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IMPROVING THE AUDIT OF LIABILITIES

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ABSTRACT

In this article, the main problems of auditors in auditing practice with liabilities and ways to improve them, which will help to minimize errors in financial statements of business entities. The organization is not the last place in the accounting process in terms of volume and the importance of accounting procedures is occupied by accounting and auditing for liabilities. At the current stage of the development of economic relations, uncontrolled growth of liabilities, especially current liabilities, can threaten the enterprise with loss of financial stability and solvency.

Keywords: auditor, analytical procedures, errors and irregularities, liabilities, accounting, accounting registers, arithmetic errors, accounts receivable.

INTRODUCTION. Business entities are faced with such questions as justifying the appearance of debts, not allowing to delay the payment period or make the debt hopeless, and accurately and reliably reflect it in accounting and reports. In the modern conditions of development of business entities, it is necessary to carry out non-governmental control over the activities of enterprises, namely, the organization and maintenance of accounting activities, the accuracy of tax records, legal assistance and other services. The task of performing the above describes the audit activity or audit. Auditing is the conduct of independent audits to express an opinion on the reliability of financial statements [1,2].

EXPERIMENTAL METHODS. Economic analysis and statistical methods,

such as analysis of research conducted by the world's leading foreign and domestic scientists, grouping by subject, monographic observation, are used to reflect the recognition auditing of liabilities and to improve their assessment.

RESULTS AND DISCUSSION. In the event of a pandemic, a compulsory audit of a company in crisis should be conducted to determine the status of the company's accounts. The functions of the audit of accounting transactions with suppliers and contractors include [3]:

- check the legality of accounts payable and their timely repayment;
- verification of the correct organization of accounting with suppliers and contractors;
- study the reasons for unclaimed debt;
- to check the correctness of the measures taken by the management of the enterprise and the methods of reduction in order to reduce the obligations [4].

An audit is effective if it is organized wisely. For this purpose, there is a standard program for the audit of accounts payable, which can be adjusted depending on the goals and objectives of the audit, the scope of activities of the audited organization and other factors. The recommendations set out audit methods and procedures to determine the accuracy and reliability of the reporting information between the entity and its counterparties [5,6].

One of the main tasks of the auditor is to obtain sufficient evidence to give an opinion on whether the audited financial statements are prepared in accordance with generally accepted practices and principles and that there are no deficiencies or inaccuracies.

However, there is always a risk that deficiencies will not be identified: Audit risk is the amount of material misstatement that a subjectively determined auditor may receive in a financial statement that has not been identified after the audit has been verified. is likely to be recognized.

Thus, the notion of materiality is the primary and primary source for

determining the amount of error that can be made by the auditor and the scope of the audit, as well as for determining the form of the audit opinion (positive or negative). During the audit, the following violations may be identified during the implementation of analytical activities.The following list of audits should be used during a mandatory audit (table 1) [4].

Table 1

Classification of errors and irregularities identified in the audit of liabilities

№	Name of possible errors and irregularities	Name of analytical procedures
1.	Establishment of primary accounting	Checking the reliability (accuracy and completeness) of the documents on the receipt of inventories and the receipt of work and services
2.	Arithmetic errors in the accounting of business transactions (in the measurement of quantity, weight, volume, etc.)	Checking the timely registration of documents on the receipt of raw materials and services
3.	Failure to provide timely information on business transactions.	Checking the legality of the primary accounting documents on the occurrence of transactions for the accounting of liabilities
4.	Failure to reflect the data on business transactions in the prescribed form	Checking the legality of the primary accounting documents on the occurrence of transactions for the accounting of liabilities
5.	Lack of required details in legally binding documents	Checking the legality of the primary accounting documents on the occurrence of transactions for the accounting of liabilities
6.	Irregularities in the registration of primary documents (completion of documents, long-term storage of unconfirmed documents)	Checking the legality of the primary accounting documents on the occurrence of transactions for the accounting of liabilities
7.	Lack of document flow schedule	Checking compliance with the document flow schedule
8.	Errors in the presentation of documents (differences in the amount and quality of the transfer from document to document)	Checking the completeness and accuracy of the registration of accounting registers
9.	Failure to reflect documents in the	Checking the completeness and

	accounting registers in a timely manner (or the lack of information in the primary documents in the accounting registers)	accuracy of the registration of accounting registers
10.	Irregularities in the archiving of documents	Organizing the storage of documents and checking the organization of access to primary accounting documents
11.	Destruction of documents without a certificate of destruction of documents	Organizing the storage of documents and checking the organization of access to primary accounting documents
12.	Repayment of the debt of one counterparty with advances given to another counterparty	Checking the validity of accounts payable
13.	Not to write off overdue debts on time	Checking the validity of accounts payable Verification of accounts receivable (issued) and accounts receivable on commercial loans
14.	Refund of VAT on unpaid deliveries	Delivery without invoice checking of invoices on delivery
15.	No adjustments have been made to inventories that have been written off as incurred, documented and incurred costs that are inconsistent with previously recorded figures	Delivery without invoice checking of invoices on delivery
16.	Refund of VAT for delivery of own bills issued by the company	Verification of accounts receivable (issued) and accounts receivable on commercial loans
17.	Failure to file claims by a large number of suppliers in a timely manner	Verification of accounts receivable (issued) and accounts receivable on commercial loans
18.	Arithmetic errors in calculating differences in exchange rates	Checking the exchange rate and amount differences
19.	If there are provisions for doubtful debts, write them off through other income and expense accounts.	Checking the correctness of the write-off of receivables from other expenses or from the account of doubtful debt reserves.
20.	Incorrect recognition of debt and write-off of it through doubtful debt reserves or other expense accounts.	Checking the correctness of the write-off of receivables from other expenses or from the account of doubtful debt reserves.

One of the ways to draw conclusions about the reliability of accounting information about liabilities in enterprises is to conduct a test in accordance with the objectives of the audit. The following system of tests and questions should be used when checking accounts with debtors and creditors [7,8].

Current legal requirements in the field of accounting and auditing were taken into account in developing the procedure for audits. The purpose of a compulsory audit is to provide a reasonable opinion and clarification on the reliability and completeness of the information on accounts payable reflected in the financial statements of the enterprise [9,10].

Due to the need to assess the risk of providing substandard information during the audit, the methodological recommendations provide for the procedure for assessing the internal control system, which should be taken into account during the compulsory audit. The audit shows the main principles of documenting the audit of the obligations of the enterprise in accordance with the requirements of the Republic of Uzbekistan and international standards for the preparation of working papers and reports.

CONCLUSION. Thus, the audit allows us to conclude that the amounts in the accounts are objective. The methods of obtaining evidence are based on analytical data obtained through accounting in the framework of accounting and analytical procedures. An effective system of accounting, analysis and auditing provides a reliable and timely database necessary for the management of financial and economic activities of the enterprise, as well as for the development of its development strategy. Thus, analytical data can be used for operational, tactical and strategic purposes. It is economical to combine functional systems into a single accounting and analytical system. is important in terms of enhancing data interactions. In a market economy, with the activities of enterprises of various forms of ownership, there is a need to create accounting and analytical information structures in accordance with the functions of management.

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FEATURES OF ACCOUNTING RESERVE CAPITAL

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ABSTRACT

Equity capital is of great importance in ensuring the financial stability of commercial organizations. In particular, reserve and retained earnings, which are a component of equity capital , reflect the result of the company's financial and economic activities. The growth of equity capital indicates the efficiency of the company. Of course, in this case, the interests of the company's shareholders and creditors will be protected by their correct accounting. The article describes the features of accounting for reserve capital and retained earnings based on national legislation and international standards.

Key words : equity capital, reserve capital, revaluation adjustments of long-term assets, assets received for free, retained earnings.

INTRODUCTION. In the conditions of modernization of the economy, as the importance of financial resources, the production potential of the company, as well as the fulfillment of the tasks of financing the activities of the company. The financial stability of the company depends on the funds that are the result of its activity, the appropriateness of their structure, and the formation of fixed and circulating funds in accordance with the purpose. Also, reliable accounting information is an important factor in ensuring investment attractiveness and attracting investors. The purpose of accounting is to present financial statements prepared on the basis of reliable accounting information to investors, creditors and other interested parties. Assets, liabilities, equity, income, expenses, profits and losses of a business entity are

considered important indicators for investors. In particular, among these indicators, equity capital and its elements are also important. In this article, the author describes the components of equity capital, added capital, reserve capital and retained earnings, features of the account.

LITERATURE REVIEW. Avlokulov A. asserts that capital, profit, income, cost, tax and turnover indicators reflect the overall financial profile and play a central role in strategic management and decision-making. In a wider horizon, financial indicators are classified as liquidity, operational, profitability, debt and market indicators. However, the overall profitability indicator has already become out of interest, as it cannot provide the real scene of the company's financial position. Shareholders' focus mainly concentrated on the indicators how the company is working for covering their investments [3].

Papanastasopoulos, G., Thomakos, D. and Wang, T. notes that investors act as if the components of retained earnings (current operating accruals, non-current operating accruals and retained cash flows) have similar implications for future profitability, leading to an overvaluation of their differential persistence. It also appears that while they cannot distinguish between the distinct properties of distributed earnings, they correctly anticipate the persistence of net cash distributions to debt holders (net debt repayment) but underestimate the persistence of net cash distributions to equity holders (dividends minus net stock issues). Overall, the findings of the paper suggest that the accrual anomaly documented in the accounting literature and the anomaly on net stock issues documented in the finance literature could be a subset of a larger anomaly on retained earnings [4].

Kevin Keasey, Paul B. McGuinness note that a positive association between the fraction of equity retained by pre-listing owners and earnings growth. However, this association weakens somewhat beyond the first two accounting year-ends post-listing. Significantly, earnings appreciation appears markedly weaker for issuers going to market with a secondary offer component within their overall IPO [5].

Scientists have noted that equity capital components have a positive effect on the continuity of activities, the level of investment attraction and the growth of the company's stock prices. For this purpose, the correct formation of financial information on the account of equity capital is an urgent issue [7,8].

ANALYSIS AND RESULTS. According to the Law «On Accounting», the equity capital consists of authorized capital, added capital, reserve capital and retained earnings (Fig. 1).

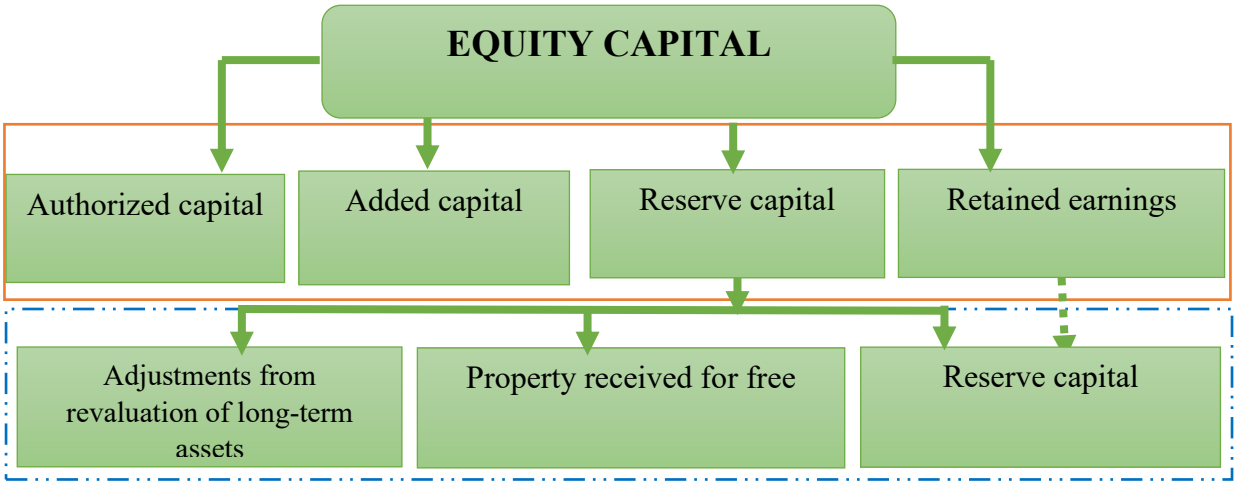

Figure 1. Structure of equity capital[1]

If we look at this picture, the structure of equity capital consists of authorized capital, Added capital and retained earnings, as well as reserve capital. Added capital is generated from income or exchange rate difference when the authorized capital is initially formed.

Reserve capital is formed from adjustments from revaluation of long-term assets, reserve capital and the value of property received for free [11].

According to the international standards of financial reporting, the accounting of equity capital and its reflection in the financial statements are different compared to the national accounting standards. According to international standards, it includes

[1] Made by author

reserves that represent a distributable portion of net profit and an adjustment to maintain capital. To these, when the reserve is allocated from the net profit, the net profit accounting account is debited, and the reserve account is credited, we can cite as an example operations that provide for the transfer of a certain amount of the adjustment amount resulting from the revaluation of fixed assets to the reserves representing the adjustment to maintain capital to the net profit at the end of the reporting period [10].

In accordance with the international standard, according to the concept of capital preservation, if the business entity has the same amount of capital at the end of the reporting period as at the beginning of the reporting period, it ensures the preservation of its capital. Any amount in excess of the amount necessary to maintain the capital at the level of the state at the beginning of the reporting period is considered a profit for the business entity, that is, in this case, the entity is considered to have effectively organized financial and economic activities.

Reserve capital is formed in accordance with the requirements of legal documents or founding documents. In accordance with the Law «On Protection of Joint-Stock Companies and Shareholders' Rights» , a reserve fund is established in the amount of not less than fifteen percent of the authorized capital of the company, provided for in the charter of the company. The company's reserve fund is formed through annual mandatory deductions from the net profit until it reaches the amount specified in the company's charter [1]. Also, according to this law, the company is given the right to form other funds. According to the Law «On Limited Liability and Additional Liability Companies», the company may create a reserve fund in the amount provided for in its charter, but not less than fifteen percent of its charter fund (charter capital) [2]. The reserve fund of the company is formed by making deductions from the net profit every year until it reaches the amount specified in the charter of the company.

Thus, the formation of a reserve fund is mandatory for joint-stock companies, and optional for limited liability companies. The purpose of creating funds specified

in the charter is to reduce risks, stabilize the activity of the business entity, and protect the interests of owners and creditors. The use of reserve capital is used only for the purposes specified in the legislation and the charter, i.e. compensation for company losses, cancellation of corporate bonds of the company, payment of dividends on preferred shares and repurchase of the company's shares. Its use for other purposes is limited by law [6,9].

In the international standards of financial reporting, property received for free is not included in the capital structure. According to them, the free property can be given under certain conditions, and its accounting is regulated on the basis of the National Accounting Standard No. 20 entitled «Accounting for State Grants and Disclosure of Information on State Assistance». In our national standards, property received for free is not recognized as income for accounting purposes. In our opinion, we think that it is necessary to remove the free property from the capital structure, aligning our national accounting system with the requirements of international standards.

In practice, the only source of reserve capital formation in business entities is deductions from net profit. 8500-»Reserve capital» accounting accounts are used to account for operations with reserve capital . The accounting entry for the formation of reserve capital is recorded after the annual general meeting of shareholders (participants) and on the basis of the minutes of the meeting or an extract from the minutes drawn up in the established order. However, the minutes of the meeting alone are not sufficient to record the accounting entry. Because it does not contain the requisites of initial accounting documents that are the basis for recording accounting records. In accordance with the Law «On Accounting», the initial accounting documents must contain the following mandatory details (Fig.):

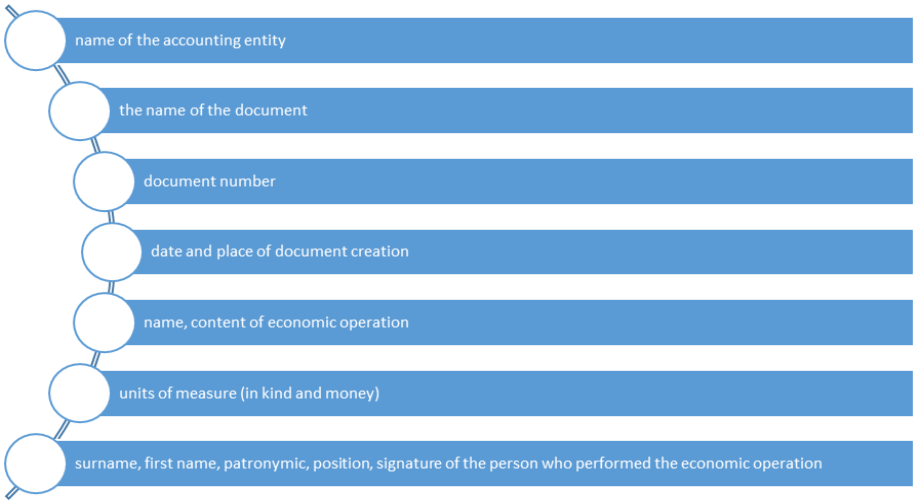

Figure 2. Mandatory requisites of initial account documents

In order to fulfill the requirements established by the law, an accounting reference is prepared, which is considered an initial document, based on the minutes of the general annual meeting of shareholders, and on the basis of this document, the allocation from the net profit to the account of the reserve capital is credited to the account 8520- «Reserve capital (fund)» and 8710-»Retained earnings of the reporting period (unrecovered loss))» account is recorded with an accounting entry.

The use of reserve capital is under the authority of the supervisory board of the company. When reserve capital is used to compensate for company losses, we debit account 8710-«Retained profit of the reporting period (unreimbursed loss)» and credit account 8520- «Reserve capital (fund)». If the amount of the damage is greater than the amount of the reserve capital, then the authorized body of the company must determine from what sources the remaining part of the damage will be covered. In this case, damages can be compensated from the accumulated profit of the company or from another item of equity capital provided by the legislation.

It should be noted that the organization of the analytical account of reserve capital in company is of great importance. In our opinion, companies should separately reflect the composition of accounts that allow analytical accounting of reserve capital in the accounting policy (Fig. 3).

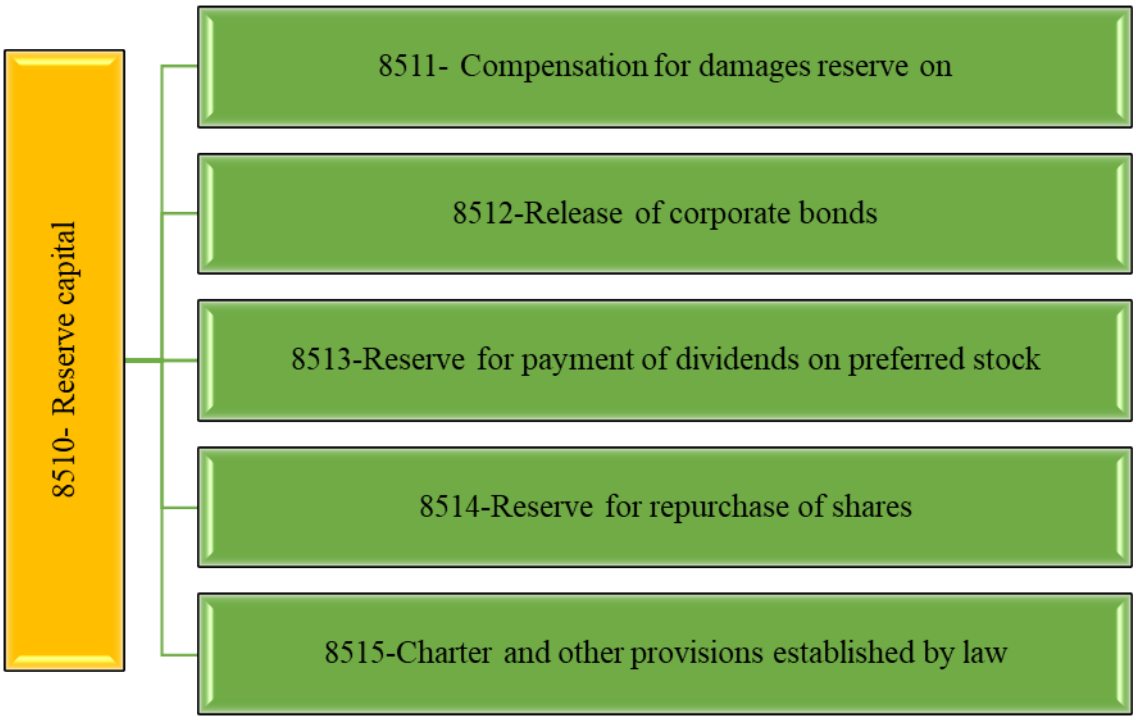

Figure 3. Plan of working accounts for organization of analytical accounting of reserve capital in joint-stock companies

In our opinion, the use of this working chart allows for the correct and reliable formation of accounting information, that is, confirmation that the reserves are used for the specified purposes in accordance with the law.

Information on reserve capital is reflected in line 430 of the balance sheet of Form 1 of the financial reporting forms at the beginning of the reporting period and at the end of the reporting period. In this line, the inflation reserves formed during the revaluation of long-term assets, the reserve formed at the expense of deductions from the net profit, and the value of property received for free are recorded in summary. Also, in this line, in accordance with the «Rules for filling out financial reporting forms», the amounts of tax credits for the payment of customs duties, budget taxes and mandatory payments are reflected, provided that the funds freed up as a result of exemption from taxation are directed to the performance of targeted tasks in accordance with the procedure established by law. In this case, when the funds freed from tax benefits are directed to the purchase of fixed assets, intangible assets, tangible assets, repayment of loans and debts, reconstruction and modernization of

fixed assets, account 8840-«Targeted tax benefits» is debited and account 8530 «Property obtained for free» is credited. .

Retained earnings play an important role in equity. The company determines its financial results by comparing income and expenses for the reporting period . If the income exceeds expenses, it means that the company ended the accounting period with a profit, if the income is less than the expenses, it means that the accounting period ended with a loss. For accounting purposes, retained earnings is an indicator that is determined as a positive financial result at the end of the year by comparing the income and expenses incurred during the year. Retained earnings also include the accumulated net profit of previous years left over from payments made by the company for indemnification and other purposes. The word «retained earnings», which is an important item of accounting, refers to the fact that the company has not distributed profits to shareholders as dividends.

