коммуникативные навыки.

*Zeynalova Sh. Ya.
4th year undergraduate student
Institute of Special Education
Ural State Pedagogical University
Russia, Yekaterinburg*

INTERACTION OF THE TEACHER-DEFECTOLOGIST AND THE EDUCATOR IN THE GROUP OF COMPENSATORY ORIENTATION FOR CHILDREN WITH SEVERE SPEECH IMPAIRMENT

Annotation. This article examines the interaction and organization of the work of a teacher-defectologist and an educator in a compensatory orientation group for children with severe speech impairment. The study is based on the observation and analysis of the practical experience of a teacher-defectologist

and educator of a Municipal autonomous preschool educational institution — kindergarten No. 395, as well as on the analysis of specialized literature. The article discusses various methods and techniques of interaction, and provides the main forms of correctional work. Special attention is paid to the areas of work of teachers in the group. The importance and nature of the cooperation between the educator and the teacher-defectologist in the group for effective correctional and developmental work is described.

Keywords: severe speech impairment, compensatory orientation group, cooperation, interaction, specialists, teacher-defectologist, educator, correctional and developmental work, teacher, communication skills.

Важную роль в осуществлении коррекционно-развивающего процесса играет преемственность работы учителя-дефектолога и воспитателей. Для достижения положительных результатов в коррекционно-воспитательной работе необходима чёткая организация жизни воспитанников. В группу компенсирующей направленности принимаются дети с тяжелым нарушением речи (далее – ТНР) от 6 до 7 лет. Комплектуется группа с наполняемостью – в количестве 15 человек. Дети принимаются в группу на основании решения психолого-медико-педагогической комиссии (далее – ПМПК). В группе организована групповая и индивидуальная коррекционная деятельность для преодоления отклонений в развитии детей и создания специальных образовательных условий обучения с учетом особенностей развития детей. Значительное количество времени в нашей группе отводится на коррекционно-развивающую деятельность. Коррекционная работа в группе реализуется взаимодействием учителя-дефектолога и воспитателя. Основными формами коррекционной работы в группе являются индивидуальные и групповые занятия. Воспитатели проводят групповые занятия в соответствии с расписанием образовательной деятельности. Учитель-дефектолог проводят индивидуальные и фронтальные занятия, с учетом занятий, предусмотренных расписанием непосредственной образовательной деятельности дошкольной образовательной организации (далее – ДОУ).

Рассмотрим более подробно направления работы воспитателя и учителя-дефектолога в группе компенсирующей направленности для детей с ТНР. Воспитатель занимается воспитанием, развитием и образованием каждого ребенка, учитывая его индивидуальные возможности, потребности и способности, а также изучает интересы и склонности детей. Исследуя индивидуальные особенности, интересы и склонности детей, воспитатель планирует и проводит коррекционно-развивающую работу с ними на основе рекомендаций учителя-дефектолога. Воспитатель организует подгрупповые занятия, направленные на развитие продуктивных умений, игровое обучение, развитие двигательных навыков,

трудовое воспитание, а также культурно-гигиенические навыки. Занимается коррекционной работой по рекомендациям учителя-дефектолога в непосредственно организованной деятельности и в режимные моменты, осуществляет дифференцированный подход к воспитанию детей с учетом их индивидуальных психофизических особенностей.

Учитель-дефектолог занимается максимальной коррекцией отклонений в психическом развитии детей. Он разрабатывает программы развития высших психических функций, диагностирует все аспекты психического и личностного развития детей, определяет структуру и степень выраженности имеющихся психических нарушений. В процессе коррекционно-развивающей деятельности учитель-дефектолог работает над максимальной компенсацией этих отклонений. Он проводит индивидуальные занятия в соответствии с учебным планом, направленные на социальное развитие, ознакомление с окружающим миром, развитие речи и формирование коммуникативных способностей, обучение основам грамоты, развитие элементарных математических представлений, а также развитие сенсорного восприятия и моторики. Частота и количество индивидуальных занятий определяется исходя из индивидуальных особенностей психического и физического развития ребенка.

Для всестороннего и гармонического развития личности детей необходимо единство и согласованность всей системы воспитательно-образовательных воздействий взрослых на воспитанников. Учителя-дефектологи и воспитатели совместно изучают каждого ребенка, производя индивидуальную диагностику и анализируя результаты на занятиях и в повседневных ситуациях. На основе этой информации разрабатывается примерный индивидуальный план работы с каждым ребенком. Учителя-дефектологи вместе с воспитателями изучают содержание рабочей программы, предварительно подготавливая детей к занятиям: расширяют их представления о внешнем мире и словарный запас. Ключевым фактором успешного сотрудничества между учителем-дефектологом и воспитателем является взаимное доверие и уважение. Обмен опытом и обучение между педагогами способствуют созданию единой педагогической системы, направленной на интеграцию детей с ограниченными возможностями в общество и обеспечение их социализации. Одним из важных аспектов взаимодействия является систематическое планирование и анализ результатов коррекционно-развивающей работы. Учителя-дефектологи и воспитатели регулярно обсуждают прогресс детей, корректируют подходы и методики работы, вносят необходимые изменения в индивидуальные программы с целью достижения максимальных результатов.

Взаимодействие учителя-дефектолога и воспитателя в группе компенсирующей направленности для детей с тяжелыми нарушениями

речи (ТНР) в МАДОУ детском саду № 395 осуществляется по следующему плану:

1. Комплексная диагностика.
2. Составление индивидуальной программы развития ребёнка.
3. Взаимодействие учителя – дефектолога и воспитателя в коррекционно – образовательном процессе.
4. Совместное проведение тематических и интегрированных развлечений, праздников.
5. Совместное взаимодействие с родителями.

Коррекционно-развивающая работа в МАДОУ детском саду № 395 начинается с начала учебного года – с *комплексной диагностики*. В начале года учителя-дефектологи индивидуально обследуют детей, изучают заключения ПМПК, наблюдают за ними в процессе занятий, заполняют речевые карты и планы индивидуальной работы. Воспитатели изучают детей на занятиях и в повседневной жизни – во время режимных моментов, на прогулке, во время свободной деятельности.

Составление индивидуальной программы развития ребёнка. Результаты совместно обсуждаются и анализируются. Это помогает точно определить актуальный уровень развития ребёнка и разработать индивидуальную программу сопровождения. Педагоги обсуждают темы занятий, перспективный план работы, план их проведения с учётом уровня развития детей. Они согласовывают содержание работы на занятиях, методы обучения и закрепления навыков и умений. При изучении каждой темы педагоги намечают словарный минимум, который необходим для усвоения детьми. Правильное планирование обеспечивает необходимую повторяемость и закрепление материала в разных видах деятельности и в различных ситуациях. Учитель-дефектолог даёт рекомендации воспитателям для составления календарного плана. Важно учитывать дифференцированный подход в подборе материала для занятий. Учитель-дефектолог информирует воспитателей о видах и причинах речевых нарушений, о предупреждении вторичных отклонений в развитии дошкольников с ТНР, знакомит с особенностями обучения и воспитания детей. Совместными усилиями педагогов формируется позитивная установка детей на участие в занятиях. Один из важных условий - это создание предметно-пространственной организации группового помещения и кабинета для логопедических занятий. В результате работы настраивается групповая и индивидуальная программа работы с дошкольниками, расписание занятий с детьми, план работы с педагогическим коллективом и родителями, а также производится информирование родителей о результатах обследования и направлениях коррекционно-педагогической работы.

Взаимодействие учителя – дефектолога и воспитателя в коррекционно – образовательном процессе. Используя данные изучения

детей, воспитатели совместно с учителем-дефектологом продумывают реализацию коррекционно-развивающего и общеобразовательного направлений в работе. Коррекционно-развивающее направление предусматривает преодоление речевых нарушений и включает:

- работу по практическому усвоению детьми лексических и грамматических средств языка;
- развитие связной речи;
- формирование произносительной стороны речи;
- подготовку к обучению грамоте и овладению её элементами.

Совместное проведение тематических и интегрированных развлечений, праздников. Организация совместного проведения тематических и интегрированных развлечений и праздников является важным итогом педагогической работы со вспомогательными детьми. Эти мероприятия проводятся в рамках определенного периода и обычно связаны с изученными лексическими темами. Чтобы полностью раскрыть и реализовать все возможности детей, в праздниках и развлечениях принимают участие специалисты, такие как психолог, музыкальный руководитель и инструктор по физическому воспитанию.

Важным аспектом в работе с родителями является совместное взаимодействие. Основная цель работы с родителями заключается в том, чтобы помочь им стать заинтересованными, активными и эффективными участниками коррекционно-образовательного процесса. Педагоги объясняют родителям необходимость работы с ребенком по заданиям, предоставляемым учителем-дефектологом и воспитателями, а также важность единых требований со стороны педагогов и родителей. Для достижения эффективной работы с родителями используются различные методы, такие как беседы, консультации, показы занятий и общие родительские собрания.

Таким образом, характер сотрудничества и взаимодействия всех специалистов влияет на эффективность коррекционно-развивающей работы. Эффективное взаимодействие учителя-дефектолога и воспитателя в группе компенсирующей направленности для детей с ТНР в МАДОУ детском саду №395 играет важную роль в обеспечении полноценного развития и успешной социализации каждого ребенка. Оно способствует созданию среды, где каждый ребенок чувствует себя участником и может реализовать свой потенциал.

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Юлдашев Н.Н., PhD
Ўзбекистон Республикаси Вазирлар Маҳкамаси
ҳузуридаги Макроиқтисодий ва ҳудудий тадқиқотлар
институтининг бош илмий ходими

МОДДИЙ ВА ИЖТИМОИЙ ДЕПРИВАЦИОН КАМБАҒАЛЛИК: АСОСИЙ ЖИҲАТЛАР...

Аннотация. Ушбу мақолада аҳоли камбағаллик даражасини ҳисоблашнинг моддий ва ижтимоий депривацион усули бошқа анъанавий усуллар билан таққосланади ҳамда унинг ўзига хослиги тавсифланади. Аҳолининг монетар ва кўп ўлчамли индекс усулларида аниқланган камбағаллик даражаси моддий депривацион усул билан ҳам аниқланганда нисбатан тўлиқроқ аҳволни кўриши мумкин бўлади. Камбағаллик даражасининг депривацион усулда аниқланиши унинг ҳудудий ва ижтимоий-демографик гуруҳлар ўртасидаги фарқлари янада яққол кўринишига туртки бўлади.