CONCLUSION. Taking into account the introduction of international financial reporting standards, it is necessary to revise the composition of reserve capital, which is a equity capital component. In particular, in our opinion, it is appropriate to remove the line of property obtained for free from the composition of equity capital and reflect it in the composition of liabilities. Because in accordance with the international financial reporting standards, it is noted that the property is transferred to the company under certain conditions, and it is required to be separately reflected in the liabilities.

It should be noted that the aim of using the reserve capital are clearly defined in the legislation. In this case, a separate worker in the accounting policy of the company for the purposes of compensation for losses, withdrawal of the company's corporate bonds from circulation, payment of dividends on preferred shares and repurchase of the company's shares for the purposes of correct formation of the analytical account according to the scheme 8510-«Reserve capital» intended for keeping the account of the reserve capital By approving the chart of accounts, the

appropriateness and reliable reflection of financial information is ensured.

We believe that the company should determine the amount of retained earnings and allocations from it to reserve capital at the end of the reporting year in its charter and analyze their dynamic changes in the structure of equity capital . Through the analysis, control of the provision of the concept of preservation of equity capital is carried out, that is, the difference between the amount of equity capital at the end of the reporting year and the amount of equity capital at the beginning of the reporting year indicates that the company ended the reporting year with a profit.

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FEATURES OF ACCOUNTING OF FINANCIAL RESULTS

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ABSTARCT

In this article discusses the requirements for the quality of accounting information. The factors influencing the formation of accounting information in the preparation of financial statements have also been clarified. As a result of the study, the directions for improving the quality of accounting information were recommended.

Keywords: accounting, financial reporting, accounting information, financial result, going concern, reliability, comparability of indicators.

INTRODUCTION. The global coronavirus pandemic has led to the deterioration of financial and economic activity and a decrease in economic indicators in most of the companies operating in economic sectors and sectors. This situation requires economical use of existing resources in many companies, strict discipline in daily activities, timely and transparent preparation of accounting information. It is the accounting information that is important for timely elimination of missed opportunities from the management of companies and development of prospective development programs.

It should be noted that accounting information on financial results is useful for both internal and external users only if it is prepared and presented with high quality. Therefore, all interested users should pay attention to the quality of accounting information in making important economic decisions. In improving the quality of accounting information, it is important to identify the factors that affect it and eliminate those that are of negative importance.

LITERATURE REVIEW. The issues of improving the quality of accounting information are given a lot of attention in normative legal documents and works of economists.

In accordance with International Accounting Standards (IAS) No. 1 entitled "Presentation of Financial Statements", it is necessary to provide quality information in financial statements in order for enterprises to achieve their goals in the process of capital management [1].

American economist Bruce Pounder says that the importance of accounting is expressed by the quality of the information it provides [3].

Malaysian economists N. Azar, Z. Zakariya, N. A. Sulaiman agreed on the following definition of the quality of accounting information: for accounting information to be useful, it should have two quality characteristics: acceptable and reliable presentation. Also, characteristics such as comparability, timeliness, comprehensibility determine the quality of information [5].

According to the Jordanian economist Ahmed Adel Jamil Abdalla, the increase in the quality of accounting information allows to make optimal decisions in order to achieve the intended goal [2].

Romanian economist Karamain Adrian-Cosmin stated that the accounting information provided by the entity should have certain quality characteristics and be useful for users [4].

As can be seen from the points mentioned above, many studies have highlighted the requirements for the quality of accounting information. However, research has not paid much attention to the ways of increasing the quality of accounting information.

RESEARCH METHODOLOGY. In the implementation of scientific research, by studying the opinions of economists-scientists on improving the quality of accounting information, expert evaluation, process monitoring, a systematic approach to economic events and processes, comparative analysis with the author's

experiences, conclusions, suggestions and recommendations were given in relevant directions.

ANALYSIS AND RESULTS. It is known that accounting is the basis of information provision in the activity of an economic entity. Its main task is to provide both internal and external users with information about the activities of the business entity and its financial status, which are taken on the basis of management decisions.

The role of the accountant in business entities is determined by providing the management with the necessary information in a timely manner, because the accounting service is one of the leading departments that forms information about the property status and results of the business entity. Information should be not only complete and reliable, but also transparent and of high quality.

The first step in solving problems related to information quality characteristics is to determine the factors that directly affect the quality of accounting information. When we talk about the quality of accounting information, we mean that there are characteristics that make the information useful for achieving the goals faced by the user. By the quality of information we understand the set of objective characteristics of information that justify its suitability for the needs of end users.

There are many and varied characteristics of information. Information and its properties are the object of research of a number of disciplines, each of which studies the most important properties for itself. There are different approaches to the research of qualitative and quantitative aspects of information (probabilistic-statistical, combinatorial, algorithmic, semantic, pragmatic), to study the nature of information as an economic category, and to study the value aspects of its reproduction. From the point of view of accounting, the following properties of information appear as the most important properties: objectivity, completeness, reliability, relevance, openness and relevance.

Factors affecting the quality of accounting information will be considered in detail below.

It is known that the quality of accounting information primarily depends on the methodology of its formation, as well as the level of regulation of basic principles and rules.

Economists generally set the same requirements for the quality of accounting information. Taking into account the problem of hierarchical arrangement of principles, it is necessary to revise the list and content of the basic principles of accounting established at the legislative level. Quality descriptions are intended to provide users with complete, truthful and unbiased information about the financial condition of an economic entity for decision-making. Information must be complete, truthful and impartial. It is these criteria that depend on the level and capabilities of the accountant's professional discussion.

Disclosure of complete and reliable information in the financial report, according to which users can make correct economic decisions, depends on how the economic entities apply the achievements of the existing accounting theory and practice and legal norms, as well as their ability to use professional discussion.

It is not enough to have a strong regulatory framework and modern technologies for modern accounting. In addition to the professionalism of accountants, their ethical position is also important [6,7].

The assessment of the quality of information on financial results begins with the assessment of the sources of its presentation - primary documents, account registers and other types of reports. In order to ensure the accuracy of information, it is necessary to ensure the correctness of the methods of its collection, collection and recording. If the information in the primary documents does not meet the quality specifications, in particular, reliability, relevance and timeliness, then the information received in the future will not fully reflect the financial situation, which will lead to wrong management decisions and will have a negative impact on the future activities of the business entity.

It should be remembered that the level of quality of information depends on the quality of primary, current and final means of information, how to reduce the

difference between the periods of obtaining information and its reflection in accounting documents [8].

This is helped by the rational organization of the account, which should ideally ensure the timeliness, accuracy and quality of the account information. In order to receive information quickly, many business entities have approved a document circulation schedule. However, the quality of information is often reduced by the fact that the standard forms of primary documents are out of date, therefore, in order to avoid such situations, the accountant should follow the changes in the legislation, update the existing forms of primary documents or keep new ones.

Thus, the assessment of the quality of accounting information depends on the process of information preparation itself, the appropriateness of its use and the assessment of the final result. The application of the main qualitative characteristics of accounting information ensures the creation of a financial report that provides reliable information about the financial situation, as well as increases the scope and quality of the application of accounting information in the process of making management decisions [9,10].

However, the presence of all the listed quality characteristics does not always sufficiently ensure the efficiency of information use in an economic entity, because information indicators can be easily changed in the absence of appropriate control.

The main function of accounting regulatory standards and other legal documents is to provide information users with certain guarantees, as a result of which the information user should be sure that the accounting system is not out of his control. Normative legal documents should create certain protection of interests, prevent falsification of reports and other accounting data.

However, no legislation can completely eliminate information insecurity, and we will never see effective long-term solutions to combat accounting fraud, even in the most developed countries of the world. It is for this reason that there is a great need to create a Code of Ethics and ethical requirements for different groups of professionals in a complex system of economic activity. Scientists and practitioners

see the need to create these types of principles in the form of codes of ethics. These codes should not only be promulgated, but should be reinforced in accounting and the level of practical application should be observed [11,12].

The information generated in the accounting system should serve to make rational economic decisions both within the economic entity and by external users. The quality of such information is affected not only by the persons providing the information, but also by the persons checking it (auditors, inspectors), as well as by the direct users.

As for users, it is they who determine the value and quality of information. The most valuable information is useful information. However, despite the fact that the quality of information is considered one of the most important indicators for the consumer, there is a certain conflict between the quality requirements of users and the requirements of information providers to fill with content.

On the one hand, the account information should contain the maximum aspects and necessary comments that interested persons (users) need to know. On the other hand, each user is mainly interested in the reliability of information and the honesty of its provider, but not in its usefulness, that is, in the possibility of achieving the specified goal with the lowest costs [13].

Accordingly, the quality of accounting information is determined by two aspects. The first aspect is determined by the purpose of using accounting information. For example, the same information will have different values for different management purposes. The second aspect is the availability of accounting information to interested parties (especially external users). In particular, interested users who need information about a particular economic entity should have sufficient knowledge to understand, evaluate and use such information. In turn, the information presented to them should be fast, because the value of information may be lost over time.

The table below shows directions for improving the quality of accounting information (Table 1).

Table 1

Directions for improving the quality of accounting information [2]

Factors affecting the quality of accounting information	**Explain the factors**	**Ways to improve the quality of information, taking into account the researched factors**	
		At the legislative level:	At the level of the economic entity:
Level of application of legislation, legal norms and standards	Level of regulation by legislation. Accounting information formation methodology Financial reporting rules. Information requirements. Methods of application of existing legal norms. Access to professional discussion	introduction of additional principles, in particular, the principle of documentation; reduce the areas where professional discussion is applied	clearly defining accounting policy principles; strengthening control by the owners of the economic entity
Process of formation and presentation of information, source of presentation	Information collection system, collection and recording methods. Formation of primary documents. Procedure for preparation and presentation of financial report	introduction of new standard forms of primary documents.	rational organization of the account; ensure the correctness of the methods of collecting, collecting and recording information; shortening the difference between the terms of obtaining information and reflecting it in accounting documents; provide appropriate controls that prevent the

[2] Made by authors.

			possibility of changing the reported indicators
Submission subject	Professional and personal descriptions of the subjects of the provision of information Their level of information about the business entity Knowledge of applicable legislation. Ability to use various legal (civil, administrative, tax, etc.) norms Knowledge and use of information technologies in the accounting system. Ethical norms adopted both at the legislative level and at the level of the economic entity	creating a system for protecting users' interests; prevention of falsification of reports and distortion of other accounting information; creating principles and standards of behavior (code of ethics).	introduction and strengthening of accounting ethics at the scale of the economic entity
Information users (or end consumers)	Influence of users on accounting information. Influence of auditors on the information provided	At this stage, it is not possible to influence the requirements of interested parties.	At the level of the economic entity - ensuring quality control

In conclusion, we found it necessary to mention the following points. The quality of accounting information supply, its completeness, reliability, timeliness and objectivity depends not only on the quality of analytical work, but also on the influence of management on management objects. The high quality of accounting information only ensures the application of full-fledged accounting principles and the consideration of all factors affecting the creation of a quality information system, including an accounting system.

In our opinion, it is necessary to create an information model that allows performing the main functions of management aimed at obtaining maximum profit with minimum risks, based on the creation of accounting information. A systematic

approach allows for the development and adoption of effective management decisions on the formation and distribution of profits while evaluating the results of accounting, analysis, control, audit and other functions of management.

CONCLUSION. 1. One of the main functions of accounting is to provide users with reliable information in a timely manner. Financial information is the most valuable resource for the implementation of the management process in today's business environment, because it is always related to the implementation of all management functions, such as planning, organization and control.

2. Quality presentation of accounting information for external users is one of the important issues. However, ensuring the quality of accounting information depends on several factors. As a result of the conducted research, the factors affecting the quality of accounting information were divided into 4 large groups and the essence of the factors in each group was revealed.

3. In our country, in order to consistently develop the economy and create a favorable investment environment, a lot of attention is paid to the organization of accounting based on international standards, and the improvement of the rules for compiling financial reports. Implementation of these measures serves to increase the quality of accounting information. As a result of the research, proposals were made to improve the quality of accounting information in terms of legislation and economic entities. The introduction of these proposals serves not only to increase the quality of accounting information, but also to bring the accounting system operating in our country closer to international standards.

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FEATURES OF EXTERNAL CONTROL OF ESTIMATING AUDIT QUALITY

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ABSTRACT

In this article discussed the form, criteria and procedures of quality control of the auditor's work during the audit and given recommendations for improvement.

Keywords: audit organization, auditor, international standards on auditing, national standards, normative documents, objectivity, licensing, a form of control, professional level, liabilities, client.

INTRODUCTION. Adapting the accounting data of business entities to the requirements of international standards faces many challenges. To date, the liberalization of the economy and further deepening of reforms in the country will contribute to the successful development of business, the reliability of financial statements of businesses, the need for auditing to provide them with advice, guidance and other practical assistance to improve reporting. The development of auditing depends in many respects on the improvement of theoretical, legal, normative, practical aspects of the organization on a scientific basis. In this regard, a number of positive steps have been taken in recent years to form and develop auditing. It is necessary to pay special attention to the development of the market of audit services in our country, improving the quality of their services in increasing the role of audit organizations in the economy.

LITERATURE REVIEW. The issues of assessing the quality of audit work have been studied by economists. In particular, economist R. According to

Dusmuratov, today there are many problems in assessing and controlling the quality of audits. There is talk of developing the market of audit services in our country, paying special attention to improving the quality of their services in increasing the role of audit organizations in the economy. [1].

According to M. Tulakhodjaeva, Sh. Ilkhomov, K. Ahmadjanov, “Every audit organization should develop and adopt the principles and rules of quality control, as well as their application. This is to ensure that the audit process does not conflict with generally accepted auditing standards. ” [2].

According to B. Hamdamov, “Every audit organization should develop and adopt the principles and rules of quality control, as well as the process of their use. This is necessary to ensure that the audit does not conflict with generally established auditing standards. ” [3].

ANALYSIS AND RESULTS. In the context of modernization of the economy, the strategic decision of foreign investors will largely depend on the reliability of financial statements and the objective assessment given to them. The development of auditing in the Republic of Uzbekistan and abroad shows that users of information have high requirements for auditors. This shows that information risk depends on the professional qualifications of auditors and the quality of its work. An important factor in the quality of auditors’ work is the actual control over the quality of the auditor’s work.

National auditing standards are gradually being developed in our country. In developing national auditing standards, first of all, international standards are used. International Standards on Auditing are developed by the International Committee on Auditing, which has the status of a standing committee within the International Accounting Standards Committee. The committee was established in 1973 by professional accounting bodies from nine countries: Canada, Austria, Germany, France, Japan, Mexico, the Netherlands, the United Kingdom and the United States.

The organization of quality control of the auditor’s work should be based on the standards of auditing. In practice, the International Auditing Standard 220 "Audit

Quality Control in Audit" (ISA-220) is established. According to the definition, "Audit quality control includes a system of organizational measures, methods and processes used to verify compliance with audit standards and other regulations governing auditing in the Republic of Uzbekistan in the conduct of audits and the provision of audit-related services" [4].

The general directions of audit quality control are as follows (Picture 1).

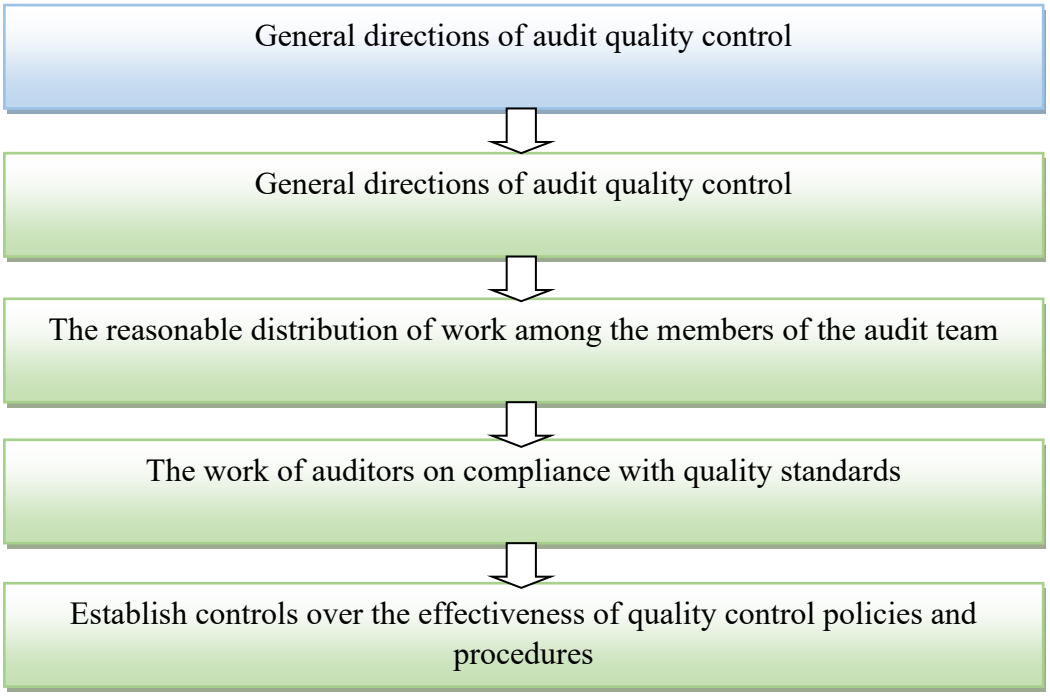

Figure 1. General directions of audit quality control

The high quality of the audit activity should ensure its initial, current and subsequent control. Preliminary control is carried out at the stage of certification and licensing of auditors and audit organizations.

Current control is carried out in two directions: control of individual audits and general control of audit [5].

Areas of organization of quality control of the auditor's work include[6,7]:

- criteria for quality control of the work;
- control directions;
- control forms;
- The main criteria for quality control of the auditor's work are the

provisions of the Law of the Republic of Uzbekistan on Auditing;

- Requirements of the Regulation on licensing of auditing activities;
- Rules of professional ethics; Requirements to the national standards of auditing of the Republic of Uzbekistan; Includes requirements for international standards that meet our national standards;
- Auditor quality control activities include: control of individual audits and general quality control activities.

Supervision of individual audits includes [8,9]:

1. The order of establishment in regulatory documents:

a) The order of establishment in regulatory documents:

b) Ensuring free movement for auditors;

c) Use of written audit software.

2. Tracking:

a) ensuring current control over the work of auditors;

b) knowledge of problematic issues in the accounting of business entities in order to accept impartial action;

3. Inspection:

a) review of all work carried out by auditors to ensure compliance of audits with standards, completeness of documents, achievement of objectives.

General quality control: independence; duty to servants; advice; observation; hiring; professional development; service shifts; customer relations and the duration of work with them, as well as control.

The head of the audit organization must be pre-approved by the head and the auditor for the audit to be performed and to be reflected in the overall audit plan. The head of the audit and the auditor should analyze the professional skills of the audit participants and distribute the work based on the knowledge and skills of each participant [10,11].

The quality control of the auditor's work is organized in three ways.

The first is the principal auditor's control over his assistants:

- The principal auditor should constantly monitor and direct the assistants working in the audit process;
- An assistant is a person who differs from the principal auditor in his or her professional level;
- Unlike the assistant, the principal auditor assumes full responsibility for the audit performed;
- Assistants should be properly instructed in the application of their responsibilities and actions, ie the problems that arise in the audit of business entities, which affect the scope and nature of the audit;

The system of quality control of work of the audit organization should consist of:

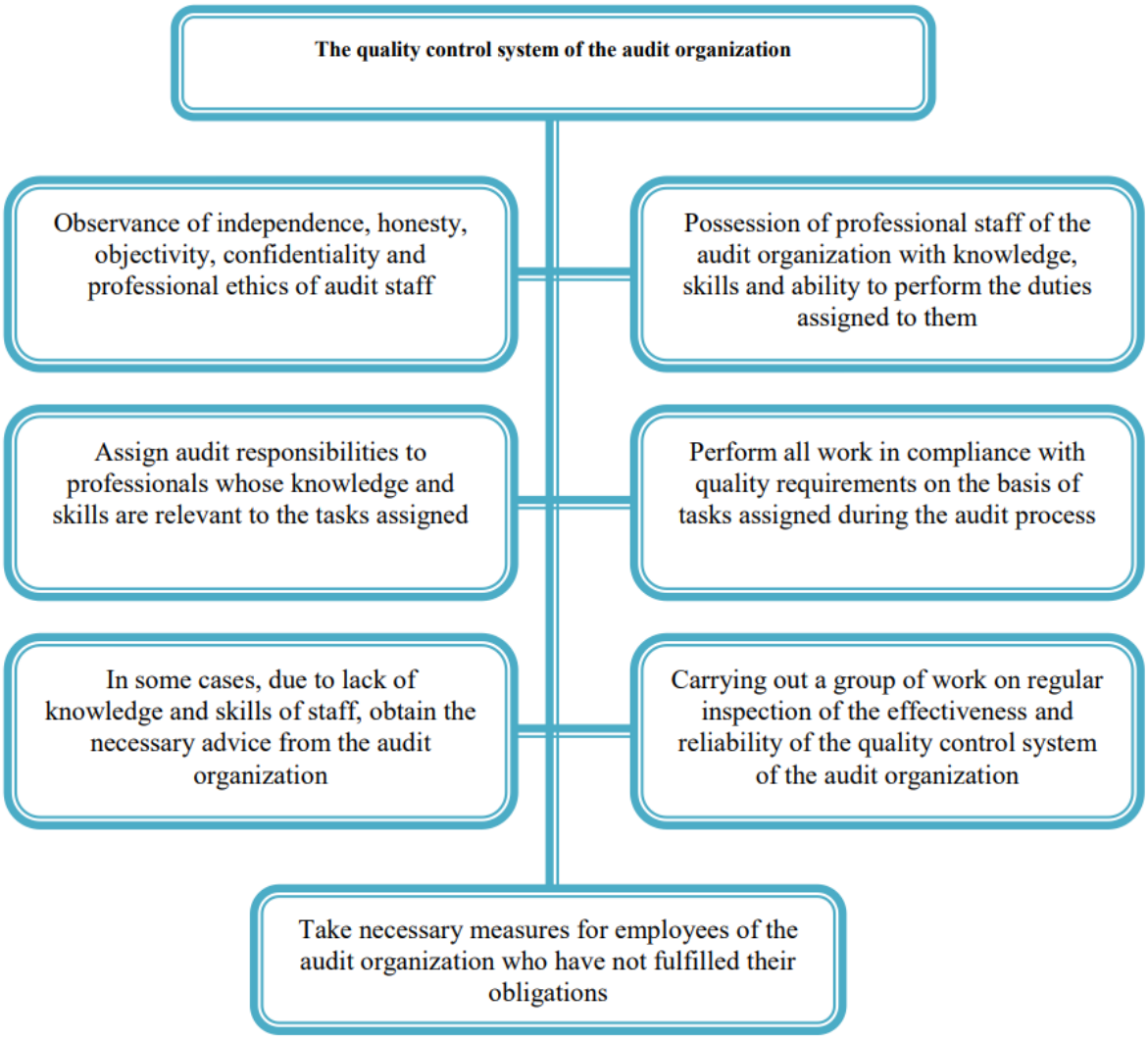

Figure 2. The quality control system of the audit organization[3]

[3] Made by author

Second, the audit organization's control over the auditor's work:

- Reviewing and reviewing the validity of the audit plan and program of the audit conducted for the client;
- Strict adherence to auditing principles (as an auditor, advising the client or restoring his accounting, not directed to him by the audit, etc.);
- Re-verify that the client has re-examined the conclusion issued by the previously audited principal auditor, free of charge.

Third, the establishment of external control. External control is carried out by government agencies, which are carried out on a periodic and mandatory basis in accordance with applicable law and regulations [12].

The object of external quality control of audit work are: internal standards of the audit organization, the system of internal quality control of the audit organization, separate audits. Depending on the objects of quality control of this work can be divided into three main areas of external quality control of audit work:

1) verification of the existence of internal standards of the audit organization and their compliance with the applicable ISA;

2) check the organization and effective functioning of internal quality control in the audit organization;

3) check the quality of separate audits.

1. Internal standards of the audit organization

a) Area of audit quality control;

b) Checking the compliance and availability of existing internal standards.

The following activities will be carried out under the control:

- Checking the existence of internal standards developed and adopted by the audit organization;

- Development of internal standards and verification of compliance with control requirements;

- Analysis of internal standards and verification of compliance with content requirements;

- Verification of compliance with the requirements for the preparation of internal standards;

- Checking the compliance of the organization with the requirements for the organization of internal control, aimed at compliance with the requirements of the internal standard;

- Verification of compliance of adopted and developed internal standards with current regulations and standards;

- The structure of internal audit quality control of the audit organization:

- Direction: control over the organization and effective maintenance of the internal quality control system.

- Scope of control: Checking the effectiveness of the internal control system of the quality of work of the audit organization.

CONCLUSION.

In conclusion, as a result of the scientific article, we make the following recommendations for improving the quality control of audit work:

1. In developing internal auditing standards, it is important to ensure that documents such as the audit program, time spent on the audit and the overall audit plan are interrelated. This connection helps to establish effective control over the quality of the audit. The development of standards requires a lot of money and practical experience. Therefore, these can only be done with the practical assistance of large audit firms with significant scientific potential. In this regard, the professional associations of auditors of the republic should unite the efforts and aspirations of audit organizations.

2. If the head of the audit organization has the right to sign the audit report drawn up on behalf of the audit organization and assumes general responsibility in accordance with the charter of the audit organization, the powers of the head of the audit organization may include:

- Negotiations with a potential client before the conclusion of the contract for

the audit of the audit organization;

- making a decision on the possibility of conducting an audit of the financial statements of a particular business entity, taking into account all the information received during the initial review of information;

- developing a strategy for the audit organization to deal with unusual, problematic situations (for example, if it is clear that the audit opinion may be negative as a result of the initial planning, the feasibility of the audit should be addressed immediately);

- Active participation in the appointment of the head of the audit and the formation of the audit team.

3. It is necessary to support the high qualification of the audit organization's staff. It is advisable to organize qualification examinations for recruits. Examinations (tests on accounting, taxation, finance, auditing and law) take place in several stages. In the first stage, general tests are conducted to determine the candidate's level of knowledge and, accordingly, the number of positions he or she can claim. To evaluate the answers, it is required to set a minimum knowledge limit appropriate for each level.

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APPLICATION OF ANALYTICAL PROCEDURES IN REDUCING AUDIT RISK

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ABSTRACT

The use of international standards in auditing activities leads to an increase in the quality of audit inspections. In order to improve the quality of audits, it is necessary to pay attention to the use of reducing the level of risk in the audit of assets. In this article,proposals for reducing the level of risk in the audit of assets have been developed.

Keywords: audit, audit activity, audit organization, audit conclusion, audit evidence, audit risk, control risk, significance.

INTRODUCTION. Audit risk plays an important role in ensuring the reliability of the audit conclusion of the audit of assets. Audit organizations are interested in reducing audit risk. In carrying out these actions, the assessment of many factors is the main issue before the auditor during the inspection process. Determining acceptable importance and risk levels for such factors and assigning audit actions in accordance with them is effective.

LITERATURE REVIEW. Many opinions have been expressed by economists regarding assets and audit risk. Avlokulov A.Z. says that “fixed assets are an important part of assets. Depending on their amount and condition, the activity of subjects is evaluated. The more efficiently fixed assets are used, the better the return on assets” [1].

According to Levan Sabauri “the audit risk is one of the most complex categories of the audit, which determines the auditor’s opinion regarding the reliability of reporting. The assessment of the auditrisk is one of the mandatory requirements of the International Standards on Auditing”[2].

Another economist came to the following conclusion about audit risk “the concept of risk is considered one of the main indicators in auditing activities, and paying serious attention to it leads to an increase in the quality of audit work” [3].

M.Khayitboyev and F.Ochilov says that “the is necessary to pay attention to the level of risk when conducting audits. Because the level of risk affects the overall plan and program of the audit, as well as the responsibility of the audit organization. Audit risk components include non-separable and undetectable risk, the amount of which will directly affect the final audit risk level” [4].

I.Sherimbetov came to the following conclusion about audit risk “it is important to determine the level of risk in audits. Because the audit risk determines which of the audit conclusions to choose” [5].

According to a group of economists “the audit risk is considered as a unity of these two components: risk assessment - risk during collecting and evaluating audit evidence; and business risk -economic impact of the audit assessment. The auditor always plans sufficient procedures that will minimize the audit risk and maximizes the detection of errors, fraud and other irregularities in the financial statements” [6].

However, insufficient research has been conducted on risk mitigation in asset audits.

ANALYSIS AND RESULTS. Quality preparation of audit reports and conclusions is also important in confirming the reliability of information on assets. Proper assessment of audit risk is important in forming a reliable and unbiased auditor’s opinion on the audit of financial statements. Complexity and complexity of business processes require the auditor to study their activities in depth and reduce audit risk [7].

It is known that two types of audit risk may occur during an audit - business and audit risk. Business risk is the risk that the auditor may suffer losses in the performance of his activities, even if he complies with all the rules of conducting an audit. Business risk depends on the competitiveness of the audit organization, the reputation of the auditors, the possibility of lawsuits that may arise against the audit organization, the accuracy of the organization of the audit and the deadlines.

Audit risk is the risk of expressing an incorrect opinion when conducting an audit of financial statements. The auditor should use professional judgment to assess audit risk and design audit procedures that reduce the risk to a satisfactorily low level. These limitations are inevitable and are considered specific to the audit, affecting the ability of the auditor to detect serious errors in the report, which is why it is considered impossible to equalize this type of risk to zero [7,8].

First, the use of selective methods and tests in the audit process, and the fact that the client's accounting and internal control systems are not perfect, cannot guarantee the complete absence of errors. Also, a significant part of the audit evidence is presented only to confirm a certain conclusion and will not have a perfect character, etc.

Secondly, the abstractness of the environment in which the client joint-stock company operates (especially this applies to the external environment). This abstraction and its impossibility to eliminate in principle occurs due to the following reasons: the auditor's limitations on obtaining complete and reliable information about the entity being audited and the environment in which it operates; auditor's limited ability to receive and process incoming information; random occurrence of unusual events in the course of the audited person's business activity; market conditions in which the audited entity is operating; conflicts in labor relations within the client enterprise; the complexity of the processes under investigation [9,10].

Third, the assessment of the level of audit risk depends on the professional qualifications and competence of the auditor performing this assessment and is based on his professional judgment. The reasons for this are manifested in the fact that all

auditors have different levels of knowledge and skills, skills and experience, and different competences and requirements regarding the level of audit risk. Control risk is the risk that errors that may be serious separately or in combination with other errors are not detected or corrected in time using the company's internal control system. Control risk is influenced by the following factors (Figure 1).

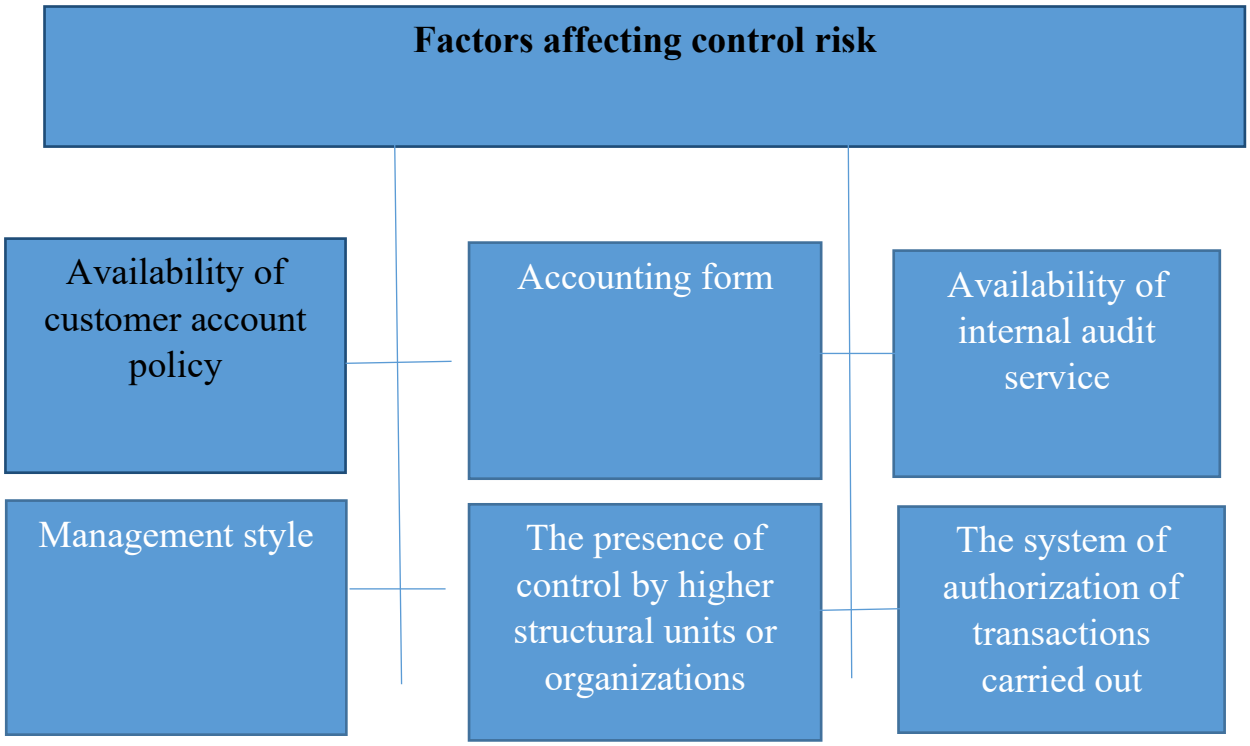

Figure 1. Factors affecting control risk[4]

It is the internal control system that is the limiting factor that prevents financial reporting errors from occurring. During audits, auditors pay particular attention to the assessment of control risk, and the process of assessing the control system itself is often called testing of control systems. In the process of testing (usually conducted in the form of a survey, questionnaire, observation, etc.), the auditor evaluates the ability of this system to prevent, detect, and correct material errors in financial statements.

[4] Made by authors

Thus, in the audit of assets, risk is considered an objectively inevitable phenomenon, and the probability of its occurrence is inversely proportional to the level of audit confidence. However, even if the audit organization takes into account all the above-mentioned limitations and their consequences, in practice, it is impossible to guarantee 100% detection of all material errors in the client's accounting report.

CONCLUSION. 1. The reliability, comprehensibility and sufficient information supply of the auditor's report serves to provide the information necessary for the users of the financial report. To achieve this goal, it is important to refer to advanced foreign experience in the process of understanding the nature of the audit report.

2. Special attention should be paid to the evaluation of the internal control system in the effective organization of the audit of assets. Research shows that if the audited entity has an effective internal control system, the quality of the audit will increase, and at the same time, the audit risk will decrease.

3. Audit activity is business activity, which is always closely related to risk. Audit risk isconsidered the most important category in audit activity, and any audit organization aims to reduce this risk. In this process, the auditor has to evaluate many factors. Such factors include the optimal determination of the level of materiality, the appropriate exercise of the auditor's selection, and the appropriate application of the audit procedures. Based on these factors, the auditor should determine the directions for reducing the audit risk.

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IMPROVEMENT OF THE METHODOLOGY OF AUDIT REPORT

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ABSTRACT

The purpose of this article is the correct application of analytical procedures and transparent preparation of audit reports in solving problems arising in the study of financial statements of economic entities and generalization of verification processes. In addition, suggestions and recommendations were developed to improve the classification of audit evidence according to the level of reliability in the compilation and preparation of audit reports, and the improvement of the use of analytical procedures in the collection and summarization of audit evidence. The process of issuing audit conclusions that increase the level of reliability of financial statements and applying the requirements of international standards of auditing on the structure of these conclusions is explained in the audit.

Keywords: audit report, audit opinion, audit evidence, analytical procedures, international auditing standards, external confirmation, related parties.

INTRODUCTION. In the conditions of modernization of the economy, the scientific and methodological provision of the preparation of audit reports and conclusions as a result of conducting an external audit of the financial statements of economic entities and summarizing the results is gaining special importance. In order to attract foreign investors, business entities are usually required by foreign investors to have their published financial statements audited by an independent auditing organization and to submit them together with an audit report. Therefore, there is a need to use international audit standards to formalize the results of the audit of financial statements in our country and to confirm that they are prepared in

accordance with the relevant international standards of financial reporting. Especially in the period after the global financial and economic crisis, the demand for auditing services and attention to its quality is increasing.

The results of the audits are summarized, the audit report and the final result are formalized with the auditor's conclusion. From this point of view, first of all, there is a need to clarify the concepts of audit report and opinion and distinguish them from each other.

EXPERIMENTAL METHODS. Economic analysis and statistical methods, such as analysis of research conducted by the world's leading foreign and domestic scientists, grouping by subject, monographic observation, are used to reflect the recognition improvement of the methodology of audit report.

RESULTS AND DISCUSSION. In the following years, due to the changes in auditing activities, in addition, in connection with the changes in the international standards of auditing and quality control, these ideas were further developed and their modern interpretations appeared.

In the current modern interpretation, the audit report includes the following elements:

a) name ("Audit opinion" or "Audit organization report": both names have equal rights);

b) the addressee's name;

c) entrance part;

d) recording part;

e) final part;

f) the date of issuing the audit opinion;

g) address of the auditing organization;

k) signature of auditors and the head of the audit organization.

Based on the above concepts, in our opinion, the general concept of the audit opinion should be as follows. The auditor's report is a public document that confirms the compliance of financial reporting indicators or information obtained in

accordance with other requirements of the audit with accounting indicators. The main focus is on the general idea. This audit opinion serves as the basis for publishing the financial report [2].

The issue of gathering audit evidence for issuing an audit opinion and giving an opinion on it is becoming particularly important. Because audit evidence is the accounting data collected by the audit organization during the audit and which substantiates the audit conclusion, balances of analytical accounts, initial documents and summary registers, information collected by another auditor.

The concept of audit evidence refers to the information collected in the course of the audit and the information obtained in addition to the accounting information, the evidence that is the basis for the preparation of the financial report, clear or uncertain, or misinterpretation of the facts, based on which the judgment accepted by the auditor may change, or unclear or incorrect facts. causes the possibility of influence [4].

International Standards on Auditing (ISA) No. 500 "Audit Evidence", No. 501 "Audit Evidence - Special Consideration of Certain Matters", No. 505 "External Evidence", No. 510 "Preliminary Audit Engagements - Opening Balances" ", No. 520 “Analytical Procedures”, No. 530 “Auditor Sampling”, No. 540 “Calculated estimates, including fair value estimates and related disclosures”, No. 550 “Related parties” and No. 580 “ The standards "Information provided by management" are used [3]. In these standards, the auditor must obtain appropriate audit evidence in order to form a reasonable opinion, these indicators serve as the basis for the auditor’s opinion. Audit evidence collected to support financial statements includes source documents, accounting records, and information obtained from other sources.

Currently, in the Republic of Uzbekistan, the International Auditing Standards (IAS) No. 500 "Audit evidence" standard [1] has been adopted, in which it is defined that audit evidence is the information (information) collected by the audit organization during the audit and which substantiates the audit conclusion.

The peculiarity of the international standard of auditing is that specific aspects of gathering audit evidence are revealed in the process of auditing. In this, we can see

that the following concepts and relevant interpretations are given in terms of auditing branches.

Table 1

Analysis of notes on audit evidence[5]

#№	Name of audit evidence	Notes and explanations
1.	Accounting records	Initial accounting transfers (provodkas) and supporting documents, such as payment orders, statements of electronic money transfers, invoices, contracts, general ledger and analytical accounting books, transfers recorded in journals and not reflected in transfers recorded in journals, to the financial statements other adjustments, cost allocation calculations and summary tables, records, data reconciliations and disclosures, etc.
2.	Appropriateness of audit evidence	A measure of the quality of audit evidence, that is, the appropriateness and reliability of the evidence in providing support for the conclusions that form the basis for the auditor's opinion.
3.	Audit evidence	Information used by the auditor in reaching the conclusions that form the basis for the audit opinion. Audit evidence consists of accounting records and other information that form the basis of financial statements.
4.	Adequacy (in terms of audit evidence)	A measure of the amount of audit evidence. The amount of audit evidence required is affected by the auditor's assessment of the risks of material misstatement in the report and the quality of such audit evidence.

The explanations and comments presented above serve to clarify the audit evidence. Accounting information, audit evidence and their adequacy were assessed. These evidences form the basis of the audit.

In our opinion, we can divide them into certain groups according to the level of

[5] Made by author

reliability of audit evidence. In this case, it is important to evaluate the reliability of the audit evidence and the reliability of the source indicators [6,7].

First of all, audit evidence obtained from external sources (such as confirmation obtained from a third party) is more reliable than that obtained from internal sources. If the existing system of accounting and internal control is working effectively, the audit evidence obtained from the accounting documents is reliable.

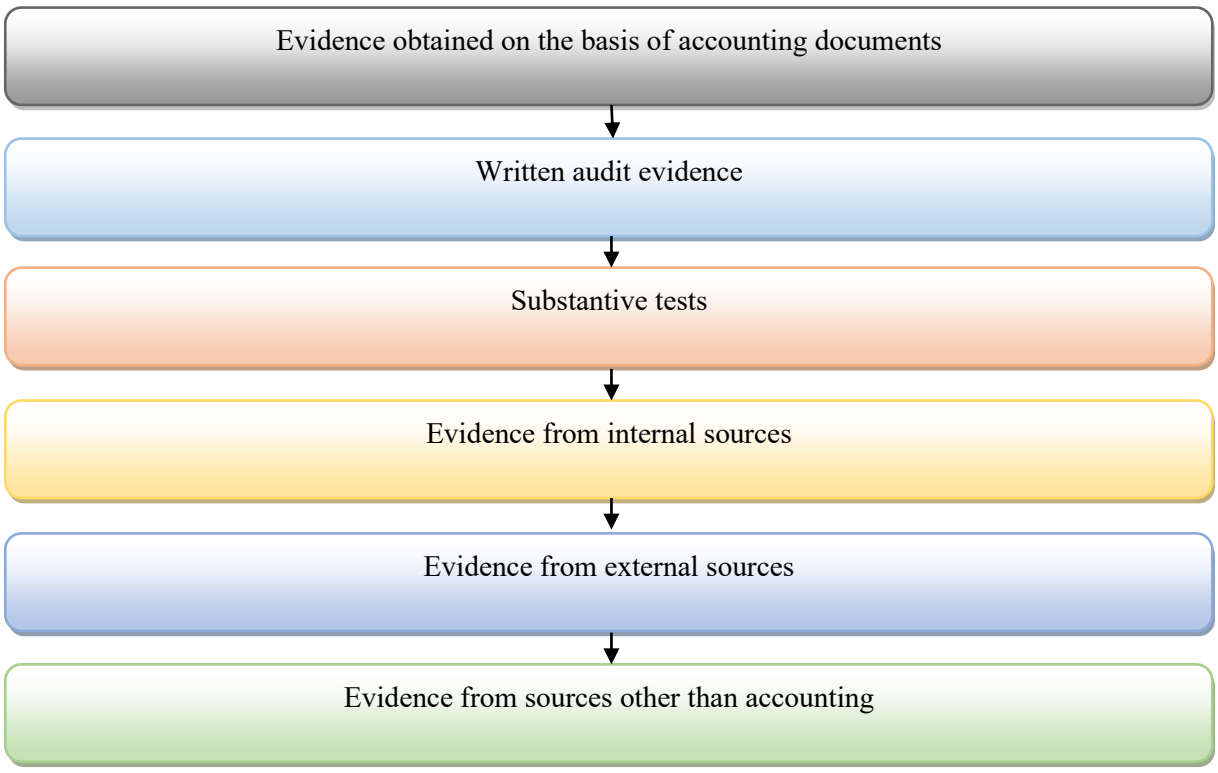

Figure 1. Types of audit evidence[6]

First of all, audit evidence obtained from external sources (such as confirmation obtained from a third party) is more reliable than that obtained from internal sources. If the existing system of accounting and internal control is working effectively, the audit evidence obtained from the accounting documents is reliable. Audit evidence collected directly by the auditor is more reliable than audit evidence obtained from the entity. Written audit evidence is more reliable than oral evidence. Of course, the auditor evaluates the reliability of information obtained from one source by comparing it with information obtained from another source. For example: by

[6] Made by author

comparing the bank statements received from the bank with the turnover balances of the current account, their reliability is assessed.