Калит сўзлар: депривацион камбағаллик, монетар камбағаллик, мутлақ камбағаллик, минимал истеъмол харажатлари қиймати, кўп ўлчамли индекс усули, уй хўжалиги, даромад.

Yuldashev N.N., PhD
Chief Researcher at the Institute of Macroeconomic and Regional Studies
under the Cabinet of Ministers of the Republic of Uzbekistan

POVERTY WITH MATERIAL AND SOCIAL DEPRIVATION: KEY ASPECTS...

Abstract. This article compares the method of calculating the poverty level of the population based on material and social deprivation with other traditional methods and describes its specific characteristics. A relatively more complete picture will be seen when the poverty level, determined by monetary and multidimensional index methods, is supplemented by the method of material deprivation. Determining the poverty level using the deprivation method is an incentive for poverty to become more evident in the differences between territorial and socio-demographic groups.

Key words: deprivation poverty, monetary poverty, absolute poverty, the minimum consumer value, the method of multidimensional indices, household, income.

Кириш

Бугун дунёда камбағаллик ва ночор турмуш шароитида истиқомат қилаётган аҳоли қатлами муаммолари жуда долзарб бўлиб қолмоқда. БМТнинг 2030 йилгача бўлган даврдаги барқарор ривожланиш мақсадлари орасида устувор вазифалардан бири сифатида айнан ушбу даврга бориб сайёрамизда камбағаллик ва тенгсизликни кескин қисқартириш қайд этилган[1]. БМТ Тараққиёт дастури (UNDP)нинг 2023 йилги 110 та мамлакатда ўтказилган тадқиқотларига кўра, сайёрамизда 1,1 млрд инсон (жами аҳолининг 18,0%и) кўп ўлчамли камбағаллик индекси бўйича ночор ҳаёт кечирмоқда[2].

Аҳоли камбағаллик даражасининг ортиши нафақат давлат ва жамият, балки аҳоли учун ижтимоий хавфли жараёнга айланиши билан бирга, қатор салбий оқибатларни келтириб чиқариши мумкин. Чунки бу жараён ижтимоий тараққиётни секинлаштирадиган ва инқирозларни вужудга келтирадиган қатор ижтимоий-иқтисодий муаммоларни ҳам кун тартибига чиқаради. Бу борада мамлакатлар ва алоҳида ҳудудларда ҳақиқий вазиятни кузатиш, баҳолаш ва таҳлил қилиш, шунингдек, камбағалликни қисқартиришга қаратилган стратегик йўналишларни аниқлаш мақсадида аҳоли камбағаллик даражасини мунтазам ҳисоблаб бориш муҳим роль ўйнайди. Бунинг учун эса ҳар тарафлама пухта ва мукамал, илмий асосланган ҳамда натижаларидан самарали фойдаланишга қаратилган илмий-амалий тадқиқотлар алоҳида аҳамиятга эга.

Шу нуқтаи назардан ушбу мақолада мамлакат ва унинг алоҳида ҳудудларида аҳоли камбағаллик даражасини ҳисоблашнинг монетар ва кўп ўлчамли индекс усулларида ташқари моддий ва ижтимоий депривацион усулидан ҳам фойдаланиш, ушбу усулнинг ўзига хос тарафлари ҳамда бошқа усуллардан фарқли жиҳатлари, халқаро тажрибада ундан фойдаланаётган мамлакатлар услубиёти атрофлича ёритилган.

Адабиётлар шарҳи

Ўзбекистонда амалга оширилаётган аксар ислохотларнинг пировард мақсади аҳоли турмуш фаровонлигини ошириш ҳамда камбағаллик, ишсизлик ва кам таъминланганлик каби кўрсаткичларни қисқартиришдан иборатдир. Жумладан, Ўзбекистон Республикаси Президентининг 2023 йил 11 сентябрдаги ПФ-158-сон Фармони билан тасдиқланган “Ўзбекистон-2030” стратегиясида жами 100 та мақсад белгиланган бўлиб, уларнинг аксарида “инсон кадри учун” тамойили асосида аҳоли турмуш даражасини яхшилашга қаратилган мақсадли кўрсаткичлар акс этган. Стратегиянинг 22- ва 29-мақсадлари бевосита аҳолини ижтимоий ҳимоя қилиш ва камбағалликни қисқартиришга бағишланган бўлиб, жумладан, 2026 йилга бориб мамлакатда камбағаллик даражасини икки баробарга, 2030 йилга бориб эса кескин қисқартириш белгиланган [3].

Умуман олганда камбағаллик тушунчасини нисбий ва ягона таърифга эга бўлмаган ижтимоий-иқтисодий жараён деб ҳисоблаш

мумкин. Шундай бўлсада, олис 1975 йилда Европа Кенгаши томонидан эълон қилинган таърифга кўра, “камбағаллик – аҳолининг минимал даражада ҳаёт кечириши учун зарур бўлган даромад ва ресурсларнинг чекланганлиги” сифатида қайд этилган[4]. Машҳур олим, Нобел мукофоти совриндори, Инсон тараққиёти индекси муаллифларидан бири - Амартея Сен эса камбағалликни “инсонларга жамиятнинг барча жабҳаларида тенг иштирок этиши учун имкониятларнинг етишмаслиги ҳамда уни кенг қамровли ўлчовларда аниқлаш лозим”лигини билдирган[5].

Шиддат билан ўзгариб бораётган ва жамиятларда аҳоли яшаш шароитларининг кескин тафовутлари кўзга ташланаётган вақтда камбағалликни монетар усуллар орқали аниқлаш ва баҳолаш ягона ишончли кўрсаткич бўла олмайди. Шунинг учун аҳоли турмуш даражасининг турли кўринишларини ҳар томонлама ва объектив баҳолаш мақсадида бошқа усуллардан, жумладан, моддий ва ижтимоий депривацион ёндашувлардан ҳам фойдаланиш вазиятни тўлақонли кўриш имконини беради.

Аҳоли камбағаллик даражасини аниқлашнинг депривацион усуллари борасида тадқиқотлар олиб борган олимлардан бири, британиялик социолог Питер Таунсенд 1970 йилларда илк бор “кўп ўлчамли депривацион камбағаллик” тушунчасини олға сувар экан, жумладан “жамиятда бирор шахс, оила ёки кишилар гуруҳининг кузатиладиган ва расман исботланадиган ночор турмуш кечириши”ни[6], кундалик ҳаётда зарур бўладиган моддий, маиший маҳсулотлар ҳамда хизматлардан фойдалана олмаслик ҳам камбағалликнинг бир кўриниши эканлигини таъкидлаган.

Адабиётлар таҳлилини умумлаштирган ҳолда аҳоли камбағаллик даражасини ҳисоблашда нисбатан ривожланмаган, паст даромадли мамлакат ва ҳудудларда монетар, ривожланиш нисбатан юқори ҳамда ривожланаётган ҳудудларда кўп ўлчамли индекс ва депривацион камбағаллик даражаларини аниқлаш бирмунча осон, шу билан бирга самарали эканлигини эътироф этиш лозим. Бу борада камбағалликни қисқартиришда юқори натижаларга эришган Хитойда “Икки эҳтиёж” (озик-овқат ва кийим-кечак) ва “Уч қафолат” (таълим, соғлиқни сақлаш ва уй-жой) тартиби айнан юқоридаги фикрларга мисол бўла олади. Шунингдек, Европанинг 27 та мамлакатаида 2009 йилдан бошлаб моддий ва ижтимоий депривацион камбағаллик даражаси ҳисобланиб, доимий равишда мониторинг олиб борилиши ҳудудларни комплекс ривожлантириш ва бошқа ислохотларда акс этмокда[7], [8], [9].

Россия Федерациясида депривацион камбағаллик бўйича илк тадқиқотлар 1996-1997 йилларда[10] амалга оширилган бўлса-да, кенг миқёсдаги тадқиқотлар 2000 йиллардан сўнг ривожланди. Жумладан, 2016 йилдан бошлаб депривацион камбағаллик даражасини ҳисоблаш ва баҳолаш мақсадида Россия статистика қўмитасининг “Уй хўжаликлари

даромадлари ва уларнинг ижтимоий дастурларда иштирокини кузатиш” ва “Аҳоли яшаш шароитларини комплекс мониторинг қилиш” танлама тадқиқотлари ўтказиб келинмоқда[11], [12].

Шу ўринда, депривация атамаси ҳақида тўхталиб ўтиш жоиз. Гарчи ўзбек тилида “махрумлик, чекланганлик” сўзларига яқин маънони англатса-да, бу тушунча халқаро амалиёт, жумладан инглиз, рус ва бошқа тилларда ҳам тўғридан тўғри депривация шаклида қўлланилганлиги учун, ушбу мақолада айнан асл формада қўлланилиши зарур деган тўхтамга келинди.

Асосий қисм

Жаҳон тажрибасида аҳолининг камбағаллик даражаси ёки умуман фаровонлик ҳолатини аниқлаш, ўлчашда қатор ёндашувлар мавжуд. Яъни аҳоли даромад ва харажатлари қийматидан келиб чиқиб ҳисобланган монетар (мутлақ ва нисбий камбағаллик, Monetary poverty), жамиятда мавжуд ижтимоий (таълим, соғлиқни сақлаш, ижтимоий ҳимоя ва ҳок) хизматлардан фойдаланиш имконияти чекланганлиги билан боғлиқ кўп ўлчамли индекс (Multidimensional Poverty Index) ва инсоннинг ўзини ўзи ҳамда атрофидаги кишиларнинг камбағал дейишига асосланган субъектив камбағаллик (Subjective poverty) тушунчалари амалиётда учрайди (1-жадвал).