If audit evidence from a single source is not consistent, or audit evidence from different sources is inconsistent, the audit firm should take steps to obtain additional, definitive evidence. By analyzing the collection of audit evidence, it is necessary to summarize the audit process and pay attention to its reliability [8].

The gathering of audit evidence will largely depend on the level of materiality. Because the higher the level of materiality, the more audit evidence is gathered and the less audit risk can be. International standards of audit and quality control pay special attention to this issue. In this regard, it is recommended to use the following standards: №315 "Determining and evaluating the risks of material misstatements based on knowledge of the business entity and its environment", №320 "Importance in planning and conducting the audit", №330 "Auditor's actions in relation to the assessed risks". "The concept of significance means the highest value of deviation in the indicators in the financial report, from which the qualified user of this report will not be able to draw correct conclusions and make correct decisions based on it." In addition, the concept of audit risk, its components, inherent risk, control risk, the risk of not finding errors and violations in financial statements and their essence are revealed. Because when determining the level of importance, it is necessary to determine the indicators recognized as important in the audit and the methods of their assessment, which seriously affect the accuracy of the financial statements of the joint-stock company.

CONCLUSION. As a result of preparing this article and based on the above considerations, we can make the following final conclusions:

1. In our opinion, the auditor's report consists of detailed information on the planning of the audit process, the creation of its program, the collection of audit evidence, deviations in accounting and their corrections, irregularities in the financial statements, as well as other information obtained as a result of the audit. transferred to the management of the business entity. The result of this report serves as the basis

for the formation of an audit opinion.

2. The general concept of the audit opinion should be as follows. The auditor's report is a public document that confirms the compliance of financial reporting indicators or information obtained in accordance with other requirements of the audit with accounting indicators. According to the contract concluded between the audit organization and the client, the form of the audit report may be different. Including, it can be built in a modified form.

3. For the audit report to be sufficiently based, audit evidence plays an important role. On the basis of the international practical experience of obtaining audit evidence, factors for obtaining evidence and assessing its reliability were grouped.

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ВЫЗОВЫ И БУДУЩИЕ ТЕНДЕНЦИИ НАДЕЖНОГО ИНТЕРНЕТ ВЕЩЕЙ

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Аннотация: В статье представлены основные вызовы и будущие тенденции надежного Интернет вещей. Представлен обзор будущих приложений Интернета вещей и их основные коммуникационные требования, четыре основные области надежного Интернета вещей, включая показатели распределения ресурсов, управления задержками, безопасности и надежности. Выделены проблемы надежного Интернета вещей, связанные с методами машинного обучения, связью 6G и безопасностью на основе блокчейна.

Ключевые слова: Интернет вещей, распределение ресурсов, задержка, безопасность, метрики, безопасность IoT, IoT-продукты.

Abstract: The article presents the main challenges and future trends of a reliable Internet of Things. An overview of future IoT applications and their key communication requirements is presented, the four main areas of reliable IoT including resource allocation, latency management, security and reliability metrics. Challenges for a secure Internet of Things related to machine learning techniques, 6G communications, and blockchain-based security are highlighted.

Keywords: Internet of things, resource allocation, latency, security, metrics, IoT security, IoT products.

Annotatsiya: Maqolada ishonchli Internet ashyolarning asosiy muammolari va kelajakdagi tendentsiyalari keltirilgan. Kelajakdagi IoT ilovalari va ularning asosiy aloqa talablari haqida umumiy ma'lumot berilgan, ishonchli IoTning to'rtta asosiy yo'nalishi, jumladan, resurslarni taqsimlash, kechikishlarni boshqarish, xavfsizlik va ishonchlilik ko'rsatkichlari. Mashinani o'rganish texnikasi, 6G aloqasi va blokcheynga asoslangan xavfsizlik bilan bog'liq xavfsiz narsalar Interneti uchun muammolar ta'kidlangan.

Kalit so'zlar: Internet ashyolari, resurslarni taqsimlash, kechikish, xavfsizlik, ko'rsatkichlar, IoT xavfsizligi, IoT mahsulotlari.

ВВЕДЕНИЕ

Интернет вещей (IoT) является жизненно важным компонентом многих отраслей будущего. Благодаря интеллектуальной интеграции датчиков, беспроводной связи, вычислительных технологий и анализа данных Интернет вещей может повысить производительность и эффективность отраслей. Надежность передачи данных является ключом к реализации ряда приложений, предлагаемых Интернетом вещей. Интернет вещей позволяет использовать множество важных приложений, включая интеллектуальное управление дорожным движением, безопасное автономное вождение, экономию электроэнергии с помощью интеллектуальных сетей, удаленный мониторинг пациентов, мониторинг состояния машин, интеллектуальную промышленную автоматизацию и решения для безопасности умного дома. В эпоху Индустрии 4.0 и связи 6G приложения Интернета вещей произведут революцию в работе различных отраслей. Тремя основными компонентами Интернета вещей будут зондирование, связь и анализ данных [1,2].

ЛИТЕРАТУРА И МЕТОДОЛОГИЯ

Успешная работа приложений Интернета вещей зависит от надежной передачи данных между датчиками и серверами. Под надежностью

подразумевается надежная связь с высокой скоростью доставки пакетов, низкой задержкой и защитой от сетевых атак. Каждое приложение IoT может иметь разные требования к качеству обслуживания (QoS). Для реализации надежной и устойчивой сети Интернета вещей необходимо соблюдение требований QoS. Эффективная передача данных является ключевой задачей для обеспечения надежности приложений Интернета вещей. Это означает, что данные передаются с высокой скоростью, так что задержка находится в пределах требований QoS. Это возможно, когда оптимизированы такие ресурсы, как использование спектра, доступ к среде, мощность передачи, разгрузка вычислительных задач на туманные узлы и т.д. Более того, необходимы конфиденциальность и секретность общения, а также сохранение целостности данных.

Масштабный Интернет вещей и требования к приложениям

Масштаб массового Интернета вещей составит миллиарды машин, автомобилей и датчиков, подключенных к Интернету. Массовый Интернет вещей будет поддерживать множество новых приложений, таких как автономное вождение, игры на основе дополненной реальности, прогнозное обслуживание машин, автоматизированные хирургические системы и интеллектуальные сети. Что касается требований к связи, массовый Интернет вещей потребует сверхнадежности порядка 99,99999%. Это особенно необходимо для критически важных приложений, где на карту поставлена безопасность человека, таких как безопасное вождение и операции, связанные со здоровьем. Более того, эти массивные сети Интернета вещей могут позволить себе задержку менее 1 мс. Это необходимо для того, чтобы данные доставлялись вовремя, чтобы приложения могли принимать правильные решения [3,4].

Основные случаи использования Интернета вещей

Как показано на рисунке 1, четыре важных примера Интернета вещей включают Интернет транспортных средств (IoV), Интернет медицинских вещей

(IoMT), Промышленный Интернет вещей (IIoT) и Интернет интеллектуальных сетей (IoSG).

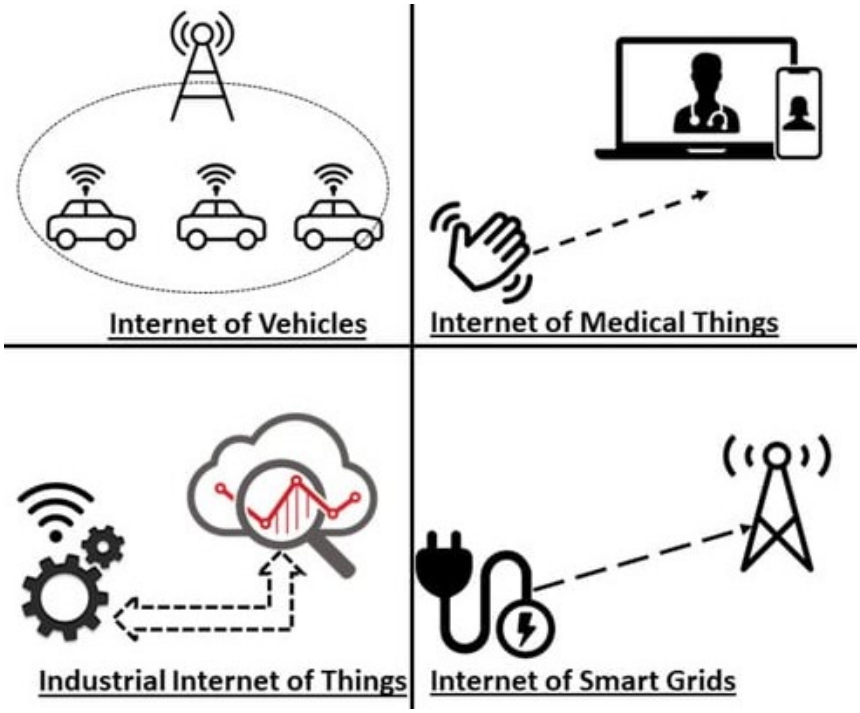

Рис.1. Проблемы надежной передачи данных в IoT

Интернет транспортных средств (IoV) является основным применением Интернета вещей в транспортной отрасли. В IoV используются транспортные средства, оснащенные беспроводными приемопередатчиками и инфраструктурными придорожными устройствами (RSU), расположенными в разных местах дороги. Эти приемопередатчики обеспечивают связь между транспортными средствами в пределах района, тем самым позволяя транспортным средствам иметь пространственную карту движения. Транспортные средства также могут обмениваться информацией о мобильности и дорожном движении с RSU, тем самым расширяя диапазон связи.

Интернет медицинских вещей (IoMT) является жизненно важным фактором для будущей индустрии здравоохранения. IoMT может предоставлять такие приложения, как удаленный мониторинг пациентов, автоматический мониторинг пациентов, находящихся в неотложной помощи, контроль цепочки медицинских поставок и отслеживание контактов в пандемических ситуациях.

Промышленный Интернет вещей (IIoT) - это новый вариант использования Интернета вещей. Подключив машины к Интернету, можно регулярно контролировать их состояние и планировать ремонт, тем самым сокращая простои. Более того, многие производственные процессы можно автоматизировать и разумно контролировать для повышения производительности. На основе полученных данных IIoT может обеспечить прогнозное обслуживание [5].

Интернет интеллектуальных сетей (IoSG) улучшает использование и распределение электроэнергии за счет подключения домашних устройств к сети. Интеллектуальные счетчики также могут быть размещены в домах, которые передают информацию об использовании электроэнергии в сеть. IoSG может сократить потребление электроэнергии, тем самым облегчая работу клиентов, а также уменьшая выбросы углекислого газа и сохраняя ресурсы электроэнергии.

Обзор надежной передачи данных в сети IoT

Представляем три основных компонента надежного распространения данных Интернета вещей. К ним относятся распределение ресурсов, управление задержкой и безопасность. Эффективное распределение ресурсов важно для надежного обмена данными между узлами и серверами Интернета вещей. Поскольку ресурс спектра ограничен из-за больших объемов данных, генерируемых узлами Интернета вещей, важно предложить методы интеллектуального использования спектра. Такие методы, как когнитивное управление спектром, можно использовать для совместного использования полос спектра несколькими узлами Интернета вещей [6].

Туманные вычисления - жизненно важная часть будущих сетей Интернета вещей. Туманные узлы, расположенные рядом с устройствами Интернета вещей, обеспечивают хранилище и вычислительную мощность сети Интернета вещей. Сети Интернета вещей могут размещать популярный и наиболее

полезный контент в кэш-хранилище этих туманных узлов. Следовательно, распределение кэш-памяти является важной задачей.

Управление задержкой - еще один важный элемент надежной передачи данных в IoT. Приложения Интернета вещей могут работать некорректно, если обмен данными не осуществляется с желаемой задержкой. Многие новые приложения, такие как автономное вождение и промышленная автоматизация, предъявляют строгие требования к задержке, и, следовательно, необходимо управление задержкой.

Точное прогнозирование трафика данных может поддерживать методы управления задержкой, поскольку знание предстоящего трафика на сервере IoT, а туманный узел позволяет лучше его обрабатывать. Следовательно, методы, основанные на искусственном интеллекте (ИИ), которые прогнозируют частоту и размер данных, могут быть очень полезными. Кроме того, другие сетевые технологии могут поддерживать сети IoT для быстрой передачи данных.

Безопасность является важным компонентом надежной передачи данных в IoT. В сети Интернета вещей может быть произведено несколько атак, которые могут поставить под угрозу конфиденциальность передаваемых данных. Более того, злонамеренные узлы могут вставлять в сеть поддельные и неверные данные, что может повлиять на принятие решений приложениями IoT. Для решения этой проблемы необходимы передовые криптографические методы, которые могут обеспечить безопасность передаваемых данных, сводя при этом необходимые накладные расходы к минимуму [7].

Блокчейн - это новая технология, которая может обеспечить надежную безопасность устройств Интернета вещей. Другие методы безопасности, такие как безопасность физического уровня, также могут повысить надежность сетей IoT. Эти методы могут работать в сочетании с криптографическими методами, обеспечивая надежное решение. Наконец, для обеспечения получения правильных данных также необходимы атаки на целостность данных и схемы обнаружения аномалий, на основании которых можно принимать решения.

К четырем ключевым аспектам надежной передачи данных в IoT относятся: методы распределения ресурсов, алгоритмы управления задержкой, решения по безопасности и показатели надежности для Интернета вещей на базе 6G.

Распределение ресурсов - важная область исследований приложений Интернета вещей. Поскольку устройства Интернета вещей ограничены в энергопотреблении, вычислениях и передаче, необходимы интеллектуальные и новые методы распределения ресурсов. Такие ресурсы, как спектр, мощность передачи узлов Интернета вещей, кэш-память туманных узлов с поддержкой Интернета вещей, вычислительная мощность узлов Интернета вещей и туманных узлов, а также скорость передачи данных, должны быть тщательно распределены. Задержка - важный показатель качества обслуживания для приложений Интернета вещей. Большинство приложений чувствительны к задержке и требуют более низкого значения задержки в пределах порогового значения, чтобы обеспечить надежную связь. Для уменьшения задержки Интернета вещей используются такие методы, как интеллектуальная повторная передача, распределение ресурсов, методы множественного доступа и физического уровня, прогнозирование трафика и сотрудничество с другими сетями. Безопасность - важное требование для надежной передачи данных в IoT. Для обеспечения надежности в IoT необходимы методы, обеспечивающие защиту от злоумышленников и их атак. Методы обеспечения безопасности включают методы криптографии, методы на основе блокчейна и методы обнаружения целостности данных.

Метрики надежности для Интернета вещей

Коэффициент доставки пакетов (PDR) - это широко используемый показатель надежности, который измеряет соотношение общего количества пакетов, полученных получателем, и общего количества пакетов, переданных передатчиком. Большинству приложений Интернета вещей требуется очень высокое значение PDR, поскольку оно гарантирует, что данные между узлами

будут передаваться без каких-либо ошибок. При связи 6G используется множество новых технологий и методов, которые повышают PDR до значения 99,9999999,99999%. Низкое значение PDR означает, что условия канала между передатчиком и приемником плохие из-за таких факторов, как многолучевое замирание. Вероятность сбоя является еще одним полезным показателем для распределения ресурсов, поскольку она указывает расстояние, на котором передатчик и приемник выходят за пределы зоны действия. В результате узел может выбрать оптимальную мощность передачи и схему модуляции на основе требований приложения IoT [8].

Еще одним важным показателем надежности для Интернета вещей является коэффициент занятости канала, который указывает на общую нагрузку данных в сети. Этот показатель может быть измерен радиостанцией IoT на основе процента времени, в течение которого радиостанция считает канал свободным.

Время между прибытием пакетов - это еще один показатель, который вычисляет разницу во времени между двумя последовательными пакетами в получателе. Переменное время между поступлением пакетов может привести к нежелательным задержкам при передаче результатов измерений датчиков на сервер, что снижает точность анализа данных приложения. Сквозная задержка пакета является важнейшим показателем, который предоставляет информацию о том, какая задержка требуется для передачи пакета.

Время проверки подписи - еще один важный показатель, который измеряет, сколько времени требуется для обработки сообщения с точки зрения безопасности получателя. Поскольку за короткое время получателю поступает много пакетов, им, возможно, придется стоять в очереди, прежде чем пройти процесс проверки подписи. Более длительное время проверки подписи означает, что общая сквозная задержка увеличивается.

Представлены будущие возможности и проблемы, связанные с созданием надежных приложений Интернета вещей. Обсуждены три важные

возможности, которые могут повысить надежность будущих приложений Интернета вещей. Эти возможности включают в себя методы машинного обучения, связь 6G и безопасность на основе блокчейна. Поскольку будущие приложения Интернета вещей будут генерировать большие объемы данных, необходимы интеллектуальные методы машинного обучения для анализа данных и получения полезной информации для повышения надежности Интернета вещей.

РЕЗУЛЬТАТЫ

Методы, основанные на регрессии, полезны для прогнозирования многих важных параметров Интернета вещей. Одним из применений регрессии является прогнозирование трафика данных и нагрузки в сети. Точно прогнозируя нагрузку трафика, можно реализовать оптимальное распределение ресурсов. Более того, прогнозирование трафика можно использовать для разработки эффективных методов контроля перегрузок. Еще одним применением прогнозирования трафика является оптимальная балансировка нагрузки для сетей IoT туманных вычислений. Используя прогнозируемую нагрузку (по количеству задач, полученных для вычисления) на разных узлах тумана, задачи можно справедливо распределить по узлам тумана.

Методы обучения с подкреплением также можно использовать в IoT для лучшего распределения ресурсов и балансировки нагрузки. Используя алгоритмы обучения с подкреплением, можно определить оптимальные действия, такие как выбор мощности передачи, размещение кэша в узлах тумана и коэффициенты разгрузки задач. Функция вознаграждения в этих алгоритмах может основываться на беспроводных помехах, суммарной скорости сети, времени разгрузки задач и времени доступа к кэшу.

Методы классификации, такие как k-ближайший сосед, деревья решений и т. д., могут использоваться для решения таких задач, как обнаружение аномалий для повышения безопасности. Вредоносные узлы могут осуществлять атаки на узлы Интернета вещей посредством передачи ложных данных или

подавления сигналов. Таким образом, крайне важно обнаруживать аномальный трафик для поддержания надежности сети IoT.

ОБСУЖДЕНИЕ

6G-коммуникации. Коммуникации 6G станут важной технологией для будущих приложений Интернета вещей. За счет улучшения связи с точки зрения достижимой скорости передачи данных, коэффициента доставки пакетов и задержки можно добиться надежного распространения данных между узлами Интернета вещей. 6G будет использовать терагерцевую связь, реконфигурируемые интеллектуальные поверхности (RIS) и массивные вычисления, чтобы значительно улучшить сквозную связь между различными узлами с поддержкой IoT.

Безопасность на основе блокчейна. Для приложений Интернета вещей необходимо разработать надежные механизмы безопасности. Некоторые приложения Интернета вещей имеют решающее значение, например мониторинг состояния здоровья, обмен данными о безопасности транспортных средств и т. д. Следовательно, атаки на эти приложения могут вызвать проблемы с безопасностью людей. Блокчейн - это эффективная технология, которая может обеспечить безопасную передачу данных благодаря механизму распределенного хранения записей и доказательства работы.

ЗАКЛЮЧЕНИЕ

В статье рассмотрена текущая работа и будущие возможности, связанные с надежной передачей данных в IoT. Представлены четыре ключевых компонента надежного обмена данными в контексте Интернета вещей, которые включают распределение ресурсов, управление задержками, показатели безопасности и надежности. Обсуждены методы и алгоритмы, которые были предложены для обеспечения надежности в IoT. Выделены основные проблемы, которые по-прежнему требуют внимания при внедрении надежных будущих сетей Интернета вещей.

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ЎЗБЕКИСТОНДА РАҚАМЛИ БАНКИНГНИ РИВОЖЛАНТИРИШ ЙЎЛЛАРИ

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АННОТАЦИЯ

Мақолада миллий иқтисодиётда рақамли банкинг моҳияти, уни қўллаш, ҳозирги вазият таҳлили ва ривожлантириш бўйича таклиф ва тавсиялар ишлаб чиқилган. Тижорат банкларида рақамли банкингни ривожлантиришнинг хусусиятлари кўриб чиқилган.

Калит сўзлар: тижорат банки, рақамли банкинг, рақамли банк, банк маҳсулоти, дастурий таъминот.

ABSTRACT

In this article, the nature of digital banking in the national economy, its application, analysis of the current situation and proposals and recommendations for its development have been developed. The features of the development of digital banking in commercial banks are have been reviewed.

Keywords: commercial banks, digital banking, digital banks, banking products, software.

КИРИШ

Иқтисодиётни модернизациялашда молиявий хизматларни ривожлантириш таркибида банк хизмат кўрсатиш тизимини замонавийлаштириш ва қулайлаштириш муҳим аҳамият касб этади. Бугунги кунда барча жабҳалар сингари банк тизимида ахборот технологиялар чуқур кириб бормоқда. Иқтисодий юксалиш учун банк тизимида замонавий рақамли банкингни ривожлантириш долзарб масалалардан биридир.

Президенимиз банк тизимида фикр юритиб, “Афсуски, банк тизими рақамли технологияларни қўллаш, янги банк маҳсулотларини жорий этиш ва дастурий таъминотлар бўйича замон талабларидан 10-15 йил орқада қолмоқда” [1] деб таъкидладилар. Бунинг ичида биз ривожлантириш лозим бўлган масала сифатида рақамли банкингни эътироф этишимиз лозим.

Рақамли банкинг тизимини ривожлантириш фойдаланувчиларнинг банк тизимига ишончини оширишга ва қулай хизмат турларини таклиф этишга олиб келиши муҳим масалалардан биридир.

АДАБИЁТЛАР ШАРҲИ

Ватанимиз иқтисодчи-олимлари ва амалиётчилари “рақамли банкинг” тушунчасини “рақамли банк” тушунчаси билан бирга ҳам ифодалайдилар.

Тадқиқотлар кўрсатишича, инновацион банк технологияларидан фойдаланган ҳолда (касса хизматини кўрсатмасдан) банк хизматларини масофавий кўрсатувчи банк ёки унинг таркибий бўлинмаси рақамли банк эканлиги [2] эътироф этилади. Бу бутун бир банк ёки банк бўлинмасига берилган таъриф саналади.

Рақамли банкдан фарқли равишда рақамли банкинг айнан банк хизматларидан фойдаланувчиларга банк маҳсулотларини онлайн кўрсатиш дастурий таъминотлар йиғиндиси сифатидан қараш лозим. Айнан рақамли банкинг мижозлар (фойдаланувчилар)га қулай банк хизматларини таъминлаши лозим.

А.А. Гонтарь бу борада шундай фикр юритади: “рақамли банкинг – бу рақамли, ахборот ва технология стратегиялар соҳасида истеъмолчилари ва тижорат мижозлари учун молиявий хизматлар соҳасида инновацияларни ўз ичига олган банк ва унинг мижозлари ўртасидаги ўзаро муносабатларнинг янги кўринишидир” [3].

Жон Гиновски рақамли банкингни қуйидагича таърифлайди: “мижозларга хизмат кўрсатишни кенгайтириш ва банк фаолияти самарадорлигини ошириш учун ички ва ташқи корпоратив ва шахсий ходимлар муносабатларидаги мос ўзгаришлар билан молиявий институтлар фаолиятида янги ва ривожланаётган технологиялар интеграциясидир” [4].

Бизнингча, рақамли банкинг – мавжуд онлайн банк хизматларини кўрсатиш тизимида банк ходимлари учун самарали фаолият ва фойдаланувчиларга қулай интерфейс яратишни таъминловчи дастурий таъминотлар йиғиндисидир.

МУҲОКАМА ВА НАТИЖАЛАР

Мамлакатимизда рақамли банкинг хизматлари кўрсатишни ривожлантириш бўйича замонавий ва илғор банк хизматлари турларини амалиётга жорий этиш ташаббусларини илгари суриш, янги ахборот технологияларини жорий этиш, банк хизматлари оммабоплигини ошириш, уни республика банк хизматлари бозорида қўллаш борасида талайгина ишлар амалга оширилмоқда. Бу бўйича бир қатор меъёрий-ҳуқуқий ҳужжатлар ишлаб чиқилган [5] [6].

Ўзбекистон Республикасини 2017-2021 йилларда ривожлантириш бўйича Ҳаракатлар стратегиясида банк тизими, шу жумладан тижорат банклари фаолиятини янада ривожлантириш ва банк хизмат турларини такомиллаштиришга қаратилган чора тадбирларни амалга ошириш устувор йўналишлардан бири сифатида белгиланган [7].

Маълумки, банк тизимини ривожлантириш рақамли банк хизматлари кўламини кенгайтириш, такомиллаштириш орқали мижозлар сонини ошириш билан боғлиқ самарали механизм кетма-кетлигини таъминловчи омил ҳисобланади.

Рақамли банклар томонидан банк хизматларини масофавий кўрсатиш банкнинг ички тартиб қоидаларига асосан қонун ҳужжатлари талабларини инобатга олган ҳолда амалга оширилади.

Мамлакатимизда рақамли банкингни амалга оширишнинг асосий мақсади мижозларга сифатли, замонавий ва қулай банк хизматларини кўрсатишдан иборат. Банк тизимида “ИАБС” автоматлаштирилган тизимида янги модуллар ишлаб чиқилиб, амалиётга жорий этилмоқда. Кредит ажратиш жараёнини жадаллаштириш, андозавий электрон кредит шартномаларидан фойдаланиш, кредит ажратишда одам омилини камайтиришга эришиш учун бир қатор ишлар амалга оширилмоқда. Аммо, афсуски, ҳозиргача онлайн кредитларни расмийлаштириш бўйича ишлар тугалланганича йўқ. Кредит олувчи банкга келмасдан ҳисобрақамга йўналтириш ёки олиш имкони ҳуқуқий асослари ва механизмлари такомиллаштирилмаган. Бу механизмни йўлга қўйиш бир қатор овогарчиликлар олдини олган бўлар эди.

Масофадан хизмат кўрсатиш сифати янада оширилиб, юридик шахсларга мўлжалланган тизим такомиллаштирилган ҳолда амалиётда тадбиқ этилмоқда. Бугунги кунда ундан фойдаланувчилар сони 5437 нафардан ошган. “SMS-банкинг” масофавий хизматдан фойдаланувчилар сони ҳам мунтазам ошиб, айни пайтда қарийб 179 000 нафарни ташкил этмоқда[7]. Қуйидаги диаграммада Ўзбекистон Республикасида банк ҳисобварақларига масофадан хизмат кўрсатиш тизимларидан фойдаланувчилар ҳақида маълумотни келтириб ўтдик.

[7] Ўзбекистон Республикаси Марказий банки маълумотлари

1-диаграмма

Ўзбекистон Республикасида банк ҳисобварақларига масофадан хизмат кўрсатиш тизимларидан фойдаланувчилар сони

Манбаа: Ўзбекистон Республикаси Марказий банки маълумотлари

Диаграммадан кўринишича, Ўзбекистон Республикасида 2019 йилнинг 1 апрель ҳолатига кўра банк ҳисобварақларини масофадан бошқариш тизимларидан фойдаланувчи мижозлар жами сони 9 371 447 та бўлиб, шундан юридик шахслар ва якка тартибдаги тадбиркорлар сони 498 936 тани, жисмоний шахслар сони 8 872 511 тани ташкил этди.

Лекин хўжалик юритувчи субъектлар масофавий банк хизматлари турини танлашда тижорат банкига бориши ва нисбатан қимматлиги кўзга ташланади. Айниқса, интернет банкинг хизмати тизими қиммат эканлиги ҳам эътироф этилмоқда[8]. Хўжалик субъектига банк томонидан хизмат кўрсатиш бошланганидан сўнг хизмат кўрсатиш шартномасида масофавий хизматларни кўрсатишни киритилишини таъминлаши лозим. Бундан сўнг бошқа хизматлар (кўп учрайдиган асосий ва махсус ҳисобрақамларни очиш)ни кўрсатишни онлайн ва 24 соат тамойили асосида кўрсатиши мақсадга мувофиқ. Хўжалик субъекти раҳбарияти хоҳлаган вақтда, яъни ўзига қулай вақтда хоҳлаган банк хизмати турини танлаш ва фойдаланиш бўйича аризасини қолдириш имкони бўлиши лозим.

Айни кезларда ўлкамизда банк ҳисобварақларини масофадан бошқариш, айниқса, тўловларни мобил телефонлар орқали амалга ошириш тизимларини жадал тараққий эттиришга эътибор ҳар қачонгидан кучайтирилмоқда. Улар орқали асосан мобил операторлар, Интернет провайдерлар хизматлари, солиқлар ва бошқа мажбурий тўловлар, табиий газ, электр энергияси ва бошқа коммунал хизматлар ҳақи тўланмоқда.

Аксарият банкларда жисмоний шахсларда хизматлар сифатини ошириш мақсадида дастурий комплекс мобил иловаси анча такомиллаштирилди. Мазкур тизим орқали коммунал, бюджет, интернет, мобил алоқа, кредит ажратиш ва сўндириш сингари кўплаб амалиётларни бажариш мумкин [10]. Шунингдек, жисмоний шахслар учун интернет тармоғи орқали амалиётлар ўтказиш дастури ишга туширилган.

Бугунги кунда банк тизиминида хизмат кўрсатиш тизимини янги босқичга кўтариш амонавий банк хизматлари кўрсатиш йўлида мавжуд тўсиқларни бартараф этиш ва қулай шароит яратишдан, чунончи, чакана хизматларга ихтисослашган “рақамли” банклар ва банк бўлинмаларини очишдан, инновацион банк технологияларидан фаол фойдаланиш эвазига масофавий банк хизматлари кўрсатишни такомиллаштиришга йўналтирилган. Тижорат банкларида рақамли банкингни бир тизимга келтириш чора-тадбирлар кўрилаётган бир пайтда малакали кадрларнинг етишмаслиги кўзга ташланмоқда.

Шуни ҳам таъкидлаш керакки, айрим тижорат банклари депозитлар жалб қилиш, кредитлар бериш, мижозларга ҳисоб-китоб ва касса хизмати кўрсатиш бўйича анъанавий хизмат кўрсатиш тизими бўйича ишлаб, рақамли банкинг хизматларини ривожлантиришга эътибор қаратмаяптилар.

Президентимизнинг 2018 йил 23 мартдаги “Банк хизматлари оммабоплигини ошириш бўйича қўшимча чора-тадбирлар тўғрисида”ги Қарорида ҳам масофавий банк хизматларини йўлга қўйиш учун замонавий технологияларни пухта ўзлаштириш, хизматларнинг янги турлари ва

маҳсулотларини аниқлаш, хорижий илғор тажрибаларни ўрганиб, мамлакатимиз банк хизматлари оммабоплигини оширишда фойдаланиш, истеъмолчилар ҳуқуқларини ҳимоялаш, аҳолининг молиявий саводхонлигини юксалтириш давримизнинг долзарб масалалари сирасига киришига алоҳида аҳамият қаратилган [9]. Шу боис бу қарор банк хизматлари ривожида янги босқични бошлаб берди.

Иқтисодиётни модернизациялаш шароитида банк секторида рақамли банкингни иқтисодий хавфсизлик соҳасида комплекс чора-тадбирларни таъминламасдан амалга ошириб бўлмайди. Бу билан иқтисодий хавфсизлик даражасини ошириш мақсадида молия бозорини ташкил этиш зарурияти биринчи ўринга чиқади. Тижорат банклари рақамли банкингни интерфейсининг қулайлиги фойдаланувчиларга катта аҳамият касб этади. Фойдаланувчи ўзига керакли амалларни тезроқ топа олиши банк тизимига ишончни уйғотади ва банк хизматларини бошқа фойдаланувчиларга тавсия этиш кузатилади.

ХУЛОСА

Ўзбекистон тижорат банкларида рақамли банкинг хизматларини кўрсатиш ривожланган давлатлар банкларидаги даражада тараққий этмаган ва меъёрий-ҳуқуқий жиҳатдан кучли таъминланмаган. Банк ҳисобварақларига масофадан хизмат кўрсатиш тизимларида ишлаш тартиби тўғрисидаги низомда ҳам бугунги банк хизматлари имкониятларининг ҳуқуқий жиҳатлари акс эттирилмаган.

Рақамли банкинг тижорат банкининг ажралмас қисми бўлишини таъминлаш лозим. Бу маълумотларнинг хавфсизлигини ва ортиқча оворагарчиликларнинг олдини олган бўлар эди.

Банк тизими ривожланишининг орқада қолаётганлигини замонавий ахборот технологиялар орқали тўлдириш ва кадрларни банк тизими бўйича четда малака оширишларини таъминлаш лозим.

Ҳозиргача онлайн кредитларни расмийлаштириш бўйича ишлар тугалланганича йўқ. Кредит олувчи банкга келмасдан ҳисобрақамга

йўналтириш ёки олиш имкони ҳуқуқий асослари ва механизмлари такомиллаштирилмаган. Бу механизмни йўлга қўйиш бир қатор овогарчиликлар олдини олган бўлар эди.

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MAKTABLARDA FIZIKA FANIDAN MASALALAR YECHISHDA ZAMONAVIY METODLARDAN FOYDALANISH

Soyibnazarov Abbosjon Ikromjonovich
O‘zbekiston davlat jismoniy tarbiya va sport universiteti
Farg‘ona filiali o‘qituvchisi

Annotatsiya. Mazkur maqolada umumta’lim maktablaida fizika fanini o‘qitish hamda o‘qitilishda duch keladigan asosiy muammolar, shuningdek, ularning yechimlariga alohida to‘xtalib o‘tilgan. Respublikamizda ta’lim tizimi o‘zining yangi takomillashtirish bosqichida turibdi. Zamonaviy fizika fanini rivojlanish darajasi, uni o‘qitishning ta’lim berish, tarbiyalash va rivojlantirish funksiyalarining samaradorligiga, ilmiy bilish metodlarini ongli va mustahkam egallaganiga bog‘liqligi haqida fikr yuritilgan.

Kalit so‘zlar: texnik taraqqiyot, metodlar, innovatsion usullar, zamonaviy fizika, kompyuterlar, kvant fizikasi, laboratoriya, Konsepsiya.

Umumta’lim maktablaida fizika fanini o‘qitish holati, ijtimoiy va ilmiy-texnik taraqqiyot talablariga ko‘ra, o‘qilayotgan predmetlarning metodologik masalalariga yetarli darajada e’tibor berishni taqozo qilmoqda. Buning muhimligi shundaki, rivojlangan ilmiy predmetlarning, jumladan, barcha tabiiy fanlarning metodologik muammolari, ularning o‘zlarida bevosita aks etgan. Alohida ta’kidlab o‘tish kerakki, O‘zbekiston Respublikasi Prezidentining 19.03.2021 yildagi «Fizika sohasidagi ta’lim sifatini oshirish va ilmiy tadqiqotlarni rivojlantirish chora-tadbirlari to‘g‘risida» gi PQ-5032-son Qaror bilan 2021-2023 yillarda Fizika fanlari bo‘yicha ta’lim sifatini oshirish va fizika sohasidagi ilmiy tadqiqotlarning natijadorligini ta’minlash bo‘yicha kompleks chora-tadbirlar dasturi tasdiqlandi. Hozirgi jamiyatda har bir insonning muvaffaqiyatli hayot kechirishi uchun fizikadan sifatli bilimga ega

bo‘lishi davr talabi hisoblanadi. Fizika ilmiy — texnika taraqqiyoti va tabiiy-ilmiy bilimlarning asosi hisoblanadi. Mamlakatimizning XXI asrdagi muvaffaqiyoti, tabiat resurslaridan samarali foydalanish, ekologik muammolarni yechish, kosmosni o‘zlashtirish, mudofa salohiyati, texnika va energetikaning rivojlanishi, fan manbalari uchun materiallar hamda zamonaviy texnologiyalarni yaratish kabi barcha yo‘nalishlar fizika fani va fizika ta’limi darajasiga bog‘liq. Fizikadan davr talablariga mos ravishdagi bilimlarga ega bo‘lmasdan Vatanimiz ijtimoiy-iqtisodiy rivojlanishining uzoq muddatli maqsadi va vazifalarini yechishda erishib bo‘lmaydi. Mamlakatimizning rivojlanishi va hozirgi davrda texnologik jadal taraqqiyotga erishishda fizika ta’limi va fizikaning fan sifatida rivojlanishiga mavjud imkoniyatlaridan samarali foydalanishga asosiy e’tibor qaratilishi lozim. Hozirgi kunda ham fizika fani umumiy o‘rta ta’lim maktablarida eng muhim va asosiy fanlardan biri hisoblanadi. Shunday bo‘lsada, umumiy o‘rta ta’lim makablarida fizika ta’limini rivojlantirish va uni o‘rganish bilan bog‘liq bir qator muammolar mavjud bo‘lib, ushbu muammolarni quyidagi asosiy guruhlarga birlashtirish mumkin.

Maktab fizika xonalarini asbob va uskunalar bilan ta’minlanish muammosi-o‘quv dasturlarida berilgan barcha namoyishli tajribalar, uy sharoitida bajarilishi mumkin bo‘lgan tajribalar bo‘lib, XXI asr fan-texnika taraqqiyoti darajasidagi laboratoriya ishlari va namoyish tajribalari ko‘rsatilishi va bajarilishi uchun zarur laboratoriya va multimediya asbob va uskunalari yaratilishi va fizika laboratriyasida mavjud bo‘lishi lozim. Zamonaviy kompyuterlar, shu jumladan, Internet tarmog‘i ta’limda fizikani o‘rganishda bir qator ijobiy xususiyatlarga ega. Xususan, animatsion fizik modellar bilan o‘qitish dasturlari, kompyuterda namoyish etiladigan videolavhalar, avtomatlashtirilgan laboratoriya qurilmalari va boshqalar uzluksiz ta’lim tizimida fizika fanini o‘qitishni zamonaviy darajasini oshiradi. Davlat ta’lim standarti nafaqat ta’lim mazmunini balki o‘qitishning rejalashtirilgan natijalarini, axbortlashgan ta’lim muhitiga ma’lum talablarni joriy qilishning tarkibiy qismi

bo‘lib, moddiy-texnik va axborot bilan ta’minlashi hisoblanadi. Jumladan, ushbu sharoitda olingan u yoki bu ta’lim natijalari, ta’lim dasturi mazmuniga bog‘liq.

Muhim muammolardan yana biri-fanlararo ichki bog‘lanishning yetishmasligidir. Ya’ni, fizikani o‘rganishni amaldagi 6-sinfdan emas, 7-sinfdan boshlash maqsadga muvofiq shunda fanlararo o‘zaro ichki bog‘lanish yuzaga kelib, uzluksiz va uzviylik prinsipi asosida tayyorlangan fizika ta’limi o‘quv dasturi va darsliklari yaratiladi. Natijada, umumiy o‘rta ta’lim maktablarida fizikaning mexanika, molekular fizika va termodinamika asoslari, elektrodinamika, kvant fizikasi elementlari kabi bo‘limlari o‘quvchilarning bilish imkoniyatlariga moslashtirilgan ma’lumotlar o‘rganiladi. Bunda fizikaning har bir bo‘limi "o‘z" tushuntirish apparatiga ega bo‘lib, ko‘pchilik fizik hodisalarni sifatli qarab chiqishda ularning ko‘pincha takrorlanish imkoniyatlarini chegaralaydi. Natijada moddiy olam jarayonlari va ob’ektlari o‘rtasidagi tabiatda mavjud ichki bog‘lanish o‘quvchilar uchun aniq bo‘lmagan bo‘lib, ular diqqatidan chetga qolishga sabab bo‘ladi.

Kadrlar muammosi ham mavjud bo‘lib, Oliy ta’limni bitiruvchilari pedagogik yo‘nalishda kerakli pedagogik institutlarda pedagogik bilim va ko‘nikmalarga ega emaslar. Fizika va pedagogik mutaxasisliklar intelektual o‘sishiga qodir emas umumiy o‘rta ta’lim muassasalarida pedagog va fizika fani o‘qituvchisi talablariga javob bera olmaydi. Natijada, umumiy o‘rta ta’lim maktablarida fizika fani o‘qituvchilari yetishmaydi. Konsepsiyaning maqsadi va vazifalari. O‘quvchilar uchun fizikani o‘rganish tushunarli va ichki intiluvchan jarayon bo‘lishi talab etiladi. Buning uchun atrofdagi olamning universal tadqiqot metodlarini o‘zlashtirish, ushbu fanning tamoyillari va asosiy qonunlarini mohiyatini tushunadigan fizika tilini mukammal egallagan o‘quvchi va o‘qituvchiga yordam beradigan mexanizmlar ishlab chiqilishi kerak. Umumiy o‘rta ta’lim maktablari fizika ta’limi nafaqat kelgusida fizikani professional kasb qilib olgan mutaxasisga zarur, balki o‘z kelajagini oldindan ishonchli aniq to‘g‘ri harakat va samarali aytib bera oladigan va

o‘ylaydigan har qanday madaniyatli inson uchun zarur. Fizikani o‘qitish va o‘rganish o‘quvchilarni fizikadan olgan bilimlarini amaliyotga va boshqa sohalarda qo‘llashga tayyorgarliklarini ta’minlaydi. Shuningdek, boshqa fanlarni mazmuniga va o‘qitishda, o‘quvchilarning intellektual tayyorgarliklariga ta’sir qiladi. Ushbu konsepsiyaning maqsadi-mamlakatimiz umumiy o‘rta ta’lim maktablari fizika ta’limi saviyasini hamdo‘stlik va rivojlangan mamlakatlar umumiy o‘rta ta’lim maktablari fizika ta’limi darajasiga olib chiqishga yordam beradi. Ular jumlasiga quyidagilar kiradi:

- jamiyat va ta’lim oluvchilar talablari bilan muvofiq ravishda fizika ta’limi o‘quv dasturi mazmunini takomillashtirish;

- har bir o‘quvchi uchun asosiy bilimlarni egallashni ta’minlash, o‘qituvchilar uchun tashxis qilishning avtomatlashtirilgan tizimini taqdim etish;

- umumiy o‘rta ta’lim maktablari fizika xonasi va laboratoriyasida namoyish va laboratoriya asbob va uskunalari bilan ta’minlash, fizika ta’limi o‘quv dasturini amalga oshirish uchun zarur axborot resurslari bilan shu jumladan, elektron formatda pedagog va ta’lim oluvchilarning faoliyatlarini optimallashtirsh va ta’lim jarayoniga zamonaviy texnologiyalarni qo‘llash;

- fizika o‘qituvchilari kasbiy sifatini oshirish mexanizmi yordamida ularning moddiy va ijtimoiy qo‘llab, jahon va hamdo‘stlik davlatlari fizika ta’limini pedagogik fani yutuqlari va zamonaviy ta’lim texnologiyalari, ular tomonidan o‘z shaxsiy pedagogik yondashuvlari va mualliflik dasturlarini yaratish va amalga oshirish;

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GLOBALLASHUV DAVRIDA YOSHLARDAGI HULQ-ATVOR AGRESSIYASI MUAMMOSI VA UNING YECHIMLARI

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ANNOTATSIYA

Ushbu maqolada globallashuv,uning yoshlar psixikasiga va jamiyat hayotiga ta'siri, yoshlar paydo bo'ladigan agressiyaning sabab va yechimlari haqida to'xtalibgina qolmay, balki uning yechimlari haqida ham so'z boradi.

Kalit so'zlar: Globallashuv, psixika, agressiya, xulq-atvor, jamiyat.

ABSTRACT

This article not only talks about globalization, its impact on the psyche of young people and the life of society, the causes and solutions of youth aggression, but also about its solutions.

Keywords: Globalization, psychology, aggression, behavior, society.