1-жадвал

Камбағаллик даражасини ҳисоблаш усуллари*

Усул	Турлари	Тавсифланиши	Ўлчов асоси
Монетар	Мутлақ	Аҳолининг белгиланган минимал истеъмоЛ харажатлари ва даромадлари қийматидан ёки тасдиқланган истеъмоЛ савати қийматидан келиб чиқиб ҳисобланади.	Ккал ёки пул қиймати
	Нисбий	Аҳоли ўртача даромадларига нисбатан минимал ёки маълум бир белгиланган даромадлар ёки харажатлар қиймати билан ҳисобланади.	Пул қиймати
Кўп ўлчамли индекс	-	Аҳолининг жамиятда мавжуд ижтимоий механизмлар (таълим, соғлиқни сақлаш, инфратузилма, ижтимоий ҳимоя ва ҳок)дан фойдалана олиш имконияти билан баҳоланади.	Улуш
Депривацион	Моддий	Аҳолининг ўз шахсий тасарруфида бўлган моддий қийматдаги маҳсулотлар билан таъминланганлик ҳолати билан баҳоланади.	Балл
	Ижтимоий чекланган (Social Exclusion)	Аҳолининг жамиятдаги барча учун бирдек мавжуд бўлган ижтимоий-маиший хизматлар ва имкониятлардан фойдалана олиш даражаси билан баҳоланади.	Балл
Субъектив	-	Инсон ўзини ёки атрофидаги кишилар уни камбағал деб ҳисоблашига асосланган, фақат ижтимоий сўровлар орқали аниқланади.	-

**Муаллиф ишланмаси.*

Юқоридаги усул ва ёндашувлардан ташқари, инсоннинг кундалик ҳаётда зарур бўладиган ва турмуш фаровонлигини акс эттирадиган моддий қийматга эга маҳсулотлар ҳамда баъзи ижтимоий-маиший хизматлардан фойдалана олиш имконияти билан тавсифланадиган, нисбатан янги ва бошқа усуллар билан қатор жабҳаларда боғланган — камбағалликни моддий ва ижтимоий депривацион (Material and social deprivation) усулда ҳам аниқлаш мумкин.

Кўп ўлчамли индекс усули орқали аҳоли камбағаллик даражасини аниқлаш учун одатда аҳолининг учта йўналиш — таълим, соғлиқни сақлаш ва уй-жой (турмуш фаровонлиги)дан фойдаланиш даражаси ва имкониятлари жами 10 та кўрсаткич орқали ўлчанади (2-жадвал). Бироқ ҳар бир мамлакат ўз ички имкониятлари ҳамда менталилетидан келиб чиқиб ушбу кўрсаткичларни ўзгартириши мумкин. Бу усул ривожланган, жамиятда барча фуқаролар учун тенг имкониятлар, жумладан бепул таълим, соғлиқни сақлаш ва яшаш шароитлари яратилган бўлса, камбағаллик даражасини аниқлашда биров ноаниқлик вужудга келиши эҳтимоли бор. Чунки, бепул ижтимоий хизматлар яратилган жойда улардан фойдалана олиш, имкониятлар борасида тенгсизликни аниқлаш биров мураккабдир. Кўп ўлчамли индекс усулида камбағалликни аниқлаш учун юқорида қайд этилган 10 та индикаторга турлича улуш (вазн) берилса (2-жадвал), моддий ва ижтимоий депривацион камбағаллик усули ёрдамида камбағаллик даражасини аниқлашда балл тизимидан фойдаланилади. Бунда маълум индикатор сўров ўтказилаётган инсон ёки уй хўжалигида мавжуд бўлса 1 балл, йўқ бўлса 0 балл бериш орқали умумий баллар йиғилади ҳамда жами йиғиш мумкин бўлган балларнинг 70 %и (турли давлатларда турлича, яъни 50,0, 60,0 ёки 65,0% белгиланган, бу ижтимоий-иқтисодий ривожланиш ҳамда бошқа омилларга боғлиқ) мавжуд бўлса, у инсон ёки оила камбағал ҳисобланмайди.

2-жадвал

Кўп ўлчамли индекс усулида аҳоли камбағаллик даражасини ҳисоблаш тартиби

Усул	Йўналишлар ва вазн улуши	Индикаторлар вазн улуши
Кўп ўлчамли индекс	Соғлиқни сақлаш, 1/3	<i>Соглом озиқланиш, 1/6</i>
		<i>Болалар ўлими, 1/6</i>
	Таълим, 1/3	<i>Мактабда таълим олинган йиллар, 1/6</i>
		<i>Мактабга қатнов давомийлиги, 1/6</i>
	Турмуш фаровонлиги ёки турар-жой ҳолати, 1/3	<i>Электр энергияси билан таъминланганлиги, 1/18</i>
		<i>Санитария ҳолати, 1/18</i>
		<i>Ичимлик суви билан таъминланганлиги, 1/18</i>
		<i>Овқат тайёрлаш учун ёқилги тури, 1/18</i>
		<i>Турар-жой биноси ҳолати (том, девор ва ҳок), 1/18</i>

Депривацион усулда камбағаллик даражасини аниқлаш кўпроқ индивидуал характерга эгаллиги билан, яъни бирор шахс ёки оила ўз ички имкониятлари, турмуш кечириши сифатини ўзи яратиши ҳамда ўзгаришлар, аниқроғи камбағалликдан чиқиб кетиш муддати тезкорроқ эканлиги билан ажралиб туради. Чунки, кўп ўлчамли камбағаллик даражасини аниқлаш индикаторлари кўпроқ давлат ва жамият томонидан барча учун яратилган ижтимоий имкониятлардан (таълим, соғлиқни сақлаш ва ҳок) фойдалана олиш даражаси билан белгиланса, моддий ва ижтимоий депривацион камбағалликда инсон ёки оила ўзлари яратган моддий қийматдаги маҳсулотлар ёки мавжуд ижтимоий-маиший имкониятлардан фойдалана олиш даражаси билан баҳоланади. Гарчи халқаро ва Ўзбекистон камбағаллиқни ҳисоблаш методологияларида кўп ўлчамли камбағаллик индексини аниқлашда моддий ва ижтимоий депривацион камбағаллик кўрсаткичларидан ҳам фойдаланилганлиги, яъни кўп ўлчамли индекс усулининг бир қисми сифатида [13], [14], [15] кўрилган бўлса-да, Европа иттифоқи, Россия Федерацияси ва бошқа мамлакатларда депривацион камбағаллик аҳоли турмуш даражасини белгиловчи алоҳида кўрсаткич сифатида ҳисоблаб борилади.

Европа иттифоқи мамлакатларида депривацион камбағаллик бўйича дастлабки тадқиқотлар 1970-йиллардан бошланган. Бироқ ҳозирда амалда бўлган услубиёт 2006 йилда Европа иттифоқи статистика хизмати (Eurostat) ва Франция статистика институти томонидан “Камбағал бўлмаслик учун шахс ёки уй хўжалиги нималарга эга бўлиши керак?” мавзусида ўтказилган социологик сўров асосида ишлаб чиқилган. Ва бу сўровда иштирок этган респондентларда қуйидаги имконият ва товарларнинг камида 50 %и ёки 5 таси мавжуд бўлса улар депривацион камбағаллик ҳолатида эмас деб топилган:

- *Қутилмаган молиявий харажатлар учун жамғарма маблағидан фойдалана олиш;*

- *Бир йилда камида бир ҳафтага уйдан ташиқарида ҳордиқ чиқара олиш;*

- *Уй-жой ижараси, коммунал, кредит ва бошқа тўловлардан қарздорлик йўқлиги;*

- *Қунора гўшти, балиқли, товуқли ва уларга тенг қувватли таом истеъмол қилиш;*

- *Уй-жойнинг меъёрида иситилиши;*

- *Қир ювиш машинаси;*

- *Рангли телевизор;*

- *Телефон;*

- *Шахсий автомобиль.*

Ушбу рўйхат узоқ йиллар давомида Европа Иттифоқи мамлакатлари аҳолиси учун депривацион камбағаллик мониторингини шакллантириш учун асос бўлиб хизмат қилган[7]. Бироқ кейинроқ ижтимоий-иқтисодий вазиятнинг ўзгариши, тараққиёт шиддати ҳамда турли давлатлардаги менталитетдан келиб чиқиб ушбу рўйхат бироз ўзгарган [16] ҳамда аҳолининг депривацион камбағаллик даражасини ҳисоблаш учун 13 та индикатордан фойдаланишга ўтилган. Улар икки йўналиш — уй хўжалиги даражасида ва шахсий имкониятлардан келиб чиқиб ҳисобланган ҳамда қуйидагилардан иборат бўлган:

1. Уй хўжалиги даражасида:

- *Кутилмаган харажатларда молиявий танглик бўлмаслиги;*
- *Йилда бир марта уйдан ташқарида бир ҳафта ҳордиқ чиқара олиш имконияти;*
- *Ижара, коммунал, кредит ва бошқа тўловлардан қарз бўлмаслик;*
- *Кунора гўшти, балиқли ва бошқа юқори қувватли таом истеъмол қила олиш;*
- *Уй-жойда эркин яшай олиш (уй-жой ижтимоий нормаси меъёрида бўлиши);*
- *Шахсий автомобил ёки микроавтобуснинг мавжудлиги;*
- *Эскирган мебелларни янгисига алмаштира олиш имконияти.*

2. Шахсий имкониятлар даражасида:

- *Интернетга тўсиқсиз улана олиш;*
- *Эскирган кийимларни янгисига алмаштира олиш;*
- *Ҳар қандай мавсумда кия оладиган икки жуфт пойабзалнинг бўлиши;*
- *Ҳафталик шахсий эҳтиёжлар учун маълум миқдорда маблағ сарфланиши;*
- *Мунтазам (ҳар ҳафтада, ойда) дам олиш имконияти;*
- *Бир ойда бир марта дўстлар ёки оила билан биргаликда овқатланиш имконияти.*

Аммо, ҳозирги кунга келиб Европа иттифоқи аҳоли турмуш даражаси ва даромадлари статистикаси (EU-SILC) методологиясида деярли 50 та индикатордан аҳоли турмуш фаровонлиги ва депривацион камбағаллик даражасини ҳисоблашда фойдаланилмоқда[16]. Шундан 30 дан ортиқ кўрсаткич катта ёшдаги (16 ёшдан ошган) аҳоли, 17 таси эса болалар фаровонлик даражасини аниқлашда қўлланилмоқда. Улар қуйидагилардир:

А. Уй хўжалигида истиқомат қилувчи 16 ёшдан катта ҳар бир аъзо учун индивидуал даражада:

1. *Уяли алоқа воситаси мавжудлиги*
2. *Эскирган кийимларни янгисига алмаштира олиш имконияти*
3. *Исталган мавсумга мос бўлган икки жуфт пойафзалнинг мавжудлиги*

4. Ҳар ҳафта оз миқдордаги пулни ўз шахсий мақсадлар учун сарфлай олиш (халқда одатда “чўнтак пули” деб аталади)

5. Бир ойда бир марта дўстлар (оила) билан бирга тушлик (кафе, барда) қила олиш

6. Исталган пайтда бўш вақт топиб ҳордиқ чиқариш.