Hozirgi kunda yer yuzida globallashuv jarayoni tez fursatlarda rivojlanmoqda. Globallashuv (globalizatsiya) - lotincha "glob" so'zidan olingan bo'lib, aynan uni

“dumaloqlashuv”, “kurralashuv” deb tarjima qilish mumkin. Yer sharining, Yer kurrasining fan-texnika yutuqlari tufayli insoniyat ixtiyoridagi xuddi bir butun sharga, kurraga aylanishini tushuntirish uchun ishlatiladi. “Global” tushunchasi lug‘aviy ma’nosi nuqtai nazaridan fransuz tilida “umumiy”, lotin tilida esa “globus”-Yer shari” ma’nolarini bildiradi. Demak, globalizm tushunchasi ana shu ikki ma’noda ham bevosita insoniyat hayoti va taqdiri bilan bog‘liq bo‘lgan katta muammolarni, “sayyoraviy”, “dunyoviy” muammolarni, global taraqqiyot istiqbollarini o‘ziga qamrab oladi. Globallashuv atamasi birinchi bor 1960 yil Giddins tomonidan foydalanilgan. Bu atama XX asrning 90-yillarigicha deyarli foydalanilmagan. 1985 yilga kelib amerikalik sotsiolog R. Robertson «globallashuv» atamasiga tushuncha bergan. Ammo bu so‘zning to‘liq ma’nosi, konsepsiyasi 1990 yilning yarmida amerikalik olim CHarlz Taz Rassel tomonidan to‘liq ochib berilgan. “Globallashuv” atamasi dastlab amerikalik olim T.Levitt tomonidan 1983 yili «Garvard biznes rev’yu» jurnalida chop qilgan maqolasida qo‘llangan. globallashuv yaxlit jarayonlarni o‘z ichiga qamrab oladi. A.Ochildievning ta’kidlashicha, “...eng umumiy ma’noda, globallashuv, bir tomondan, muayyan hodisa, jarayonning barcha mintaqalar, davlatlar va butun yer yuzini qamrab olganini, ikkinchi tomondan, ularning insoniyat taqdiriga dahldor ekanini anglatadi”. V.I.Danilov-Danil’yan esa “Globallashuv ko‘proq mantiqdan emas, balki tarixiy paradigmadan kelib chiqqan so‘zdir. Globallashuv jihatlarining o‘zaro aloqadorligini aniq va ravshan tahlili mavjud emas”, - deb yozgan edi. Yuqoridagi ta’riflardan ko‘rinadiki, globallashuv jarayoni o‘zining murakkabligi va serqirraligi bilan alohida ajralib turadi. Aslida, globallashuv XX asrning ikkinchi yarmidan boshlab turli darajada va ko‘rinishlarda mavjud bo‘lgan va hozirgi davrimizga kelib bu jarayonning avj olishi ro‘y bermoqda. Buning ayrim jihatlari mamlakatimiz uchun ijobiy bo‘lsa, ayrimlari salbiy ta’sir etadi. Bu ayniqsa, ma’naviyatga yetarlicha zarar keltiradi. Albatta, bu jarayonlardan ko‘z yumib bo‘lmaydi. Muammoning qay darajadaligidan qat’iy nazar uning oldini olish, bunga qarshi kurashish choralarini izlash bizning oldimizda turgan vazifadir. Globallashuv hayotimizga tez fursatlar Ichida kirib kemoqda, ushbu jarayon ikki

maqsadda o‘z ahamiyatini kasb etadi: ezgulik va yovuzlik.Ezgulik yo‘lida doim jamiyat va yoshlar ongining rivojlanishiga hissa qo‘shar ekan. Shu bilan bir qatorda salbiy taraflarini ham namoyon etib kelmoqda. Ushbu salbiy taraflari yoshlar onggiga chetdan keladigan mafkuraviy g‘oyalarni berish, xulq-atvorini ijobiy darajadan uzoqlashtiradigan darajada o‘zgartirishi, miliy ma’naviyat tushunchasini yo‘qotilishi salbiy taraflarda aks etadi. Bugungi kunda inson ma’naviyatiga qarshi yo‘naltirilgan, bir qarashda arzimas bo‘lib tuyuladigan kichkina xabar ham axborot olamidagi globallashuv shiddatidan kuch olib, ko‘zga ko‘rinmaydigan lekin zararini hech narsa bilan o‘lchab bo‘lmaydigan ziyon yetkazishi mumkin. Jumladan, ma’naviy tahdidlarning bir ko‘rinishi bo‘lgan «ommaviy madaniyat» niqobidagi tazyiqlarning yoshlar ongiga ta’siri mamlakat taraqqiyoti uchun xavf soladi. Ayniqsa, voyaga yetmagan bolalarning turli internet klublarida o‘tirishlari va pornografik saytlarga kirishlari, mobil telefonlardan noto‘g‘ri foydalanib, behayo film va suratlar olib yurishlari, bularning barchasi inson ma’naviy kamolotiga ulkan zarar keltiradi. Bugungi kunda jamiyatimizda kechayotgan bunday jarayonlarda e’tiborli bo‘lish, yoshlarni to‘g‘ri yo‘lga boshlash lozim. Bunda:

– ularda, turli xildagi ma’naviy tahdidlarga qarshi immunitetni shakllantirish;

– yoshlarni ma’naviy merosimiz namunalari bilan muntazam ravishda tanishtirib borish;

– yosh bolalarga mobil telefonlar va kompyuter o‘yinlarining inson sog‘ligi, ma’naviyati, ongiga yetkazadigan salbiy ta’sirlari haqida tushuntirish ishlari olib borish lozim. Mavzuyimizning asosiy qismiga, yoshlardagi agressiya muammosiga to‘xtalar ekanmiz, agressiya - bu xatti-harakatlarning xavfli shakli. Bu juda katta, buzg‘unchi kuch ega xissiyot sanaladi. Hech bo‘lmaganda bunday odamlar shunday o‘ylashga odatlangan bo‘lishadi. Agressiv xulq - shaxsning ma’naviy buzuqlikka asoslangan, insonning ichki dunyosiga ochiqdan-ochiq salbiy ta’sir o‘tkazib, tajovuz qilib, uni izdan chiqarishga qaratilgan insoniylikka xos bo‘lmagan xususiyat. Agressiv xulqning shakllanishi, kuchayishi va namoyon bo‘lishi ko‘pincha ijtimoiy muhit bilan bog‘liq holda yuz beradi, kamdan-kam hollarda genetika bilan bog‘liq.

Shaxsning o‘ziga qaratilgan tajovuzkorlik “autoagressiya” (bunday holat shaxsdagi patologik o‘zgarishlarning ko‘rsatkichi bo‘lib xizmat qiladi) deb ataladi. O‘z joniga qasd qilish, o‘ziga tan jarohati yetkazish autoagressiyaning ko‘rinishlaridir. Jaholatga botgan, johillik va zo‘ravonlikni maqsadga erishishning asosiy va ustuvor vositasi deb biladigan shaxslarda Agressiv xulq juda kuchli bo‘ladi.Biz agressiyani va uning oqibatlarini oldini olish uchun quyidagi profilaktika ishlarini olib borishimiz lozim: Avvalo yosh avlod keyinchalik jamiyat uchun psixologik yaxshi muhitni shakllantirish,turli konsultatsiyalar olib boorish.”Xavfli guruhlar” da autoagressiv harakatlar psixologik faktorlari diagnostikasini o‘tqazish, eksteremal holatlarni oldini olish uchun ma’naviy va psixologik bilimlarni shakllantirish. Xulosa o‘rnida shuni ta’kidlash joizki, har qanday muhit insoniyat psixikasiga o‘z ta’sirini o‘tqazmay qo‘ymaydi. Ayniqsa ushbu globallashuv davrida turli axborotlarni ongimizga tezlik va chuqurlik bilan kirib borishi psixikamizga o‘z salbiy oqibatlarini ko‘rsatadi. Umuman olganda, agressiv xulq bilan bog‘liq muammolarni bartaraf etish uchun, har qanday jamiyat maxsus choralarni ko‘rishga majburdir.Zero globallashuvni neytral holatda ushlash, ijobiy muhitni yoshlar atrofida yaratish, zamonaviy axborot olami haqidagi bilimlarni shakllantirilishi kelajak avlodni ham jismonan, ham ruhan sog‘lom bo‘lib voyaga yetishiga, turli xil ko‘ngilsizliklarni oldini olishga hamda eng muhimi har tamonlama yetuk ijtimoiy jamiyatni shakllanishiga yordam beradi.

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THE ROLE OF MICRO-GAS IN THE ENERGY OF UZBEKISTAN AND THE STAGES OF THEIR DEVELOPMENT

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Abstract. During the meeting of the video selector dedicated to the priority tasks for the expansion of the use of renewable energy held under the chairmanship of our president, it was noted that areas for the construction of micro and small hydroelectric power plants were determined in the regions, and 200 projects with a total of 56 megawatts were developed. Because small hydro facilities are one of the most effective areas of alternative energy development. Such power plants are especially needed in remote and hard-to-reach places with limited access to transmission lines. Small rivers, canals, and waterbeds from reservoirs are convenient sources for this.

Key words: gies, energy, energy sources, consumers, rotor, solar panels, development of our country.

Introduction. According to international standards, a micro hydropower plant is a hydropower device with a capacity of 0.1 kW to 100 kW, which consists of a turbine, belt and reduction gears, and an asynchronous generator. Hydro turbines generate power due to the rapid flow of water. The faster the water flows, the more

electricity it produces, and it does not damage the natural landscape and environment during construction and operation. It does not have a negative effect on water quality, that is, it does not lose its original natural properties. Therefore, they are useful in all aspects and are useful in generating relatively cheap electricity. This requires the construction of new hydroelectric power plants and the modernization of existing ones in different regions of our country.

The community is working on 20 major projects with a total additional 740 megawatts of power in 2022-2026. In particular, in 2022, 8 projects with a capacity of 258 megawatts, including 4 new construction and modernization projects, 8 projects with a capacity of 76 megawatts and 4 more in 2023-2024 are planned. A list of 200 micro hydropower projects planned to be implemented with the participation of the private sector was created in order to ensure the implementation of the decision on additional measures for development. Meetings and interviews were held with entrepreneurs who expressed the initiative to implement them. In this way, it is planned to produce 180 thousand kilowatt hours of electricity per year on the basis of projects with a total capacity of 56 megawatts. Another important point is that

attractive tariffs have been set for the initial purchase price of electricity provided by hydroelectric power stations up to 500 kilowatts. Surplus electricity from solar and wind up to 1 megawatt and small hydropower plants up to 5 megawatts will be purchased by the state for at least 10 years.

Summary. In conclusion. In our people, there is a multi-meaning wisdom that the water that flows from your side has no value. Hydro engineers, on the contrary, say that it is very useful in all aspects, and the projects they are implementing confirm this. For example, since the Zomin micro-hydroelectric power station in Jizzakh region and the cascade of 5 compact hydro-structures in Samarkand region were put into operation, thousands of households began to be supplied with uninterrupted electricity.

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ADVANTAGES OF WAVE ENERGY

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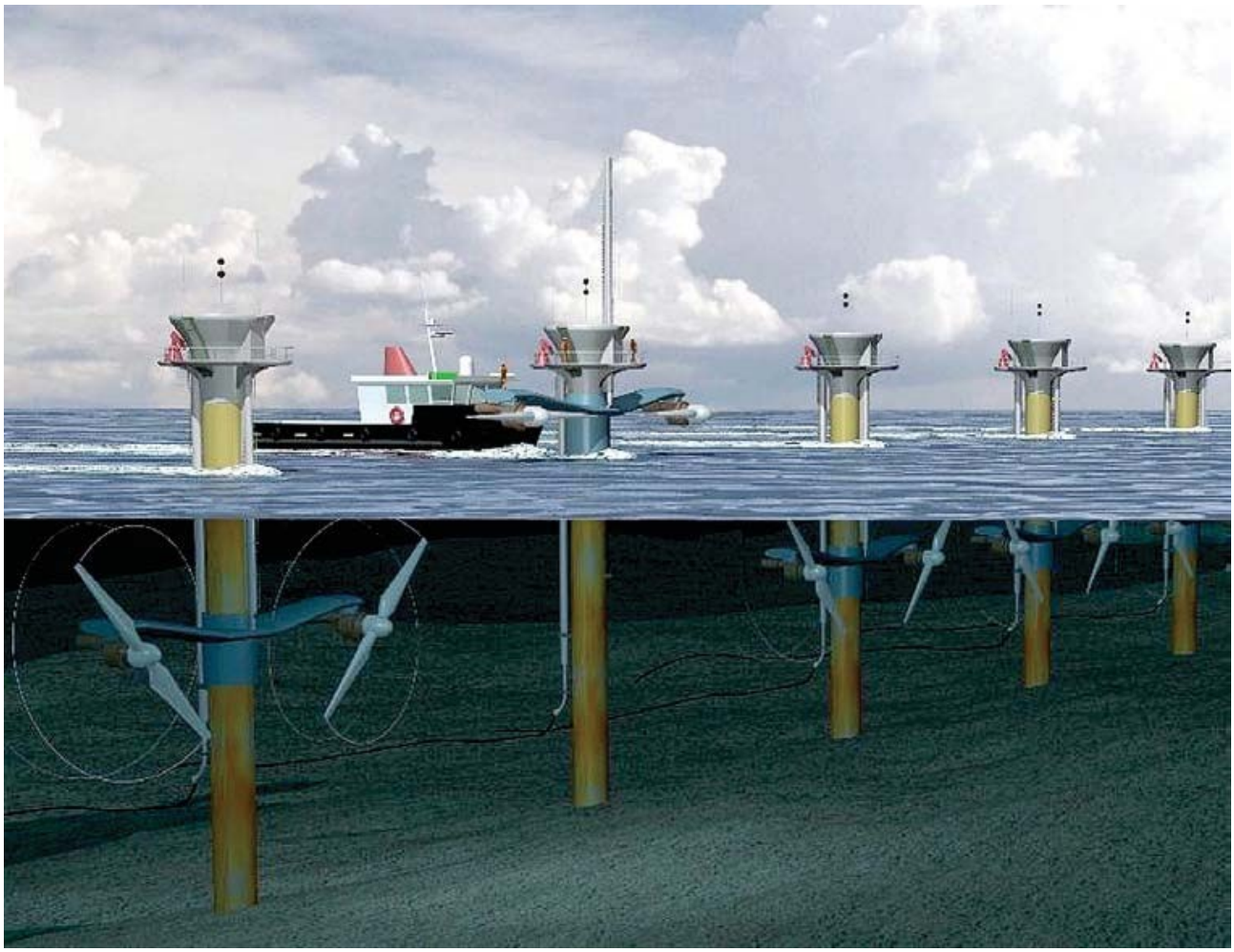
Abstract. Our experts offer assessments and evaluations for clients in all areas of the wave energy industry, including research, testing and project development. Tidal energy is a relatively new form of renewable energy that involves harnessing the power contained in waves on the ocean’s surface.

Key words: energy, wave energy, energy, solar energy, development of our country.

Intoduction. Although the use of wave energy has not been widely used for commercial purposes, in recent years this industry has grown tremendously due to the emergence of new technologies and devices that allow practical solutions to the world’s future energy needs. Wave energy devices are designed to efficiently convert wave energy into electrical energy. Depending on the concept, these devices are located in strategic positions that allow operators to maximize energy production. Some of these locations include shores, seashores, or seashores, and are typically connected to a subsea power distribution facility via a submarine power cable. Because wave energy installations are located in dangerous, sometimes unpredictable marine environments, it is essential that wave energy developers partner with a

reputable company in the marine energy industry. This will allow you to better understand the potential energy efficiency of the site and how the devices will interact with the environment.



Did you know that waves are actually caused by tides, which vary depending on the lunar cycles? That's right – you can blame the moon for those days of rough surf on the beach.Depending on the lunar cycles, tides, winds, and weather, waves can vary in size and strength. As waves roll through the ocean, they create kinetic energy, or movement. This movement can be used to power turbines, which, in turn, create energy that can be converted into electricity and power. There are also several ways of harnessing wave energy that utilize the up and down motion of the waves to power pistons-turn generators.

Currently, the countries with the largest wave power generation capacity are: South Korea, followed by France, Canada, Great Britain and Norway. Currently, wave energy makes up only a small fraction of the world's renewable energy, but the potential is huge.

Summary. In conclusion, one of the biggest obstacles to wave energy is that many people believe that wave energy systems are too small and not suitable for powering large buildings or structures.

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ANALYSIS OF PHONETIC CHARACTERISTICS IN THE TEXT OF NAVOY'S WORKS

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Abstract: the article analyzes the lexical and semantic features of homonymous words in the work of Alisher Navoi on the basis of linguistics.

Keywords: method, principle, text, work, homonymous, analysis, words.

Alisher Navoi gave valuable information about the consonants in our classical script in his works "Majolis un-nafais", "Muhokamat ul-lughatayn". As a result of collecting and organizing them, necessary information can be obtained about vocalism and consonantism of the 15th century - our classical writing.

For example, the poet says the following about the qualitative characteristics of the vowel **a**. "... In one of those sentences, Alif (ا) and Ho (ه) have a relationship and communication, so that even a word can be rhymed with an Alif word at the end. It's just that the word "yado" **(یدا)** can be rhymed with "sado" (صد ا) and "boda" (باده) can also be rhymed" [Alisher Navoi, 2000:19].

With the help of this example, the poet informs that there are two vowels **a** in the old Uzbek language, one of them is the normal long sound **a**, represented by the symbol alif (ا), the second one is hoy hawwaz (ه) and the other is the short vowel **a**, which is not distinguished by meaning. And finally, if we take into account the words "almishtur", "atsa", "aghuluq", which are found in the poet's works, including in the poet's autograph of Alisher Navoi, which is kept in the royal library in Tehran, it is

written with the alif mamduda (آ) at the beginning of the word: almishtur, atsa, aggluq, it is known that there were three types of vowel a in the 15th century[Sh. Shukurov, 1990:36-43].

Speaking about the labled vowel, Navoi emphasizes that there were four independent phonemes in the old Uzbek literary language of the 15th century, and cites the following examples: "...the net (**تور**) is stable, and the net (**تور**) is thinner than before: the one that kills the bird is weeping, and the net (twr) is thinner than the other: the net (**تور**) of the house and the net (**تور**) that is, the whole ditch: the mesh or door tormak is fictitious [Alisher Navoi, 2000:19].

As can be seen from these examples, Navoi states that there are four independent phonemes in the old Uzbek language that differ from each other in terms of length and length. The first of them has a normal length **o'** (**تور** - a house), the second (**تور** - a wood on which a bird sits) is a short **u*** of the first degree because it is shorter than the first one, and the third (**تور** - a web of a house) is a short u of the second degree because it is shorter than the second one; the fourth [Alisher Navoiy, 2000:19] (twr - web, the web of the door) is shorter than the third, so it is a short **u** of the third degree.

The poet also left valuable information about the vowel i in the 15th century: "Va yoyiy misol uch harakatdan ortiq topilmas: ter (تیر) ki, termak ma'nisi biladir. Ter (تیر) ki, andin daqiqdur, uldurki, sortlar oni "araq" va "xuy" derlar. Ter (تیر) ki, boridin ariqdur, o'q ma'nosi biladur"[Alisher Navoiy, 2000:19]. These examples show that in the old Uzbek language of the 15th century, there were three **i** vowels that differed from each other in length and length and had the characteristic of meaning separation. Of these, we took the vowel **i** in the first word as ie, in the

* Alisher Navoiy asarlariga bag'ishlab tuzilgan "Badoye' ul-lug'at" ma'lumotlariga asoslanib ikkinchi, uchinchi va to'rtinchi fonemalar – **u** qilib olindi.

second word there is a simple long **i**, in the third there is a long **i** phoneme [Alisher Navoi, 2000:19].

So, in the language of Navoi's works, i.e. the old Uzbek language of the 15th century, there were 12 vowel sounds. Nine of them have the phoneme feature (a, o‘, u - short of the first degree, u - short of the second degree, u - short of the third degree i, ie, i; e), the remaining three (long ä, short a and i) are excluded from this feature. In addition, the spelling of vowels in the language of written monuments, especially the spelling and functions of the letters alif (a), vov (w), yo (y) have been analyzed in detail one by one by some Turkic scholars in their scientific articles [Sh. Shukurov, 1990:19-24]. But further studies confirm that there are not 12 but 10 vowels in the classical Uzbek language [E.Umarov, 2009:28]. They differed from each other in terms of length and brevity: a: - a, i: -i, u: -u, o‘: -o‘, e: -e [E. Umarov, 2017:30]. It shows that there were 31 consonants [E.Umarov, 2017:30].

The formal expression of words and phrases in manuscripts, in particular, the occurrence of changes in sound structure, phonetic variants, is not a simple matter. It is based on such principles as the laws of the internal development of the text, the environment of the time, the interaction of languages, the introduction of new words and expressions, and the progress of science and technology. Therefore, in the process of converting them, it is permissible to study these phonetic cases in depth. In this regard, it is appropriate to talk about the orthographic features of some Turkish words in Navoi's works created in the 14-15 centuries.

In conclusion, in order to ensure that the standards of the old Uzbek literary language are followed in the analysis of words and phrases with phonetic variants in translation, it is necessary to take into account textual studies, the history of the Uzbek language, as well as the original language features of the works of some classic representatives of our literature and dictionaries created in previous centuries.

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OXIRGI RAQAMI 6, 7 VA 8 BO‘LGAN SONLARNING KVADRATINI HISOBLASH FORMULALARI

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Annotatsiya: Ushbu maqolada umumiy o‘rta ta’lim maktabi o‘quvchilari hamda Oliy ta’lim muassasalari talabalari uchun oxirgi raqami 6, 7 va 8 raqamlaridan iborat bo‘lgan sonlarning kvadratini hisoblovchi umumiy formula keltirilgan.

Kalit so‘zlar: Oxirgi raqami 6, 7 va 8 bilan tugovchi sonlarning kvadratini hisoblash uchun formula.

FORMULAS FOR CALCULATING THE SQUARE OF NUMBERS WITH THE LAST NUMBER 6, 7 AND 8

Annotation: This article provides a formula for calculating the squares of numbers ending in 6, 7 and 8, which can be used by students of secondary schools, as well as students of higher educational institutions.

Keyword: Formula for calculating the square of numbers ending in 6, 7 and 8.

Umumiy o‘rta ta’lim maktab Matematika fani kursidan ma’lumki, oxirgi raqami 5 bilan tugaydigan har qanday sonning kvadratini hisoblash formulasi mavjud.

$$\overline{a5}\cdot\overline{a5} = \overline{(a+1)a5} \qquad (1)$$

Ammo, oxirgi raqami 6, 7 va 8 raqamlari bilan tugaydigan har qanday sonning kvadratini hisoblashning umumiy formulasi ustida uncha ko‘p ishlar amalga

oshirilmaganligi barchamizga ayondir. Ushbu masalaga javobni misollar orqali qidirish zarur deb hisoblayman.