В. Уй хўжалиги ёки оиладаги барча аъзолар учун бирдек тааллуқли:

7. Уйда иссиқ сув (ювиниш)нинг мавжудлиги

8. Уйда ижтимоий норма (бир кишига тўғри келадиган кв.метр)нинг мавжудлиги

9. Уйни етарли даражада ёритиш имкони мавжудлиги

10. Уй томи, деворлари ва полидан сув ўтмаслиги, эшик-деразаларнинг бутунлиги

11. Уйда маиший мақсадларда оқава сув мавжуд ҳолатхона борлиги

12. Уйда ванна ва душнинг мавжудлиги

13. Уй-жойда доимий равишда чиқиндилар бўлмаслиги

14. Уй-жой яқинидаги жамоат иншоотларининг соз ҳолатдалиги

15. Кўчадан ёки қўшиллардан кучли шовқиннинг эшитилмаслиги

16. Уй-жойда ифлосланиш, экологик муаммоларнинг мавжудлиги

17. Уй-жой жойлашган ҳудудда жиноятчилик, зўравонлик ва талончилик йўқлиги

18. Уй-жой жойлашган ҳудудда аҳоли жуда зич яшайди

19. Уй-жой учун харажатларнинг юқорилиги (уй хўжалиги жами даромадининг 40,0% ва ундан ортигини ташкил этса)

20. Эскирган мебелларни алмаштири олиш имконияти

21. Кунора гўштли, товуқли, балиқли ёки бошқа таомларни истеъмол қила олиш

22. Қутилмаган харажатларга тўғри келганда қийналмаслик

23. Уй-жойнинг етарли даражада иситилиши.

24. Уйдан ташқарида бир йилда бир ҳафта таътилга чиқиш

25. Уй-жой ижара, ипотека, коммунал ва бошқа тўловлардан қарздорлик йўқлиги

26. Қир ювиш машинаси

27. Рангли телевизор

28. Телефон, шунингдек уяли алоқа воситаси

29. Компьютер, ноутбук ёки планшет

30. Енгил автомобил, ёки шахсий фойдаланиш учун минифургон

31. Интернет тизимида уланиш имконияти

32. Уй хўжалигининг жамоат транспортдан фойдаланиши чекланганлиги

33. Хўжаликнинг почта, банк ва бошқа хизматлардан фойдаланиши чекланганлиги

С. Уй хўжалигидаги 16 ёшгача бўлган болалар учун: бунда битта бола учун зарур бўлган индикаторлар инобатга олинади:

34. Нисбатан янги (бироз кийилган бўлса ҳам) кийимларнинг мавжудлиги

35. Болага лойиқ бўлган ҳар қандай мавсумга мўлжалланган икки жуфт пойафзал

36. Ҳар кунлик сарҳил мева ва сабзавотлар истеъмол қилиши

37. Уч маҳал овқатланиши имконияти

38. Суткада камида бир марта гўшти таом истеъмол қилиши

39. Уйда бола ёшига мос китобларни мавжудлиги

40. Ҳовли ёки уйда бола ҳордиқ чиқариши учун мосламаларнинг мавжудлиги

41. Уйда бола учун мўлжалланган ўйин жиҳозлари мавжудлиги

42. Уй вазифасини бажариши учун етарли даражада жойнинг мавжудлиги

43. Зарур ҳолларда стоматологга мурожаат қила олиши имконияти

44. Зарур ҳолларда умумий амалиёт шифокорига мурожаат қила олиши имконияти

45. Мунтазам равишда бўш вақтни ўтказиши (спорт, тўғарак ва ҳок) имконияти

46. Алоҳида тантанали кунларда қанаиша олиши имконияти

47. Мунтазам равишда дўстлар ёки синфдошларни тушликка таклиф эта олиши

48. Қўшимча харажат зарур бўлган тадбирлар(саёҳат ва б)да иштирок эта олиши

49. Қўшни болалар билан хавфсиз ўйинлар учун очиқ майдонларнинг мавжудлиги

50. Ҳар йили уйдан узоқда камида бир ҳафталик таътилга чиқа олиши.

Россия Федерацияси статистика қўмитасининг 2016 йилги “Аҳоли турмуш даражасини ялпи кузатиш” (КОУЖ-2016) танлама тадқиқотлари натижаларига кўра, мамлакатда аҳолининг депривацион камбағаллик даражасини ҳисоблаш учун қуйидаги 16 та индикатордан фойдаланиш [17] йўлга қўйилган эди:

1. Ҳафтада 2 марта гўшт, балиқ ёки товуқ гўшти (ёки уларга тенг келадиган қувватга эга вегетариан таомлар) таом истеъмол қилиши учун маблағнинг етишмаслиги

2. Йилнинг исталган вақтида мева-сабзавот истеъмол қила олиши имконияти

3. Эскирган кийимларни алмаштириши учун маблағ етишмаслиги

4. Яшаш жойининг торлиги (жон бошига 6 кв.м.дан кам уй-жой майдонига эга)

5. Коммунал хизматлар ҳақини ўз вақтида ва тўлиқ тўлай олмаслик

6. Турар-жойни иситиш тизими ёки ёқилғи сотиб олиши учун маблағ етишмаслиги

7. Яроқсиз ҳолга келган мебелларни алмаштириш учун маблағ етишмаслиги

8. Уйни фавқулодда таъмирлаш учун маблағ етишмаслиги (эшик-деразалар, санитария анжомларини алмаштириш, том, девор, полни таъмирлаш ва ҳоказо.)

9. Кундалик зарур дори-дармонларни сотиб олиш учун маблағнинг етишмаслиги

10. Ҳар бир оила аъзосига икки жуфт мавсумий пойафзал сотиб олиш имконияти

11. Телефон (шу жумладан уяли телефон) сотиб олиш имконияти

12. Компьютер сотиб олиш имконияти

13. Уй-жойни иссиқ сув билан таъминлаш ёки иситиш мосламасини сотиб олиш

14. Уй-жойда ҳаммом, душ ёки бошқа турдаги ювиниш мосламалари мавжудлиги

15. Меҳмонларни оилавий байрамларга (туғилган кун, янги йил ва бошқ) таклиф қила олиш имконияти

16. Йилда бир марта бир ҳафталик таътилни уйдан узоқда ўтказиш имконияти.

Россияда бу руйхат умумий аҳоли қатлами учун мўлжалланган бўлиб, худди Европа мамлакатларида мавжуд услубиёт асосида 17 та кўрсаткичдан иборат болалар депривацион камбағаллик даражаси ҳам ҳисобланади.

Европа иттифоқи мамлакатлари услубиётларидан фарқли ўлароқ Россияда аҳолининг ижтимоий ва депривацион камбағаллик даражасини аниқлашда уй-жой билан боғлиқ баъзи индикаторлар, йирик маиший буюмларнинг мавжудлиги кабилар якуний руйхатга киритилмаган. Чунки, 2016 йилги танлама кузатувлар натижаларига кўра, сўров ўтказилганлар ва ҳатто камбағал деб ҳисобланган қатлам орасида бор йўғи 0,1-0,5 % аҳолининг узоқ муддатли маиший буюмларга эга бўлмаслик ҳолати аинқланган. Уларнинг улуши жуда пастлигига аҳоли турмуш даражасини аниқлашда маиший буюмлар моддий қийматга эга товар бўлмай қолганлигини сабаб қилиб келтиришади. Европа мамлакатлари методологияларида эса, аҳолининг йирик маиший буюмларга эга бўлишида асосий жиҳат — уларнинг мавжудлиги эмас, балки янгилиги, фойдаланишга яроқлилиги ҳамда муддати билан белгиланиши кераклиги қайд этилган.

Статистика агентлиги маълумотларига кўра, депривацион камбағалликни аниқлашнинг муҳим жиҳатларидан ҳисобланган узоқ муддатли фойдаланишда бўлган маиший жиҳозлар билан таъминланиш статистикасига эътибор қаратадиган бўлсак, Ўзбекистонда ҳар 100 та уй хўжалигига тўғри келадиган телевизор, совутгич ва музлатгич, кир ювиш машинаси, мобил телефонлар сони юқорилигича қолмоқда (3-жадвал).

Бироқ бу кўрсаткичлар умумий аҳолига нисбатан ҳисобланганлигини, депривацион камбағалликда эса жами аҳолига нисбатан маиший жиҳозларга эга бўлмаган ёки эскирган жиҳозларга эга аҳоли қатлами ҳисобга олиниши лозим.

3-жадвал

Аҳолининг узок муддатли фойдаланишда бўлган маиший жиҳозлар билан таъминланганлиги (ҳар 100 та уй хўжалигига нисбатан, бирликда)

№	Жиҳозлар	2010 йил	2015 йил	2020 йил	2023 йил
1.	Енгил автомобиль	21	42	49	57
2.	Телевизор	132	152	162	176
3.	Совутгич ва музлатгич	99	101	107	118
4.	Кондиционер	19	32	40	47
5.	Чангютгич	37	53	60	71
6.	Компьютер	12	47	60	66
7.	Кир ювиш машинаси	75	79	90	96
8.	Мобил телефонлар	145	234	287	349

Изоҳ: Статистика агентлиги маълумотлари тузилди.

Юқоридаги таҳлиллар ҳамда хорижий мамлакатлар тажрибаларидан келиб чиқиб Ўзбекистонда ҳам аҳолининг депривацион камбағаллик даражасини аниқлаш учун қуйидаги жадвалда келтирилган индикаторлардан фойдаланиш таклиф этилади (4-жадвал). Ушбу индикаторлар камбағаллик даражасини ҳисоблаш учун тўлиқ ва мукамал тасвирни акс этмасада, кичикроқ миқёсда (маҳалла, туман, шаҳар) тадқиқот ҳамда дастлабки ҳисоб-китобларни амалга ошириш имконини беради.

Маълумот учун шуни қайд этиш зарурки, жадвалда оилаларнинг айлани вақтда шахсий фойдаланувида бўлган, олиб-сотиш, ижара ва бошқа шаклдаги даромад келтирмайдиган моддий активларигина инобатга олинади. Бундан ташқари, ушбу саволномани шаҳар ва қишлоқ ҳудудлари учун алоҳида тузиш, шунингдек ундаги активлар ва ижтимоий имкониятлар рўйхатини ҳудудлар менталитетидан келиб чиқиб ўзгартириш мумкин.

Жадвалдаги активлар ва имкониятларга балл бериш орқали, яъни сўралаётган актив ёки имконият оилада мавжуд бўлса 1 балл, йўқ бўлса 0 балл бериш орқали оилани турмуш кечириш даражасини баҳолаш мумкин. Шунда ҳисоблаш мумкин бўлган максимум балл 30 ни ташкил этиши, оиланинг мавжуд активлари ва имкониятлари 21 баллдан (ёки жамига нисбатан 70,0%ни) ортиқни ташкил этса, ушбу оиланинг турмуш кечириш даражаси қониқарли деб ҳисобланиши мумкин. Ўз ўзидан 20 ва ундан паст балл тўплаган оила депривацион камбағал ҳисобланади.

**Аҳолининг моддий ва ижтимоий депривацион камбағаллик
даражасини аниқлаш бўйича саволнома намунаси**

№	<i>1. Моддий активлар бўйича</i>	балл	бор	йўқ
1	Уй-жой (қурилганига 50 йилдан ёки тўлиқ таъмирланганига 25 йилдан кам бўлмаган шахсий уй-жой, шу билан бирга текин фойдаланишда бўлган, ижара қиймати оила ойлик даромадининг 3/4 қисмигача ташкил этадиган турар-жой)	1		
2	Автомобил-транспорт воситалари (ишлаб чиқарилганига 20 йилдан кам бўлмаган шахсий енгил, юк ва махсус автомобиллар, қишлоқ хўжалиги, гидротехник ва бошқа махсус техникалар, мотороллер, скутер ва бошқа кичик ҳажмли транспорт воситалари, шунингдек барча шаклдаги ижарада фойдаланилаётган техник воситалар)	1		
3	Чорва ва паррандалар (йирик қорамол 1 та, майда шохли 2 та ва паррандалар 10 тадан кам бўлган)	1		
4	Ижарага бериш орқали фойда олишга мўлжалланган кўчмас ва кўчар мулклар, (ижарадан тушган даромад жами ойлик даромаднинг 3/4 қисмидан кам бўлганида)	1		
5	Рангли телевизор (и/ч 7 йилдан кам бўлмаган, кейинги ўринларда – й.к.б.)	1		
6	Холодильник (и/ч 7 й.к.б.)	1		
7	Кир ювиш машинаси (и/ч 7 й.к.б.)	1		
8	Газ плита (и/ч 7 й.к.б.)	1		
9	Чангютгич (и/ч 5 й.к.б.)	1		
10	Тикув машинаси (и/ч 7 й.к.б.)	1		
11	Микротўлқинли печь (и/ч 5 й.к.б.)	1		
12	Кондиционер (и/ч 5 й.к.б.)	1		
13	Иситиш печлари (и/ч 5 й.к.б.) ва иситиш тизими (қурилганига 10 й.к.б., марказий иситиш тизимсиз)	1		
14	Дазмол (и/ч 3 й.к.б.)	1		
15	Электр чойнак (и/ч 3 й.к.б.)	1		
16	Ювиниш учун мосламалар (ванна, душ кабинаси, унитаз ва раковиналар, ўрнатилганига 10 й.к.б.)	1		
17	Мобил телефон (оила аъзоларини 1/3 қисмида бор бўлса, сотиб олинганига 5 й.к.б.)	1		
18	Интернет роутер (ўрнатилганига 5 й.к.б.)	1		
19	Компьютер (ноутбук, лаптоп ва б. и/ч 7 й.к.б.)	1		
2. Ижтимоий депривация бўйича (имкониятлар)				
20	Бир йилда камида бир ҳафта муддатга яшаб турган ҳудуддан ташқарида дам олиш	1		
21	Бир ойда бир марта ресторан (кафе, бар ва ҳок) да оилавий (ёки ёлғиз) тушлик қилиш	1		
22	Бир ойда камида икки марта гўшти (балиқли, товуқли ва ҳок) таом тайёрлаш	1		
23	Бирор йирик маиший жиҳоз бузилганида ўрнига янгисини сотиб олиш	1		
24	Кутилмаганда меҳмон келиб қолганида уни меъёрида кутиб олиш (туғилган кун, байрам ва бошқаларда ҳам)	1		

25	Бир йилда икки марта оилавий кўнгилочар жойларга ((концерт зали, кинотеатр, музей, ҳайвонот ва истироҳат боғларига (бепул кириш мумкин бўлганларидан ташқари)) ташриф буюриш	1		
26	Оила аъзоларидан кимдир ўртача оғирликда касал бўлиб қолганида уни даволатиш	1		
27	Оила аъзоларидан камида 1/3 қисмининг эски ҳолатдаги кийимларини янгилаш	1		
28	Оила кутилмаганда бошқа жойга кўчишига тўғри келса, бемалол кўча олиш	1		
29	Уй-жой ижараси, коммунал, кредит, бўлиб тўлаш ва бошқа тўловларни ўз вақтида тўлай олиш (бир йилда 2 ойдан кам бўлмаган қарздорлик)	1		
30	Камида 5 йилда бир марта урф-одатлар билан боғлиқ тадбирлар (туй, юбилей, маросим ва ҳок) ўткази олиш	1		
	Жами балл	30		

**Муаллиф ишланмаси.*

Ана шу тартиб асосида муаллиф томонидан Тошкент вилояти Зангиота тумани Янгиҳаёт маҳалласида (маҳаллада 550 дан ортиқ хонадон, 2200 дан ортиқ аҳоли истиқомат қилади) яшовчи аҳоли ўртасида телеграм ижтимоий тармоғи орқали онлайн сўров ўтказилди. Сўровда 100 та оила иштирок этди ҳамда уларнинг 87,0 фоизи 21 ва ундан юқори баллга эгаллиги аниқланди. Сўров ўтказилган оилаларда депривацион камбағаллик даражаси 13,0%ни ташкил этди.

Сўровда иштирок этганларнинг 96,0 %ида уй-жой, 85,0 %ида у ёки бу турдаги автотранспорт воситаси, деярли барчасида йирик маиший жиҳозлар мавжудлиги аниқланган (5-жадвал). Аҳолининг сезиларли қисмида ижтимоий депривация бўйича имкониятлар юқори эмаслиги, жумладан, уйдан ташқарида дам олиш, тушлик ёки кечки овқатни кафе-ресторанларда тановул қилиш, кутилмаганда оила бошқа жойга кўча олиши каби индикаторларда “йўқ” деб жавоб берганлар кўпчиликти ташкил этган.

Шу ўринда яна бир жиҳатни қайд этиш лозимки, сўровда иштирок этган оилаларнинг баъзи моддий активлари, жумладан маиший жиҳозларнинг ишлаб чиқарилган вақти ва фойдаланиш даврийлиги, яроқлилиқ муддати каби кўрсаткичлар Россия Федерацияси (<https://bitprice.ru/>) ва Беларусь Республикаси (<https://neg.by/>) стандартларидан олинган. Уй-жой ва автотранспорт воситаларининг қурилган ҳамда ишлаб чиқарилган муддатлари эса ўртача фойдаланиш даврийлиги ҳисобга олинган.

Танлама сўровда аниқланган баъзи индикаторлар натижалари
(% ҳисобида)

№	Депривация индикаторлари	бор	йўқ
1	Уй-жой	96	4
2	Автомобил транспорт воситалари	85	15
3	Рангли телевизор	99	1
4	Холодильник	95	5
5	Қир ювиш машинаси	99	1
6	Газ плита	100	0
7	Чангюлгич	87	13
8	Тикув машинаси	37	63
9	Мобил телефон (оила аъзоларини 1/3 қисмида бор бўлса)	100	0
10	Компьютер (ноутбук, лаптоп ва б.)	48	52
11	Бир йилда бир ҳафтага яшаб турган ҳудуддан ташқарида дам олиш	35	65
12	Бир ойда бир марта кафе, бар ва ҳ.да оилавий ёки ёлғиз тушилик қилиш	38	62
13	Бир ойда икки марта гўшти (балиқли, товуқли ва ҳок) таом тайёрлаш	86	14
14	Кутилмаганда меҳмон келиб қолганида уни меъёрида кутиб олиш (туғилган кун, байрам ва бошқаларда ҳам)	60	40
15	Оила аъзоларидан кимдир ўртача оғирликда касал бўлганда даволатиш	67	33
16	Оила бошқа жойга кўчишига тўғри келса, бемалол кўча олиш	26	74
17	Уй-жой ижараси, коммунал, кредит ва бошқа тўловларни вақтида тўлай олиш (бир йилда 2 ойдан кам бўлмаган қарздорлик)	86	14
18	Қамада 5 йилда бир марта урф-одатлар билан боғлиқ тадбирлар (туй, юбилей, маросим ва ҳок) ўткази олиш	83	17

Сўров натижалари асосида муаллиф ишланмаси.

Хулосалар

1. Халқаро тажриба ва хорижий мамлакатлар услубиётидан шунинг хулоса қилиш мумкинлиги, Ўзбекистон ва унинг ҳудудларида ҳам аҳолининг камбағаллик даражасини аниқлашда амалдаги монетар усуллар билан бирга муқобил тарзда моддий ва ижтимоий депривацион камбағаллик даражасини ҳисоблаш, кузатиш, эълон қилиб бориш ва ишлаб чиқиладиган комплекс ижтимоий-иқтисодий ривожланиш дастурларида бунинг инобатга олиш лозим. Бунинг учун ҳар томонлама пухта ва барча жиҳатларни ўзида қамраб олган янги услубиёт ишлаб чиқилиши зарур. Ҳозирда Ўзбекистонда минимал истеъмол харажатлари қийматига асосланган мутлақ ва кўп ўлчамли камбағаллик даражаси эълон қилинмоқда. Муқобил тарзда депривацион камбағаллик даражасининг аниқланиши аҳоли турмуш фаровонлигини кўриш имконини беради.

2. Одатда моддий ва ижтимоий депривацион камбағаллик даражаси ҳисобланган ҳудудларда монетар ва кўп ўлчамли камбағаллик даражаси ҳам ҳамоханг бўлиши лозим. Агар монетар камбағаллик даражаси нисбатан паст бўлсаю, депривацион камбағаллик даражаси юқори бўлса, ўша ҳудудда аҳоли орасида даромад ва харажатларни яшириш, хуфёна иқтисодиёт кўлами юқори бўлади. Чунки, содда айтганда, моддий

қийматга эга ва ижтимоий имкониятлардан бемалол фойдалана оладиган оила монетар камбағал бўлиши мумкин эмас, ўзида бўлган моддий бойликлардан самарасиз фойдаланаётган ёки умуман фойдаланмаётган бўлиши мумкин, бу парадоксал ҳолатдир. Шунинг учун, одатда Ўзбекистон шароитида камбағал ва эҳтиёжманд оилаларни ижтимоий ҳимоя қилиш, уларга ижтимоий нафақа ва моддий ёрдам тайинлаш, шунингдек, имтиёзлардан фойдаланишида депривацион камбағаллик ҳолатини ҳам инобатга олиш тавсия этилади. Зеро, моддий қийматга эга ҳамда ижтимоий-маиший имкониятлардан фойдалана оладиган оила камбағал ҳисобланмайди.