Oxirgi raqami 6 bilan tugaydigan har qanday sonni o‘ziga o‘zini ko‘paytirish natijasida hosil bo‘ladigan sonlarni topishning umumiy formulasi:

$$\overline{a6}\cdot\overline{a6} = a\cdot(a+1)(2\cdot a+3)6 \qquad (2)$$

Misol uchun: oxirgi raqami 6 ning kvadratini ushbu formula orqali hisoblaymiz. Bunda, a=0 qo‘yib tekshirsak.

$a = 0$

$6\cdot 6 = 36$

$a = 0$

$0\cdot(0+1)(2\cdot 0+3)6 = (0)(3)6 = 36$

O‘nlar sinfini misol sifatida tekshirsak:

$a = 5$

$56\cdot 56 = 3136$

$a = 5$

$5\cdot(5+1)(2\cdot 5+3)6 = (30)(13)6 = (30+1)16 = 3136$

Yuzlar sinfini tekshirsak:

$a = 18$

$186\cdot 186 = 34596$

$a = 18$

$18\cdot(18+1)(18\cdot 2+3)6 = (342)(39)6 = (342+3)96 = 34596$

Minglar sinfini tekshirsak:

$a = 865$

$8656\cdot 8656 = 74926336$

$a = 865$

$865\cdot(865+1)(2\cdot 865+3)6 = (749090)(1733)6 =$

$= (749090+173)36 = 74926336$

O‘n minglar sinfini tekshirsak:

$a = 2579$

$25796^2 = 25796 = 665433616$

$a = 2579$

$2579^2 = (2579+1)(2579^2+3)6 = (6653820)(5161)6 =$

$= (6653820+516)16 = 665433616$

Yuz minglar sinfini tekshirsak:

$a = 25198$

$251986^2 = 251986 = 63496944196$

$a = 25198$

$25198^2 = (25198+1)(25198^2+3)6 = (634964402)(50399)6 =$

$= (634964402+5039)96 = 63496944196$

Oxirgi raqami 7 bilan tugaydigan har qanday sonni o‘ziga o‘zini ko‘paytirish natijasida hosil bo‘ladigan sonlarni topishning umumiy formulasi:

$$\overline{a7}^2 = \overline{a7} = a^2(a+1)4^2(a+1)9 \qquad (3)$$

Misol uchun: birlar xonasidagi 7 ning kvadratini ushbu formula orqali hisoblaymiz. Bunda, a=0 ekanligi ma’lum.

$a = 0$

$7^2 7 = 49$

$a = 0$

$0^2(0+1)4^2(0+1)9 = (0)(4)9 = 49$

O‘nlar sinfini misol sifatida tekshirsak:

$a = 8$

$87^2 87 = 7569$

$a = 8$

$8^2(8+1)4^2(8+1)9 = (72)(36)9 = (72+3)69 = 7569$

Yuzlar sinfini tekshirsak:

$$a = 26$$
$$267^2 = 71289$$
$$a = 26$$
$$26^2 = (26+1)4(26+1)9 = (702)(10)89 = (702+10)89 = 71289$$

Minglar sinfini tekshirsak:

$$a = 955$$
$$9557^2 = 91336249$$
$$a = 955$$
$$955^2 = (955+1)4^2(955+1)9 = (912980)(3824)9 =$$
$$= (912980+382)49 = 91336249$$

O‘n minglar sinfini tekshirsak:

$$a = 9458$$
$$94587^2 = 8946700569$$
$$a = 9458$$
$$9458^2 = (9458+1)4^2(9458+1)9 = (89463222)(37836)9 =$$
$$= (89463222+3783)69 = 8946700569$$

Yuz minglar sinfini tekshirsak:

$$a = 77777$$
$$777777^2 = 604937061729$$
$$a = 77777$$
$$77777^2 = (77777+1)4^2(77777+1)9 = (6049339506)(311112)9 =$$
$$= (6049339506+31111)29 = 604965061729$$

Oxirgi raqami 8 bilan tugaydigan har qanday sonni o‘ziga o‘zini ko‘paytirish natijasida hosil bo‘ladigan sonlarni topishning umumiy formulasi:

$$\overline{a8}^2 = a^2(a+1)6^2(a+1)4 \qquad (4)$$

Misol uchun: birlar xonasidagi 8 ning kvadratini ushbu formula orqali hisoblaymiz. Bunda, a=0 ekanligi ma'lum.

$$a = 0$$
$$8\square 8 = 64$$
$$a = 0$$
$$0\square(0+1)6\square(0+1)4 = (0)(6)4 = 64$$

O'nlar sinfini misol sifatida tekshirsak:

$$a = 8$$
$$88\square 88 = 7744$$
$$a = 8$$
$$8\square(8+1)6\square(8+1)4 = (72)(54)4 = (72+5)44 = 7744$$

Yuzlar sinfini tekshirsak:

$$a = 16$$
$$168\square 168 = 28224$$
$$a = 16$$
$$16\square(16+1)6\square(16+1)4 = (272)(102)4 = (272+10)24 = 28224$$

Minglar sinfini tekshirsak:

$$a = 595$$
$$5958\square 5958 = 35497764$$
$$a = 595$$
$$595\square(595+1)6\square(595+1)4 = (354620)(3576)4 =$$
$$= (354620+357)64 = 35497764$$

O'n minglar sinfini tekshirsak:

$$a = 9258$$
$$92588\square 92588 = 8572537744$$
$$a = 9258$$
$$9258\square(9258+1)6\square(9258+1)4 = (85719822)(55554)4 =$$
$$= (85719822+5555)44 = 8572537744$$

Yuz minglar sinfini tekshirsak:

$a = 88888$

$888888 \cdot 888888 = 790121876544$

$a = 88888$

$88888 \cdot (88888+1)6 \cdot (88888+1)4 = (7901165432)(533334)4 =$

$= (7901165432 + 53333)44 = 790121876544$

Yuqorida olingan natijalardan ushbu hulosaga kelshimiz mumkin:

1) Oxirgi raqami 6 bilan tugaydigan har qanday sonning kvadratini hisoblash uchun:

$$\overline{a6} \cdot \overline{a6} = a \cdot (a+1)(2 \cdot a+3)6$$

2) Oxirgi raqami 7 bilan tugaydigan har qanday sonning kvadratini hisoblash uchun:

$$\overline{a7} \cdot \overline{a7} = a \cdot (a+1)4 \cdot (a+1)9$$

3) Oxirgi raqami 8 bilan tugaydigan har qanday sonning kvadratini hisoblash uchun:

$$\overline{a8} \cdot \overline{a8} = a \cdot (a+1)6 \cdot (a+1)4$$

formulalaridan foydalanishimiz mumkin.

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SOLIQQA TORTISHDA ADOLATLILIK TAMOYILINI AMAL QILISHI

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Annotatsiya: Ushbu maqolada soliq tizimida adolatlilik tamoyilini amal qilshi haqida tushunchalar berilgan. Adolatlilik tamoyilini amalga oshirishdagi yondashuvlar alohida yoritilgan.

Kalit so‘zlar: soliq, soliq tamoyillari, adolatlilik tamoyili, davlat byudjeti, soliq bazasi, soliq to‘lovchilar, ijtimoiy adolat, soliq tizimi.

Soliq tushunchasi iqtisodiy kategoriya sifatida davlatning paydo bo‘lishi va faoliyatining davomiyligi bilan bevosita bog‘liqdir. Shu o‘rinda soliq kategoriyasi davlatni iqtisodiy siyosati orqali iqtisodiy voqelik sifatida yuzaga chiqishini ta’kidlash lozim. Soliq tushunchasi tor ma’noda davlat ixtiyoriga soliq to‘lovchilardan majburiy tartibda undiriladigan pul tushumlarini ifodalaydi. Ma’lumki, soliqlar bevosita davlatning paydo bo‘lishi bilan bog‘liqdir, ya’ni davlat o‘zining vakolatiga kiruvchi vazifalarni bajarish uchun moliyaviy manba sifatida soliqlardan foydalanadi.

Soliqlarning amal qilishi bu obyektivlikdir, chunki jamiyatni tashkil etuvchi barcha subyektlar ham real sektorda, ya’ni ishlab chiqarish sohasida faoliyat ko‘rsatmaydi. Jamiyatda boshqalar tomonidan rad etilgan yoki faoliyati iqtisodiy samarasiz bo‘lgan sohalar ham mavjudki, bular soliqlarni obyektiv amal qilishini talab etadi. Aniqroq qilib aytganda jamiyatni norentabel (mudofaa, meditsina, fan, maorif, madaniyat va boshq.) va rentabel sohaga ajralishi hamda norentabel sohani moliyalashtirishning tabiiy zarurligi soliqlarni obyektiv amal qilishini zarur qilib

qo‘yadi, vaholanki, norentabel sohaning ijtimoiy xizmatlari, asosan, davlat tomonidan amalga oshiriladiki, ularni moliyalashtirish usuli sifatida yuzaga chiquvchi soliqlar ham shu tufayli bevosita davlatga tegishli bo‘ladi.

Soliqlarning amal qilishini bozor iqtisodiyotiga o‘tish sharoitida ikki holat bilan ifodalash mumkin: birinchidan, davlatning qator vazifalarini mablag‘ bilan ta’minlash zarurligi, ikkinchidan, bozor iqtisodiyoti qonun-qoidalari. Soliqlarning funksiyasini o‘rganish ularning iqtisodiyotdagi rolini ko‘rsatib bersa, soliqqa tortish tamoyillari soliq munosabatlarini amaliyotda tashkil etish, soliqqa tortish,uni undirish amaliyotining mazmunini ochib beradi. Ko‘plab iqtisodchilar soliqqa tortish iqtisodiyotning ravnaqiga olib kelishi mumkin bo‘lgan tamoyillarni qayd etishgan.

Soliqqa tortish tamoyillarini A.Smit o‘zining «Xalqlar boyligining sabablari va tabiatlari» nomli kitobida (1776) ilk bor asoslab bergan:

1. Davlat fuqarolari davlat xarajatlarini qoplashda o‘zlari hukumat muhofazasida foydalanayotgan daromadlariga muvofiq tarzda qatnashishlari lozim.

2. Har bir odam to‘laydigan soliq aniq belgilab qo‘yilgan bo‘lishi kerak, bunda o‘zboshimchalik ketmaydi. Soliq miqdori, to‘lanadigan vaqti va tartibi uni to‘lovchiga ham,boshqa har qanday odamga ham birday aniq va ma’lum bo‘lishi zarur.

3. Har bir soliq to‘lovchiga har jihatdan qulay bo‘lgan vaqtda va tartibda undirilishi kerak.

4. Har bir soliq shunday tarzda o‘rnatilishi kerakki, bunda soliq to‘lovchining hamyonidan ketadigan pul davlat budjetiga kelib tushadigan mablag‘ga nisbatan ortiq bo‘lishiga mumkin qadar yo‘l qo‘yilmasin.

Soliq solishning adolatliligi - har bir jismoniy va yuridik shaxs olingan foyda, daromadga qarab soliq to‘lashi shart. Soliqlar va yig‘imlar kamsituvchi bo‘lishi mumkin emas va ijtimoiy, irqiy, milliy, diniy yoki boshqa shunga o‘xshash mezonlar asosida boshqacha qo‘llanilishi mumkin emas. Mulkchilik shakliga, jismoniy shaxslarning fuqaroligiga yoki kapitalning kelib chiqish joyiga qarab tabaqalashtirilgan soliq stavkalarini, soliq imtiyozlarini belgilashga yo‘l qo‘yilmaydi.

Soliqqa tortishning adolatlilik tamoyiliga muvofiq, soliqlar jamiyat tomonidan oqilona va adolatli deb tan olingan umumiy obyektiv qoidalarga binoan belgilanishi lozim. Soliqqa tortishning adolatlilik tamoyili asosiy guruhdagi soliqqa tortish tamoyillariga bo‘linadi. Bularni ikki guruhga bo‘lgan holda o‘rganish maqsadga muvofiqdir. Bunda gorizontal va vertikal adolatni bir-biridan farqlash lozim. Gorizontal adolat tamoyili daromad olishning turli sharoitlarida soliq to‘lovchilarga nisbatan soliqqa tortishning taxminan teng shartlarini qo‘llashni ko‘zda tutadi.Vertikal adolat deganda, xo‘jalik yuritishning birmuncha og‘ir sharoitlarida ishlayotgan subyektlar uchun soliqqa tortishning bir qadar yumshoqroq shartlarini, yengil daromad olish imkoniyatiga ega bo‘lgan subyektlar uchun esa og‘irroq shartlarni qo‘llash tushuniladi. Soliqlarning rag‘batlantirish funksiyasini bajarish doirasida ikkinchi tamoyil buzilishi mumkin. Masalan, iste’mol tovarlari ishlab chiqarishni rag‘batlantirish maqsadida ularni ishlab chiqarish bo‘yicha soliqqa tortishda bir qadar imtiyozli shartlar yoki aksincha, vino-aroq va tamaki mahsulotlarini iste’mol qilishni cheklash uchun ulardan olinadigan egri soliqlarning yuqori stavkalari belgilangan hollar ham bo‘ladi.

Amaldagi “**Soliq kodeksi**”ning 10-moddasiga asosan “**Adolatlilik tamoyili**”ga quyidagicha ta’rif berilgan: Soliqlar va yig‘imlar kamsitish xususiyatiga ega bo‘lishi hamda ijtimoiy, irqiy, milliy, diniy va boshqa shu kabi mezonlardan kelib chiqqan holda qo‘llanilishi mumkin emas.

Mulkning shakliga, jismoniy shaxslarning fuqaroligiga yoki kapitalning kelib chiqish mamlakatiga qarab farqlangan soliq stavkalarini, soliq imtiyozlarini yoki boshqa afzalliklarni belgilashga yo‘l qo‘yilmaydi.

Shuningdek, fuqarolarning o‘z konstitutsiyaviy huquqlarini amalga oshirishiga to‘sqinlik qiladigan soliqlarni belgilashga yo‘l qo‘yilmaydi[8].

Adolatlilik tamoyili — daromadlari va hukumat dasturlaridan foydalanish darajasi bo‘yicha teng bo‘lgan kishilar teng miqdorda soliq to‘lashi zarur[9].

[8] https://lex.uz/docs/-4674902
[9] https://uz.wikipedia.org/wiki/Soliq

Ijtimoiy adolat tamoyilini amalga oshirishga turlicha yondashuvlar bo‘lishi mumkin. Agar soliqlarni to‘plangan soliqlar hisobidan ro‘yobga chiqariladigan davlat dasturlaridan keyinchalik foyda ko‘radigan shaxslar to‘lasa, u holda adolatli deb hisoblanadi. Aytaylik, respublika yo‘l jamg‘armasiga tushadigan mablag‘ni davlat katta yo‘llarni ta’mirlashga yoki qurishga sarflasa, bundan jamg‘armaga

ajratmalarni to‘lovchilarning o‘zlari-avtomobil egalari naf ko‘radi. Biroq bunday yondashuvni keng miqyosda amalga oshirishning iloji bo‘lmaydi. Huquq-tartibotni mustahkamlash, maorifni rivojlantirish, atrof-muhitni qo‘riqlashdan aniq ravishda kim ko‘proq foyda ko‘rishini qanday qilib hisoblab chiqish mumkin? Hatto bepul sog‘liqni saqlash dasturlaridan, asosan, ko‘p bolali oilalar, keksa va

nochor fuqarolar foydalanishlari aniqlab chiqilgan taqdirda ham ana shu maqsadlar uchun maxsus soliqlarni aynan ularning o‘zidan undirishni talab qilish adolatdan bo‘lmaydi, albatta.

Amaliyotda boshqacha yondashuv birmuncha kengroq qo‘llaniladi, unga ko‘ra to‘lov qobiliyati tamoyili asos qilib olinadi: soliq to‘lovchining daromadi qanchalik yuqori bo‘lsa, undan shuncha ko‘p miqdorda soliq undiriladi. Bu gapning ma’nosi shuki, badavlat odamlar bepul maktab maorifi, milliy mudofaa, sog‘liqni saqlash va boshqa sohalar uchun bir qadar yuksak iqtisodiy mas’uliyatni his etishlari lozim, chunki ular kam daromadlilarga nisbatan ko‘proq to‘lashga qodirdirlar. Aslini olganda, o‘ziga to‘q kishilar ta’lim berish va xizmat ko‘rsatish yaxshiroq yo‘lga qo‘yilgan maktab va shifoxonalarni tanlaydilar. Bunday to‘lovqobiliyati konsepsiyasi AQSH soliq siyosatida keng tarqalgan.

Biroq amaliyotda soliqqa tortishning mazkur konsepsiyasi tez-tez jiddiy qiyinchiliklarga duch kelib turadi. Yiliga100 ming dollar daromad oladigan kishi yiliga 10 ming dollar daromad oladigan kishiga nisbatan ko‘proq soliq to‘lashga qodir, degan fikrga qo‘shilish mumkin. Biroq bunda birinchi kishi ikkinchisiga qaraganda aynan necha baravar ko‘p soliq to‘lash imkoniyatiga ega, degan masala

noaniqdir. Badavlat odam o‘zining daromadidan o‘sha hissani va mutlaq katta summani to‘laydimi yoki soliq sifatida umuman ko‘proq hissani to‘laydimi? Afsuski,

aniq bir odamning soliq to‘lash imkoniyatlarini o‘lchash uchun ilmiy asoslangan qandaydir usullar mavjud emas.

Soliqqa tortishdagi adolat tamoyili ba’zi hollarda taqsimotdagi ijtimoiy adolat tamoyili ko‘rinishida namoyon bo‘ladi. Shuni ta’kidlab o‘tish o‘rinliki, bu tamoyilni daromadlarni teng ravishda taqsimlash, baravarlashtirish deb tushunmaslik kerak. Qonun oldida tenglikka rioya etilishi,ijtimoiy mumtozlikka, irq va dinga munosiblikka asoslangan imtiyozlarning bekor qilinishi, inson asosiy huquqlarga birday ega bo‘lishi kabi tenglik tamoyillari bo‘lib, ular O‘zbekiston Respublikasi Konstitutsiyasida mustahkamlab qo‘yilgan va bu tamoyillar qadriyatlarning ijtimoiy tizimida qat’i amal qilmog‘i lozim. Moddiy tenglik, ya’ni daromadlar, mulk, iste’mol sohasidagi tenglik haqida gap ketadigan bo‘lsa, aytish kerakki, bunday tenglikka erishib bo‘lmaydi. Davlat va jamiyat barcha fuqarolar yaxshi hayot kechirishlari uchun zarur shart-sharoit yaratib berishlari kerak, albatta, soliqqa tortish tizimi esa istiqbolga mo‘ljallangan rejada aholining farovonligini umumiy tarzda amalga oshirish orqali jamiyat quyi qatlamlarining ahvoli izchil ravishda yaxshilanib borishiga ko‘maklashmog‘i zarur.

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DENTAL ANXIETY AS A SPECIAL PLACE IN SCIENTIFIC KNOWLEDGE

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ABSTRACT

Anxiety and fear are part of the normal development of a child, and, as a rule, the development of fear and anxiety is transient. Panic fear of dentists is a disease called dentophobia, odontophobia or dental phobia. A person suffering from such a disease simply cannot cross the threshold of a dental office, even when the toothache becomes completely unbearable. It is important here to distinguish normal anxiety before a visit to the doctor from a panic state. If anxiety gives way to the arguments of reason, then, naturally, there is no disease. If, at the mere thought of dental treatment, your blood pressure jumps to unknown heights, your heart starts racing, and you are unable to follow even the simplest instructions from the doctor, then you have dental phobia. las, you cannot hide from dental problems. Caries and tooth loss are fraught with gastrointestinal diseases, migraines, even scoliosis. In addition, prevention is not only much less painful, but also costs less than serious treatment. So, what should dentophobes do?

Key words: Fear, dental phobia, fear of the dentist, children's reactions, correction of fear and anxiety.

The problem of anxiety occupies a special place in modern scientific knowledge. A significant amount of research has been devoted to it, not only in psychology, but also in medicine, physiology, philosophy, and sociology.

In the last decade, interest in the study of anxiety has increased significantly due to drastic changes in the life of society, generating uncertainty and unpredictability of the future and, as a consequence, experiences of emotional tension, worry and anxiety. At the same time, it should be noted that even now in our country anxiety is studied mainly within the narrow framework of specific, applied problems (school, exam, competitive anxiety, anxiety before visiting the dentist, during dental procedures, etc.). This situation in the study of the problem of anxiety is largely due to the logic of the development of domestic psychological science, in which the study of emotions, emotional states, and dominant emotional experiences of an individual was carried out mainly at the psychophysiological level, and the area of stable formations of the emotional sphere remained essentially unexplored. The study of anxiety in children and adolescents (genetic aspect) is also, as a rule, of a clearly applied, "service" nature. Understanding anxiety as an emotional state, and anxiety as a stable personal formation (the latter term is also used to refer to the entire phenomenon as a whole), we proceed from the fact that a certain level of anxiety is normally characteristic of all people and is necessary for a person's optimal adaptation to reality. The presence of anxiety as a stable formation is evidence of disturbances in personal development that impede normal development, activity, and communication. Anxiety is considered here as an emotional-personal formation, which, like any complex psychological formation, has a cognitive, emotional aspect. Anxiety is considered as an experience of emotional discomfort associated with the expectation of trouble, the premonition of impending danger. The fact that anxiety, along with fear and hope, is a special, anticipatory emotion, ensures its special position among other emotional phenomena. The main problem with dental appointments is that most of the procedures seem to be or are invasive. A child in a dental clinic is surrounded by a huge number of stimuli that cause physical discomfort and disturbing emotions, so the child patient's behavior often takes on a protest character.

For some children, dental fears and anxieties do not go away and become persistent and problematic. There are many different mechanisms that have been proposed to explain the development of childhood phobia in children; however, there is general agreement that the etiology of childhood dental phobia is multifactorial.

Exogenous sources of child phobia are external factors, which include direct experience (for example, traumatic) and indirect experience (indirect information). Endogenous sources of dental phobia are internal factors that make people susceptible to the development of dental anxiety.

The vast majority of children suffer from needlephobia and are concerned about the sensation of pain, especially during intraoral anesthesia. Especially, palatal injections cause dental phobia.