3. Депривацион камбағаллик даражасини қисқартиришнинг энг мақбул йўли — аҳоли даромадларини шакллантириш, бандлигини таъминлаш ҳамда қулай ижтимоий муҳит, инфратузилмаларни яратишдан иборатдир. Худди монетар камбағаллик каби ушбу турдаги камбағалликни қисқартиришда аҳоли ўртасида тарғибот-ташвиқотни кучайтириш, молиявий ва замонавий билимлар бўйича саводхонликни ошириш муҳим рол ўйнайди.

4. Ўзбекистон ва ҳудудларда аҳолининг депривацион камбағаллик даражасини доимий кузатиб борадиган тизим, шунингдек, мунтазам илмий-амалий тадқиқотлар ўтказиб туриш лозим. Бу борада махсус электрон база, платформа ёки визуал карта ишлаб чиқиш, амалга оширилган тадқиқотлар натижаларини унга доимий жойлаб бориш орқали аҳоли турмуш даражасида кутиладиган ижтимоий хатарларни олдини олиш мумкин. Инсон кундалик бирламчи эҳтиёжлар (озиқ-овқат ва кийим-кечак)дан сўнг имкони борица барча маиший жиҳозлардан фойдаланиш, ўзини қониқтирадиган муҳитда осуда ҳаёт кечиришни хоҳлайди.

5. Аҳолининг депривацион камбағаллик даражаси эълон қилиниши ҳамда келгусида уни пасайишига қаратилган ислохотлар ўз навбатида ҳудудларни комплекс ижтимоий-иқтисодий ривожланишига ҳам туртки бўлади. Чунки инсон қанчалик кўп моддий қийматга эга товарларга эга бўлса ҳамда ижтимоий-маиший хизматлардан фойдаланса шунчалик кўп талаб ошиши, охир-оқибатда иқтисодиётнинг тезлашишига олиб келади. Яъни ушбу икки жараён чамбарчас боғлиқликда ривожланиши исбот талаб қилмайдиган қонундир.

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ИНФОРМАЦИОННЫЕ И КОММУНИКАТИВНЫЕ ТЕХНОЛОГИИ

УДК 004

*Кузьмина Е.С.
студент*

*Горюнов Д.А.
студент*

*Поволжский государственный университет
телекоммуникаций и информатики*

МЕТОДЫ АНАЛИЗА ТЕКСТОВЫХ ДАННЫХ С ИСПОЛЬЗОВАНИЕМ МАШИННОГО ОБУЧЕНИЯ

Аннотация. Статья посвящена исследованию современных методов анализа текстовых данных с использованием машинного обучения. В ней рассматриваются ключевые алгоритмы и техники, применяемые для решения различных задач обработки естественного языка (NLP), включая классификацию текстов, извлечение информации, анализ настроений, машинный перевод и генерацию текста.

Ключевые слова: машинное обучение, обработка естественного языка, нейронные сети, обработка текста, распознавание образов.

*Kuzmina E.S.
student*

*Goryunov D.A.
student*

Povolzhskiy State University of Telecommunications and Informatics

METHODS OF TEXT DATA ANALYSIS USING MACHINE LEARNING

Abstract. The article is devoted to the study of modern methods of text data analysis using machine learning. It examines key algorithms and techniques used to solve various natural language processing (NLP) tasks, including text classification, information extraction, sentiment analysis, machine translation and text generation.

Keywords: machine learning, natural language processing, neural networks, text processing, pattern recognition.

Введение

Одним из наиболее распространенных и неструктурированных типов данных, доступных в настоящее время, являются текстовые данные. Каждый день из таких источников, как социальные сети, новостные статьи, отзывы клиентов и научные публикации, создается огромное количество контента. Вручную проанализировать эти данные невозможно из-за их объема и сложности. Данную проблему можно решить при помощи машинного обучения (ML) [1], которое предоставляет мощные методы обработки, анализа и извлечения полезной информации из текстовых данных. ML может преобразовывать неструктурированный текст в структурированную информацию, используя методы обработки естественного языка (NLP) [2]. Это способствует более глубокому пониманию и более эффективному принятию решений в различных сферах.

Обзор темы

Контролируемое и неконтролируемое обучение – это две основные категории, на которые делятся модели машинного обучения, применяемые к текстовым данным. Задачи категоризации текста и анализа настроений выполняются с помощью контролируемого обучения, в котором используются такие методы, как нейронные сети [3], метод опорных векторов (SVM) и наивный байесовский анализ. Методы обучения без учителя, которые выявляют скрытые закономерности и темы в текстовых данных, включают кластеризацию и тематическое моделирование (например, скрытое распределение Дирихле). Благодаря улавливанию сложных лингвистических паттернов и контекстуальной информации модели глубокого обучения, особенно основанные на рекуррентных нейронных сетях (RNN) и преобразователях (BERT, GPT), значительно продвинулись вперед в этой области.

Для оценки эффективности этих моделей используются такие показатели, как точность, прецизионность, запоминаемость, показатель F1 и площадь под кривой ROC (AUC-ROC). Эти измерения гарантируют надежность и эффективность моделей при решении целого ряда задач анализа текста.

Актуальность темы

Анализ текстовых данных, основанный на машинном обучении, имеет широкое и значимое применение. Компании могут лучше понимать настроения потребителей, разрабатывать продукты и маркетинговые стратегии, изучая отзывы клиентов, публикации в социальных сетях и ответы на опросы. Автоматизированная оценка документов и идентификация рисков полезны для юридического сектора и сектора соблюдения нормативных требований. Интеллектуальный анализ текста используется в академических исследованиях для поиска закономерностей, пробелов и инноваций в научных статьях.

Кроме того, растущая доступность текстовых данных и их оцифровка подчеркивают необходимость в эффективных и масштабируемых аналитических методах. Машинное обучение, обладающее многими преимуществами по сравнению с методами ручного анализа, предоставляет средства для управления этим потоком данных. Важность этой темы подтверждается растущим спросом на передовые аналитические подходы, основанные на обработке данных, поскольку все больше отраслей начинают понимать ценность текстовой информации.

Предварительная обработка данных

Первым и наиболее важным этапом анализа текстовых данных является предварительная обработка данных. Текст разбивается на более мелкие фрагменты с помощью токенизации, обычно это слова или токены. Например, токенизация превращает фразу "Машинное обучение - это мощный инструмент" в ["Машина", "обучение", "это", "мощный", "инструмент"]. Слова преобразуются в их основные формы; например, "бежать" превращается в "бег". Далее идет лемматизация, изменяя "лучше" на "хороший" в зависимости от контекста. Распространенные, неинформативные слова, такие как "и", "или" и "о", удаляются путем удаления стоп-слова. Нормализация текста устраняет знаки препинания и преобразует весь текст в нижний регистр, гарантируя точность и эффективность алгоритмов обработки текста.

Извлечение признаков

Числовое преобразование текста необходимо для моделей машинного обучения. Текст представлен в виде матрицы количества токенов, или бинарных индикаторов, в парадигме набора слов (BoW). Примерами векторов, указывающих на наличие слов, являются "кошка сидела на коврике" и "кошка спала на коврике". Оценивая термины в соответствии с их значимостью в корпусе, TF-IDF превосходит BoW. Словам, которые часто встречаются во многих документах, придается меньший вес. Встраивание слов, такое как Word2Vec и GloVe, фиксирует семантические связи, создавая плотные векторы, которые представляют слова в многомерном пространстве. Контекст конкретного предложения понимается с помощью продвинутых встроенных программ, таких как BERT и ELMo, которые предлагают контекстно-зависимые представления.

Выбор модели

Задача определяет, какая модель машинного обучения лучше. Методы контролируемого обучения, такие как нейронные сети [4], SVM и наивный байесовский алгоритм, часто используются для классификации текста. Наивный байесовский метод хорошо подходит для анализа настроений и идентификации спама. Текстовые данные с большим количеством измерений отлично подходят для SVM. Сложное распознавание образов является сильной стороной нейронных сетей, особенно сверточных нейронных сетей (CNNs) и рекуррентных

нейронных сетей (RNNs). Для языкового моделирования и машинного перевода идеально подходят сети прогонов и долговременной кратковременной памяти (LSTM), поскольку они могут обрабатывать последовательный ввод. Благодаря пониманию контекста на больших объемах текста и улавливанию сложных лингвистических нюансов, модели на основе transformer, такие как BERT и GPT, произвели революцию в обработке естественного языка (NLP).

Показатели оценки

При оценке моделей машинного обучения используются различные методы. Измеряется общая точность прогноза. Мерой точности является соотношение правильно предсказанных положительных результатов ко всем ожидаемым положительным результатам. Напоминание отображает соотношение фактических положительных результатов к подлинным положительным прогнозам. Коэффициент запоминания и точность сбалансированы в формуле F1. Область AUC-ROC, или площадь под кривой ROC, является комплексным показателем эффективности, который оценивает соотношение между истинно положительными и ложноположительными результатами.

Практическая реализация

Пример 1: Наивный байесовский анализ настроений

1. Сбор данных: Составление набора текстовых обзоров с положительной/отрицательной маркировкой.
2. Предварительная обработка: Нормализация текста, исключение стоп-слов и маркировка.
3. Извлечение признаков: Создание векторов TF-IDF из текста.
4. Модельное обучение: Используя обучающие данные, обучите наивный байесовский классификатор.
5. Оценка: Для оценки производительности в тестовом наборе используйте оценку F1, точность, прецизионность и запоминание.

Пример 2: Использование LDA для тематического моделирования

1. Сбор данных: Соберите значительный объем письменных материалов (например, новостных сюжетов).
2. Предварительная обработка: нормализуйте текст, исключите стоп-слова и выделите символы.
3. Выделение признаков: Для предварительного выделения признаков используйте TF-IDF или BoW.
4. Обучение модели: Используйте LDA для определения тем в текстах.
5. Оценка: Оцените интерпретируемость и согласованность тем.

Вывод

Анализ текста на основе машинного обучения предоставляет эффективные способы делать выводы из неструктурированных данных. Текст подготавливается к анализу с помощью таких методов

предварительной обработки, как удаление стоп-слов, токенизация, стемминг и лемматизация. Встраивание слов, TF-IDF и BoW являются примерами методов выделения признаков, которые преобразуют текст в числовые представления. Надежные инструменты для анализа текста включают в себя обучающие модели с контролем, такие как SVM, нейронные сети и наивный байесовский алгоритм, а также методы без контроля, такие как тематическое моделирование и кластеризация. Трансформеры, в частности, представляют собой продвинутое модели глубокого обучения, которые улучшают понимание сложных лингвистических паттернов. Надежность этих моделей обеспечивается за счет их оценки с использованием таких показателей, как точность, прецизионность, запоминание, F1-оценка и AUC-ROC. По мере развития машинного обучения станут возможными более совершенные и точные методы анализа текста, которые обеспечат существенные преимущества и более глубокое понимание в самых разных областях.

Использованные источники:

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ЗДРАВООХРАНЕНИЕ В ОБЩЕСТВЕ

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*Баратова Р.Ш.
Самаркандский государственный медицинский университет
Шайкулов Х.Ш.
Самаркандский государственный медицинский университет
Узбекистан, г.Самарканд*

КАК НАЦИОНАЛЬНАЯ КУХНЯ МОЖЕТ ПОМОЧЬ ПРИ АНЕМИИ

Аннотация. Проведено наблюдение за 64 пациентами с анемией, преимущественно гастрогенной. Разработана специальная диета, включающая богатые железом и витаминами узбекские блюда (атала, палов, думба и др.), а также дрожжи.

Пациенты хорошо переносили диету и отмечали улучшение самочувствия. Результаты исследования свидетельствуют о высокой эффективности антианемической диеты, основанной на традиционных узбекских блюдах, в лечении различных форм анемии. Такая диета может быть рекомендована в качестве дополнительного метода лечения или профилактики анемии.

Ключевые слова: анемия, диета, узбекская блюда, атала, палов, думба жигар, мастова, ош, гурунч, шурво, манты, кабаб, салат, медь, железо.

*Baratova R.Sh.
Samarkand State Medical University
Shaykulov H.Sh.
Samarkand State Medical University
Uzbekistan, Samarkand*

HOW NATIONAL CUISINE CAN HELP WITH ANEMIA

Abstract. Observation of 64 patients with anemia, mainly gastrogenic, was conducted. A special diet was developed, including Uzbek dishes rich in iron and vitamins (atala, palov, dumba, etc.), as well as yeast.

The patients tolerated the diet well and noted an improvement in their well-being. The results of the study indicate the high efficiency of the antianemic diet based on traditional Uzbek dishes in the treatment of various forms of anemia. Such a diet can be recommended as an additional method of treatment or prevention of anemia.

Keywords: anemia, diet, Uzbek dishes, atala, palov, dumba jigar, mastova, osh, gurunch, shurvo, manti, kabab, salad, copper, iron.

Введение. Диетотерапия является обязательной составной частью лечения большинства заболеваний. Известно, что при малокровии, кроме воздействия на этиологический фактор, нужно вводить вещества с пищей, необходимые для построения кровяных элементов и, в частности, для синтеза молекулы гемоглобина (2-4). Этой цели служит диета, разработанная и апробированная клиникой лечебного питания АМН Республика Узбекистана, содержащая повышенное количество полноценного белка, углеводов с ограничением жира, повышенное содержание витаминов группы В и С, железа и других микроэлементов меди, марганца, кобальта (1,5,7).

Необходимо при составлении антианемической диеты считаться с индивидуальными особенностями больного (6,8), с привычками и традициями местного населения, которое независимо от состояния здоровья охотнее употребляет свои национальные блюда (9-11).

Цель работы: Учитывая малочисленность литературы по узбекским национальным блюдам вообще по применению их в лечебном питании в частности, мы решили провести наблюдения над эффективностью антианемической диеты с включением в нее узбекских национальных блюд.

Материалы и методы. Под нашим наблюдением находились 64 больных анемиями. Большинство больных страдало гастрогенными анемиями, (49 человек), остальные анемиями беременных и постгеморрагическими анемиями.

Антианемическая диета, состоявшая в основном из национальных узбекских блюд, содержала белков 150-160,0 углеводов - 460-500,0, жиров - 60-70, железа - 40 мг, аскорбиновой кислоты - 200 мг, меди – 6 - 7 мг. В состав антианемической диеты входили следующие блюда, атала, туграма палов, думба, жигар, мастова, чуп оши, шир хурда, шир гурунчи, киймо шурво, манты, жигар шавля, угро оши, джгар кабоб, люля кабоб, машхурда, различные салаты, ярма и другие.

Кроме того, в диету включались пивные и пекарские дрожжи, содержащие полноценный белок, витамины группы В и микроэлементы.

Полученные результаты: Применяемые блюда обладали приятным видом, ароматом и вкусом и больные их охотно употребляли.

Под влиянием проведенного лечения самочувствие больных улучшилось, значительно улучшился состав крови, произошли значительно ретикулоцитарные сдвиги: уже на 5 – 7 день лечения количество ретикулоцитов повысилось в пределах от 2 – 3% до 6 – 7%. Количество гемоглобина и эритроцитов значительно увеличилось. Если до начала лечения количество гемоглобина и эритроцитов колебалось соответственно 16-50 ед по Сали и 1150000 – 3200000 эритроцитов в 1 мм³, то после лечения возросло до 50 – 72 ед по Сали и 3580000 – 4950000

эритроцитов в 1 мм^3 , что составляет средний суточный прирост гемоглобина 0,8, эритроцитов 37000.

Изменение показателей крови за период исследование

Показателей крови	Пол наблюдаемых	В начале исследования	В конце исследования
Гемоглобин	Мужчины	110 – 120 г/л	130-140 г/л
	Женщины	90 100 г/л у	120-130 г/л
Эритроциты	Мужчины	$4.2 \times 10^{12}/\text{л}$	$4.7 \times 10^{12}/\text{л}$
	Женщины	$3.9 \times 10^{12}/\text{л}$	$4.3 \times 10^{12}/\text{л}$
СОЭ	Мужчины	2-3 мм/ч	7-8 мм/ч
	Женщины	3-4 мм/ч	9-11 мм/ч
Цветовой показатель	Мужчины	0.75-0.95	0.85-1.05
	Женщины	0.70-0.80	0.75-1.00

Предоставленные данные демонстрируют существенное улучшение основных показателей крови как у мужчин, так и у женщин за период исследования.

Детальный разбор изменений:

Гемоглобин: Наблюдается значительное увеличение уровня гемоглобина у обеих групп. Это свидетельствует об улучшении эритропоэза (процесса образования эритроцитов) и, как следствие, о повышении кислородной емкости крови.

Эритроциты: Количество эритроцитов также увеличилось, что согласуется с повышением уровня гемоглобина. Это указывает на восстановление эритроцитарной массы.

Цветовой показатель: Цветовой показатель, отражающий среднее содержание гемоглобина в одном эритроците, также повысился. Это говорит о том, что эритроциты стали более насыщенными гемоглобином.

Вывод: Полученные данные свидетельствуют об улучшении основных показателей крови.

Все основные показатели крови у мужчин и женщин улучшились к концу исследования. Уровень гемоглобина и количество эритроцитов выросли, что указывает на улучшение состояния крови, возможно, связанное с лечением анемии или улучшением питания и общего состояния здоровья. СОЭ и цветовой показатель остаются в пределах нормы, что свидетельствует о стабилизации состояния здоровья.

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*Баратова Р.Ш.
Самаркандский государственный медицинский университет
Шайкулов Х.Ш.
Самаркандский государственный медицинский университет
Узбекистан, г.Самарканд*

ВЫЖИВАЕМОСТЬ ЭНТЕРОБАКТЕРИЙ И СТАФИЛОКОККОВ В НЕКОТОРЫХ МОЛОЧНЫХ ПРОДУКТАХ ПРИ ХРАНЕНИИ ПРИ РАЗЛИЧНЫХ ТЕМПЕРАТУРНЫХ РЕЖИМАХ

Аннотация. В работе проведено исследование выживаемости сальмонелл, энтеропатогенных штаммов кишечной палочки и стафилококков в твороге при различных температурных условиях. Показано, что исследуемые микроорганизмы сохраняют жизнеспособность в твороге в течение длительного времени. Полученные данные свидетельствуют о высокой эпидемиологической опасности творога при нарушении условий хранения. Результаты исследования могут быть использованы для разработки более эффективных мер по профилактике пищевых инфекций, связанных с употреблением молочных продуктов.

Ключевые слова: сальмонеллы, кишечная палочка, стафилококки, творог, пищевая безопасность, микробиологический анализ.

*Baratova R.Sh.
Samarkand State Medical University
Shaykulov H.Sh.
Samarkand State Medical University
Uzbekistan, Samarkand*

SURVIVAL OF ENTEROBACTERIA AND STAPHYLOCOCCI IN SOME DAIRY PRODUCTS DURING STORAGE AT VARIOUS TEMPERATURE CONDITIONS

Abstract. The work studies the survival rate of salmonella, enteropathogenic strains of E. coli and staphylococci in cottage cheese under various temperature conditions. It is shown that the studied microorganisms remain viable in cottage cheese for a long time. The obtained data indicate a high epidemiological hazard of cottage cheese if storage conditions are violated. The results of the study can be used to develop more effective measures to prevent foodborne infections associated with the consumption of dairy products.

Key words: salmonella, E. coli, staphylococci, cottage cheese, food safety, microbiological analysis.

Введение. Обеспечению качеству и безопасности продукции в Узбекистане и других государствах уделяется большое внимание на государственном уровне, прежде всего пищевым продуктам ежедневного потребления, таким как молоко и кисломолочные продукты [1-3].

Молочные продукты, в том числе творог, занимают значительное место в рационе человека. Однако они могут служить источником пищевых инфекций, вызванных условно-патогенной микрофлорой, такой как сальмонеллы, кишечная палочка и стафилококки [4-7]. Сохранение жизнеспособности этих микроорганизмов в молочных продуктах при нарушении условий хранения представляет серьезную угрозу для здоровья потребителей [8-11].

Ранее проведенные исследования показали, что выживаемость патогенных микроорганизмов в молочных продуктах зависит от различных факторов [12], включая вид микроорганизма, тип продукта, температуру и длительность хранения. Однако данные о динамике выживаемости сальмонелл, кишечной палочки и стафилококков в твороге при различных температурных режимах остаются недостаточно изученными [9-11].

Цель работы. Изучение на основании микробиологических исследований сохраняемости сальмонелл, кишечной палочки и стафилококков в твороге при хранении его в комнатных условиях (при температуре 20—24°C) и в холодильнике при температуре +3°C.)

Материалы и методы. Для опыта были взяты культуры сальмонелл: *S. enteritidis* gartneri, *S. typhi* murium; кишечной палочки энтеропатогенных серотипов - *Escherichia coli* O9, O26 и O111 и стафилококков, образующих золотисто-желтый (*Staphylococcus aureus*), лимонно-желтый (*Staphylococcus saprophyticus*) и белый (*Staphylococcus epidermidis*) пигменты.

Определение сроков выживаемости культур в твороге через различные сроки времени устанавливали на МПБ, МПА, и изучали морфологические и серологические свойства со специфическими сыворотками.

Результаты проведенных исследований представлены в таблицах 1 и 2.

Таблица 1

**Выживаемость микроорганизмов в твороге, хранившемся при
комнатных условиях**

Условия хранения, температура	Культуры микроорганизмов, взятых для исследования	Дни исследования					
		2-й	3-й	4-й	5-й	6-й	7-й
Комнатные 20—24°C	<i>S. Enteritidis gartneri</i>	+	+	+	+	—	—
	<i>S. typhimurium</i>	+	+	+	—	—	—
	Серотипы кишечные палочки:						
	<i>E. coli</i> O9	+	+	+	+	—	—
	<i>E. coli</i> O26	+	+	+	+	—	—
	<i>E. coli</i> O111	+	+	+	+	—	—
	Стафилококки:						
	<i>Staphylococcus aureus</i>	+	+	+	—	—	—
	<i>Staphylococcus epidermidis</i>	+	+	—	—	—	—
	<i>Staphylococcus saprophyticus</i>	+	+	—	+	—	—

Условные обозначения: + - микроорганизмы обнаружены; — - микроорганизмы не обнаружены

Как видно из таблицы 1, в твороге, хранившемся при комнатных условиях, сальмонеллы сохранялись 4—5 дней (особенно *S. enteritidis gartneri*), энтеропатогенные серотипы кишечной палочки—5—6 дней (особенно O26), а стафилококки—3—5 дней (особенно *Staphylococcus epidermidis*).

Дальнейшие исследования не проводились, т. к. творог органолептический изменился и к употреблению в пищу стал непригодным.

Как видно из таблицы 2, в твороге, хранившемся в холодильнике, сальмонеллы сохранялись 6—7 дней (особенно *S. typhi murium*), энтеропатогенные серотипы кишечной палочки -7—8 дней (особенно *E. coli* O26 и *E. coli* O111) и стафилококки — 6—8 дней (особенно *Staphylococcus aureus*).

Таблица 2

**Выживаемость микроорганизмов в твороге, хранившемся в
холодильнике**

Условия хранения, температура	Культуры микроорганизмов, взятых для исследования	Дни исследования							
		2-й	3-й	4-й	5-й	6-й	7-й	8-й	9-й
Холодильник (+3°C)	<i>S. Enteritidis Gartneri</i>	—	+	+	+	+	—	—	—
	<i>S. typhimurium</i>	—	+	+	+	+	+	—	—
	Серотипы кишечные палочки:								
	<i>E. coli</i> O9	—	+	+	+	+	+	—	—
	<i>E. coli</i> O26	—	+	+	+	+	+	—	—
	<i>E. coli</i> O111	—	+	+	+	+	—	—	—

	Стафилококки:								
	<i>Staphylococcus aureus</i>	—	+	+	+	+	—	—	—
	<i>Staphylococcus epidermidis</i>	—	+	+	+	+	—	—	—
	<i>Staphylococcus saprophyticus</i>	—	+	+	+	+	—	—	—

Условные обозначения те же, что и в таблице 1.

Выводы. Таким образом, в твороге, хранившемся в обычных условиях (комнатных и в холодильнике), сальмонеллы, кишечные палочки и стафилококки выживают продолжительное время. При обнаружении выше перечисленных микроорганизмов в твороге продукт считается непригодным к употреблению. Очевидно, можно использовать эти продукты после соответствующей термической обработки, но при этом органолептические свойства творога изменяются.

Полученные результаты позволяют оценить санитарно-микробиологическую безопасность творога при нарушении условий хранения и разработать рекомендации по его хранению и реализации.

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*Баратова Р.Ш.
Самаркандский государственный медицинский университет
Шайкулов Х.Ш.
Самаркандский государственный медицинский университет
Узбекистан, г.Самарканд*

ОПРЕДЕЛЕНИЕ СОДЕРЖАНИЯ МЕДИ И ЖЕЛЕЗА В АНТИАНЕМИЧЕСКОЙ ДИЕТЕ, СОСТАВЛЕННОЙ НА ОСНОВЕ ТРАДИЦИОННЫХ УЗБЕКСКИХ БЛЮД

Аннотация. В исследовании проведена оценка микроэлементного состава диеты, разработанной на основе традиционных узбекских блюд, для пациентов с анемией. Целью работы являлось определение содержания меди и железа в рационе и оценка его эффективности в лечении различных форм анемии.

Методом атомно-абсорбционной спектроскопии проведен анализ содержания меди и железа в различных узбекских блюдах, входящих в антианемическую диету. Результаты исследования показали, что разработанная диета отличается высоким содержанием железа (40 мг) и меди (6-7 мг), что связано с включением в рацион большого количества печени, богатой этими микроэлементами.

Ключевые слова: анемия, узбекская кухня, микроэлементы, медь, железо, атомно-абсорбционная спектроскопия, диетотерапия.

*Baratova R.Sh.
Samarkand State Medical University
Shaykulov H.Sh.
Samarkand State Medical University
Uzbekistan, Samarkand*

DETERMINATION OF COPPER AND IRON CONTENT IN ANTI- ANEMIC DIET BASED ON TRADITIONAL UZBEK DISHES

Abstract. The study assessed the microelement composition of a diet developed on the basis of traditional Uzbek dishes for patients with anemia. The aim of the work was to determine the content of copper and iron in the diet and evaluate its effectiveness in the treatment of various forms of anemia.

The method of atomic absorption spectroscopy was used to analyze the content of copper and iron in various Uzbek dishes included in the antianemic diet. The results of the study showed that the developed diet is characterized by a high content of iron (40 mg) and copper (6-7 mg), which is associated with the inclusion of a large amount of liver in the diet, rich in these microelements.

Key words: anemia, Uzbek cuisine, microelements, copper, iron, atomic absorption spectroscopy, diet therapy.

Введение. В настоящее время накоплен большой экспериментальный и клинический материал, с несомненностью доказывающий огромное значение микроэлементов в нормализации обменных процессов при многих заболеваниях. В связи с этим соли микроэлементов стали с успехом широко применяться в комплексном лечении гипертонической болезни (7-11), различных форм малокровия (3-6), глаукомы (1-2), облитерирующего эндартериита.

Актуальность дальнейшего выяснения роли микроэлементов в лечебном питании не вызывает сомнений. В литературе имеются немногочисленные данные о содержании микроэлементов в диетических рационах лечебных учреждений (12). Так как мы в течение ряда лет занимаемся изучением эффективности антианемической диеты, состоящей из узбекских национальных блюд, то возникла необходимость изучения содержания меди и железа в предлагаемой нами диете, а также содержания их в отдельных национальных блюдах, входящих в эту диету.

Цель работы: Анализ микроэлементного состава (медь, железо) диеты при анемии, основанной на узбекской кухне

Материалы и методы. Мы наблюдали 83 пациента с анемиями. Большинство из них (52 человека) имели гастрогенные анемии. Остальные пациенты страдали анемиями беременных или постгеморрагическими анемиями.

Для количественного определения меди и железа в пищевых продуктах был применен метод атомно-абсорбционной спектроскопии (ААС). Суть метода заключается в следующем: проба, содержащая анализируемые элементы, подвергалась атомизации. Образовавшиеся свободные атомы избирательно поглощали излучение определенной длины волны, характерное для каждого элемента. По интенсивности этого поглощения, измеренной с помощью спектрометра, была рассчитана концентрация (мг/100 г или мкг/г) меди и железа в исходном образце блюда.

Полученные результаты: При исследовании содержания микроэлементов в антианемической диете железа содержалось 40 мг, меди - 6-7 мг. Кроме этого, были исследованы на медь и железо следующие блюда, входящие в антианемическую диету - атала, туграма палов, думба жигар, мастова, чуп оши, шир-хурда, шир гурунчи, кийма шурво, манты, жигар шавля, утро оши, джигар кабаб, леля кабаб, машхурда, ярма, салаты и другие.

Антианемическая диета, основанная на традиционных узбекских блюдах, включала в себя 150-160 г белков, 460-500 г углеводов, 60-70 г жиров, 40 мг железа, 200 мг аскорбиновой кислоты и 6-7 мг меди.

Обращает на себя внимание сравнительно высокое содержание меди и железа в антианемической диете, состоящей из национальных блюд, по сравнению с другими лечебными столами. Последнее связано с включением в диету печени, отличающейся высоким содержанием меди и железа. В 100 граммах прожаренной печени говядины содержался: медь (Cu): приблизительно 12,0 мг, а железо (Fe): около 6,5 мг. Среднее содержание меди и железа в 100 граммах прожаренной печени баранины варьировался в зависимости от условий приготовления и других факторов. Однако, по полученным данным, в 100 г прожаренной печени баранины содержался примерно: медь - около 12-15 мг, железо - около 6-8 мг.

Эти значения немного варьировался в зависимости от условий приготовления и конкретных характеристик мяса. Печень говядины является богатым источником железа и меди, что делает её полезной для поддержания здоровья, особенно в контексте профилактики анемии и улучшения метаболизма. Также с большим содержанием в национальных блюдах огородной зелени и пряностей.

Вывод: Хорошая усвояемость, приятный внешний вид и аромат, более высокое содержание элементов, принимающих непосредственное участие в кроветворении, высокая калорийность национальных блюд, а также то обстоятельство, что больные с удовольствием принимают блюда, соответствующие их традициям и привычкам, создают уверенность в том, что в стационарах республик Средней Азии они найдут самое широкое применение.

Полученные данные свидетельствуют о том, что традиционная узбекская кухня может служить основой для создания эффективной антианемической диеты. Высокое содержание железа и меди в национальных блюдах, а также включение в рацион большого количества овощей, зелени и пряностей, способствует улучшению общего состояния пациентов и повышению эффективности лечения анемии.

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