The presence of fears and anxieties is considered part of normal child development and follows the consistent and predictable pattern of adult life. Poor communication between the dentist and the patient not only contributes to the development of dental phobia, but also plays an important role in maintaining dental anxiety. It is therefore important that dental staff are aware of how their behavior can affect children. Strategies for the correction of dental fear and anxiety (DFE) in children include, but are not limited to, minimally invasive dental aspects such as atraumatic restorative treatment (AVL) and chemical-mechanical caries removal (CMCA) techniques; hypnosis; behavioral interventions or behavior management techniques; music; relaxation and pharmacological agents, including the use of benzodiazepines and antidepressants. Medicines provide only short-term effective solutions, but there is a high relapse rate and an increased risk of drug side effects.

Choosing the right treatment for dental anxiety is not always easy. A cooperative dental patient is critical to the success of treatment, so it is important for the dentist to manage the psycho-emotional state of the patient, especially the child.

Some countries have established specialized dental clinics that can be used by adult patients with severe dental anxiety, and these clinics provide specialized care, including both non-pharmacological and pharmacological treatments. In addition to

helping patients treat dental anxiety, these clinics promote short-term and long-term dental care.

The purpose of the study was to determine the level of anxiety in children at an outpatient dental appointment in order to improve the efficiency of providing dental care to children. The study was conducted at Samarkand State Medical University in 2019-2023. Children who applied to the dental clinic, 100 child patients were selected using a sampling method, who were divided into two groups - the control group (46 children) and the main group (54).

The examined children, according to physiological and biochemical age standards, were divided into age groups:

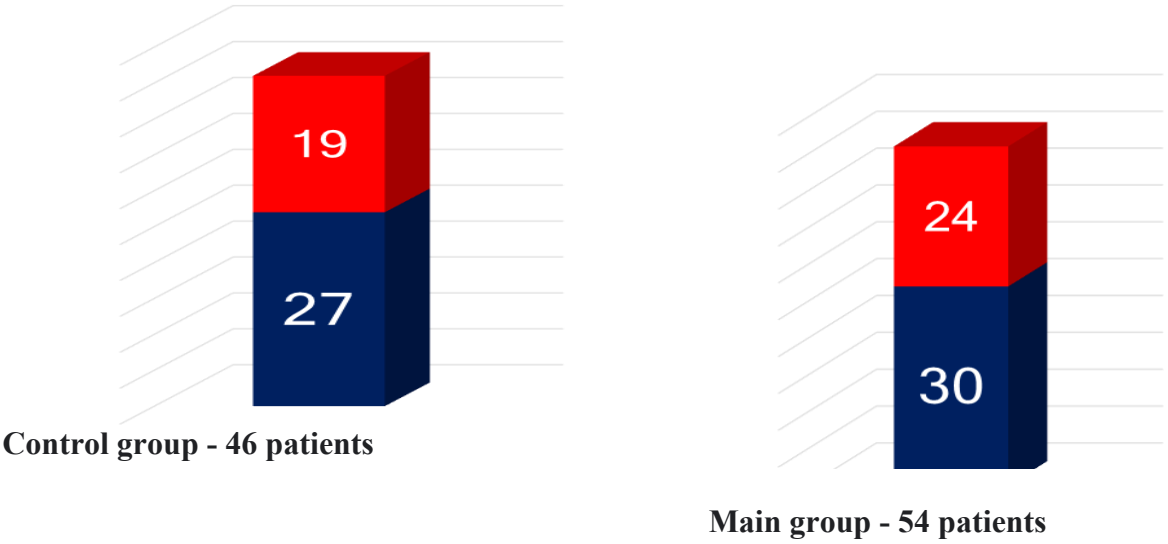


Figure 1 Children examined

The objectives of the psychological and sociological research included: assessing emotional tension, identifying dental phobia, objectively assessing the behavior of children at dental appointments, identifying factors causing dental anxiety. The objectives of the study of somatic status included: measurement of diastolic blood pressure, measurement of heart rate with subsequent calculation of the vegetative Kerdo index. The objectives of the biochemical study included: studying the concentration of salivary cortisol and determining the rate of salivation.

Changes in the activity of the autonomic nervous system are the result of the influence of dental anxiety experienced by the child. Fear and anxiety are the cause of the development of autonomic reactions that affect the functioning of the cardiovascular system. An indicator of the ANS activity changing under the influence of psycho-emotional stress is the Kerdo autonomic index, the calculation of which requires values of heart rate and diastolic blood pressure. For this purpose, children's heart rate and blood pressure were measured twice - before and after the use of NFMCP.

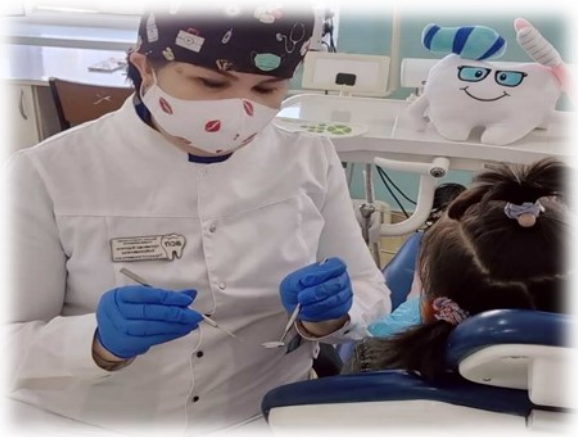
The Frankl behavioral scale was used - an objective assessment of anxiety, according to which the behavior of children at the dental office can be divided into four categories: absolutely negative, in which treatment is refused; negative – treatment is accepted with reluctance; positive – treatment is accepted with caution; absolutely positive – good contact with the doctor, laughter and joy of the child.

In children aged 6 years, the Luscher color test was used to assess the psycho-emotional state, according to which 4 points scored by the patient correspond to a favorable emotional state, 3 - satisfactory, 2 - unsatisfactory (requires specialist help), 1 - the child is in a crisis state and needs help from a psychologist or psychotherapist. Depending on age, all children were divided into 3 groups: 6-year-olds (19 children), 7-10-year-olds (46 people), 11-15-year-olds (45 people).

In a sociological study to identify the causes of dental anxiety, it was revealed that most anxiety at an outpatient dental appointment is caused by the expectation of pain - 50% ± 2.15. The next big irritant is local anesthesia (injections) - 33%±2.97; 32%±2.3 are afraid of the sound of a drill; the light of the lamp causes psycho-emotional stress in 3.8%±1.1, and the dentist's comments about the condition of the oral cavity – in 2.7%±1.3 children.

Results and conclusions: thus, dental anxiety and dental phobia in children and adolescents are often the reason for late seeking dental care, leading to a complication of the treatment process and a worsening prognosis; these patients have poor contact

with the specialist and often do not follow his recommendations. They also reduce the effectiveness of local anesthesia, leading to the fore need for additional anesthetic injections, and the present study found injections to be a major irritant for children, with 33% ± 2.97 patients finding injections a cause for concern.



You should also avoid, if possible, excessive criticism about the condition of the patient's oral cavity, and spend more time on preventing the further development of existing dental diseases. The main focus in preparing children for dental treatment, the pediatric dentist should pay to explaining the safety of the sound of the turbine handpiece; painlessness of local anesthesia (with demonstration of thin small needles used) and subsequent manipulations after the onset of anesthesia. Additionally, it has been found that anxiety during dental treatment leads to poor cooperation with the dentist, leading to unnecessary difficulties in performing dental procedures and unsatisfactory results. It was found that insufficient attention is paid to psychotherapeutic methods for correcting psycho-emotional stress, despite their undoubted advantages.

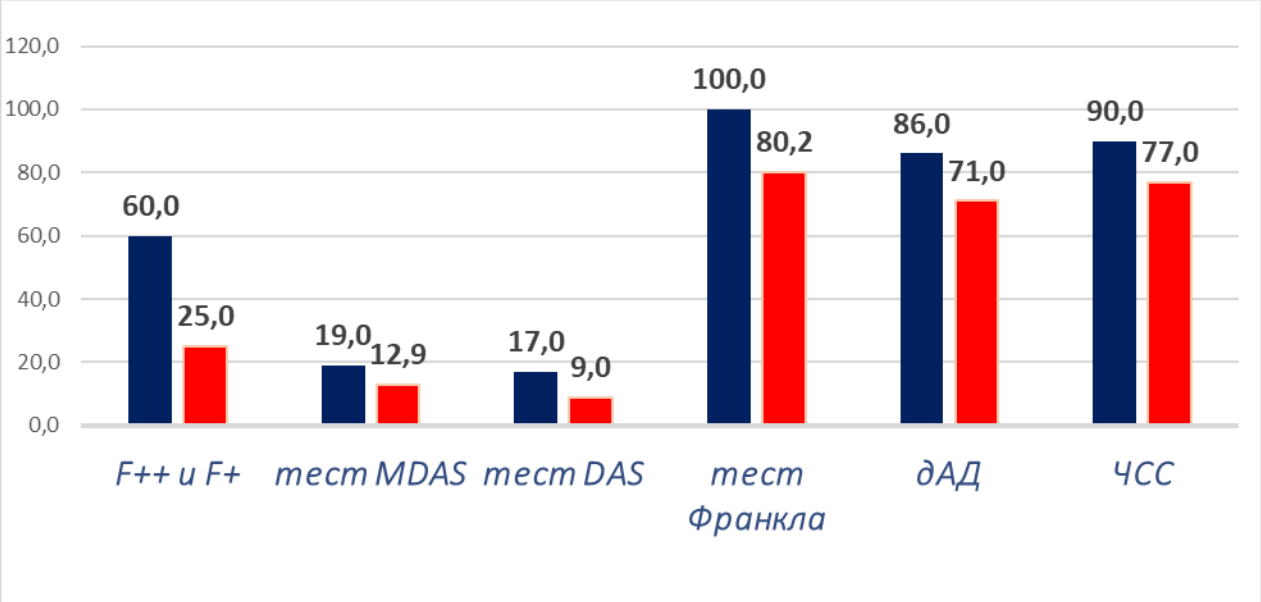
Conclusion: thus, we can conclude that dental anxiety is common among children 6-15 years old and as a result of our research, we found that children with low levels of anxiety more often visit the dentist for a preventive examination, and children with high levels of anxiety go to the dentist, as a rule, only in emergency cases;

- the diagnosis with which the child is referred to the dentist does not affect the level of anxiety;

- children who had a preliminary conversation before visiting the dentist experienced a lower level of anxiety;

- among the reasons for fear of visiting a dentist, the main ones are: anticipation of pain, discomfort during treatment and negative experiences of dental treatment in the past.

Table 2



Thus, we can conclude that visiting the dentist for preventive purposes reduces the child's anxiety level at the appointment; a preliminary conversation before visiting the doctor also has a beneficial effect. Possible causes of children's fears include the excitement and anxiety of the parents themselves.

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МИКРОБИОЛОГИЧЕСКИЙ АНАЛИЗ БИОМАССЫ TENEBRIO MOLITOR

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MICROBIOLOGICAL ANALYSIS OF TENEBRIO MOLITOR BIOMASS

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АННОТАЦИЯ

В статье рассмотрен микробиологический анализ биомассы *Tenebrio molitor*, в будущем проведен микробиологический анализ высушенных образцов биомассы Tenebrio molitor в связи с тем, что она имеет большое научное и практическое значение для предотвращения возникновения повреждений у организмов, потребляющих эту биомассу (человека, крупного рогатого скота, птиц, рыб и др.) На основании проведенных работ проведены исследования на основе природной высушенной биомассы личинок *Tenebrio molitor.* Учитывая весьма сжатые сроки, отведенные на наши исследования, микробиологический анализ съедобных насекомых, представляющих собой огромный экономический ресурс и требующих длительного времени, направление наших исследований направлено на определение бактериальной флоры личинок *Tenbrio molitor.*

Ключевые слова: Tenebrio molitor, микробиологический анализ, Bacillus thuringiensis, Bacillus firmus.

ABSTRACT

The article discusses the microbiological analysis of *Tenebrio molitor* biomass; in the future, a microbiological analysis of dried samples of *Tenebrio molitor* biomass will be carried out due to the fact that it is of great scientific and practical importance for preventing damage to organisms that consume this biomass (humans, cattle, birds, fish, etc.) Based on the work carried out, studies were carried out on the basis of natural dried biomass of *Tenebrio molitor* larvae. Taking into account the very short time allocated for our research, microbiological analysis of edible insects, which represent a huge economic resource and require a long time, the direction of our research is aimed at determining the bacterial flora of *Tenebrio molitor* larvae.

Key words: Tenebrio molitor, microbiological analysis, Bacillus thuringiensis, Bacillus firmus.

There are very few scientific resources on the microbiological flora of edible insects in the world, and scientific research work on further clarification of the microbiological flora is one of the urgent issues.

Bacteria belonging to the genus Staphylococcus, Streptococcus, Bacillus, Proteus, Pseudomonas, Escherichia, Micrococcus, Lactobacillus and Acinetobacter are recorded as the main microbiological flora of insects [Agabou and Alloui, 2010; Amadi et al., 2005; Braide et al., 2011; Giaccone, 2005].

According to information provided by FAO, pathogenic (entomopathogenic) bacteria found in insects are harmful to humans and animals [FAO, 2013]. Therefore, there is a theory that, in addition to bacteria found in insects, microflora from outside during their cultivation (naturally or accidentally falling into buildings and structures, natural or accidental microbes in food products, etc.) and during processing or storage processes can be dangerous. [ANSES, 2015].

Also, a large number of pathogenic microbes found in insects are widely used in pest control, and are usually included in the fourth group of dangerous microbes and are considered safe for humans and warm-blooded animals. For example, in South America, insect pathogens used in the GRAS system to control pests are generally considered harmless, but in the EU countries, they are considered harmful to humans and animals if they have the status of QPS (classification of presumption of safety), that is, if they are specially added to food or feed against pests [Sundh et al. ., 2012; Leuschner et al., 2010)]. If there are microbes or their metabolic products that are not included in these safety groups, it is appropriate to conduct special tests on them and draw a conclusion on their further consumption.

Therefore, ensuring the safety of invertebrate pathogens is an integral part of listing them as biological control agents prior to commercialization [Eilenberg et al., 2015].

Klunder and his colleagues performed a microbiological analysis of the cultures of Tenebrio molitor and Brachytrupes sp.) in newly bred insects and noted that mainly spore-forming bacteria and enterobacteria were found [Klunder et al., 2012]. In these studies, it was found that the composition and condition of the substrate used for feeding insects directly affects the number of microbes found in the intestines of insects. However, it has been noted that the substrate and taxonomy used in feeding do not depend on the bacterial profile in the insect's gut [Colman et al., 2012]. It can be concluded that it is advisable to approach the insect biomass in each prepared large batch individually. Peña-Pascagaza from the University of Javeriana, Colombia, and his colleagues, using the most modern methods of microbiological analysis of Tenebrio molitor larvae, that is, sequencing based on 16S rRNA, noted that the microflora can be found in the following table [Peña-Pascagaza PM, López-Ramírez NA, Ballen-Segura MA. Tenebrio molitor and its gut bacteria growth in polystyrene (PS) presence as the sole source carbon, Universitas Scientiarum, 25 (1): 37-53, 2020. doi: 10.11144/Javeriana.SC25-1.tmai]. The results of the microbiological analysis presented by them in this table specifically emphasized that the yellow flour beetle appeared when polystyrene was used as the only source of carbon.

From the scientific sources listed in Table 3.1.1, it can be seen that based on the results of microbiological analysis of the Tenebrio molitor food-eating insect, the presence of microbiological objects belonging to the genera Bacillus anthracis, Stenotrophomonas, Pantoea and Erwinia was recorded in their composition. In addition, several genera of microorganisms, such as enterococci, spore-forming aerobic bacteria, fermenting yeasts, Escherichia coli, are widely covered in scientific sources [Yan X. et al., 2023].

Therefore, in the course of our research, we tried to carry out their microbiological analysis using the samples of Tenebrio molitor nutritive insect grown in the scientific laboratory of the Institute of Microbiology of the Academy of

Sciences of the Republic of Uzbekistan of the Tashkent Institute of Chemical Technology, Department of "Biotechnology".

On the basis of the conducted research, studies were conducted on the basis of natural dried and dried biomass of Tenebrio molitor larvae. In particular, based on the results of the preliminary research, a microbiological analysis of the larvae of the feeding insect Tenebrio molitor before drying was carried out.

Taking into account that the time allocated for our research is very short, microbiological analysis of nutritious insects is a huge economic resource and requires a long time, we focused our research on determining the bacterial flora of Tenbrio molitor larvae.

According to the results, the following microbiological isolates were isolated: Staphylococcus warneri, Staphylococcus succinus, Bacillus thuringiensis, Bacillus firmus, Pseudomonas aeruginosa, Bacillus cereus, Serratia marcescens, Pseudomonas mosselii, Enterobacter cloacae, Enterobacter asburiae and Cronobacter sp.

The obtained results, morphological and biochemical characteristics of bacterial isolates isolated from the biomass of Tenebrio molitor larvae before drying are recorded in Table 3.1.2. In particular, when we analyzed bacterial isolates isolated from the biomass of Tenebrio molitor larvae before drying, it was found that isolates belonging to the genus Staphylococcus ranged from 1.22×105 to 2.04×105 cells in terms of the number of colonies (KOE/ml). It was also noted that all of these isolates showed a positive reaction according to the G reaction characteristic. In addition, when studying the mobility of the isolates, the mobility of bacteria belonging to the genus Staphylococcus was not recorded.

Table 1

Microbiological flora of Tenebrio molitor larvae when polystyrene is used as a carbon source

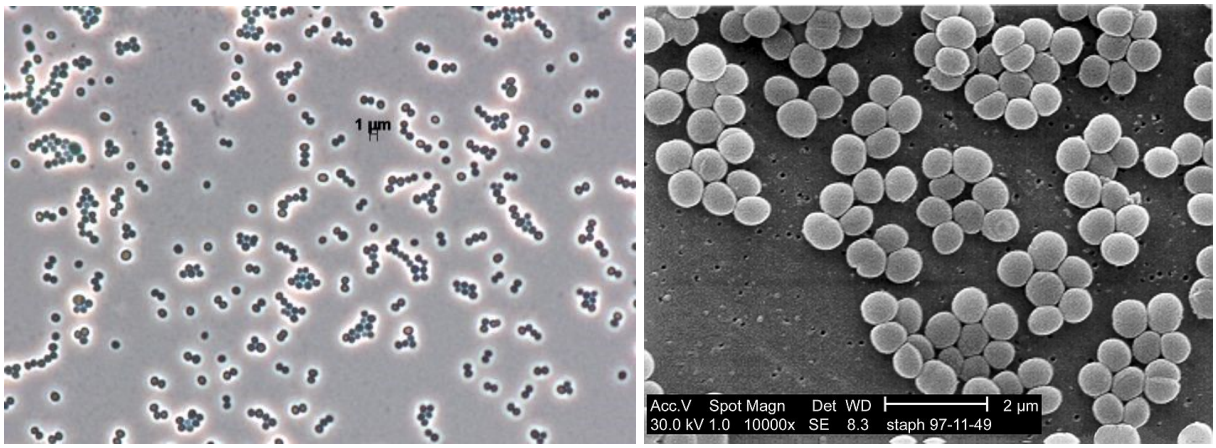
[Peña-Pascagaza et al., 2020]

№	Isolation number	Morphological description	Biochemical description	Molecular identification
1	1G	It consists of cells that form colonies of white round shape with wavy edges and bacillary morphology.	Gram positive bacteria produce gas by fermenting lactose or sucrose. Indole or catalase positive, motile.	Bacillus anthracis
2	3G	It consists of cells that form colonies of white round shape, having a bacillary morphological form, with smooth edges.	Gram negative bacteria ferments sugar to form gas, positive for citrate and catalase, motile.	Stenotrophomonas sp.
3	5G	It consists of cells that form colonies of yellow color with smooth edges, having a bacillary morphological form.	Gram-negative bacterium, ferments sugar to form gas, positive for VP and oxidase, motile.	Stenotrophomonas sp.
4	8G	It consists of cells forming white round colonies with a bacillary morphological form, complete and smooth edges.	Gram-positive bacteria ferment glucose and sucrose without producing gas. Catalase and oxidase positive, mobile.	Bacillus sp.
5	10G	It consists of cells forming white colonies with a bacillary morphological form, with full edges.	Gram negative bacteria, does not ferment glucose, positive for citrate and catalase, motile.	Stenotrophomonas sp.

6	11E	It consists of cells forming white colonies with a bacillary morphological form, with full edges.	Gram negative bacteria ferment lactose and sucrose without producing gas. VP, positive for citrate and catalase, motile.	Pantoea agglomerans
7	12E	It consists of cells forming white colonies with a bacillary morphological form and wavy edges.	Gram negative bacteria, ferments lactose and sucrose without producing gas, is mobile.	Erwinia persicina
8	13E	It consists of cells forming white colonies with a bacillary morphological form and wavy edges.	Gram positive bacteria ferment glucose and sucrose without producing gas. Catalase positive, mobile.	Bacillus sp.
9	14E	It consists of cells forming white colonies with a bacillary morphological form and wavy edges.	Gram positive bacteria ferment glucose and sucrose to form gas. Catalase positive, mobile.	Bacilus anthracis

When analyzing the isolates, the detection of Warneri and Gallinarum species of the genus Staphylococcus was noted (Fig. 3.1.1, A).

In addition, isolates belonging to the thuringiensis and Firmus species of bacteria of the spore-forming genus Bacillus were isolated. During the research, it was noted that species belonging to this genus are very aggressive, and the shape of the cells is rod-shaped (Table 3.1.2).



А. Б.

Figure 3.1.1. Microscopic view of an isolate of Staphylococcus warneri [Yann He´chard et al., 2005] (A-cells confluent cells during growth, B-cells coccoid appearance)

It was observed that colonies of Bacillus thuringiensis isolate showed white color, whereas Bacillus firmus isolates showed milky cream color unlike thuringiensis.

Also, it was noted that bacteria belonging to the genus Staphylococcus are resistant to standard heat exposure, on the contrary, isolates of Bacillus thuringiensis, Bacillus firmus and Pseudomonas aeruginosa are resistant.

During the research, it was observed that all isolates mentioned in table 3.1.1 are resistant to the effect of 6.5% NaCl solution, but only Staphylococcus warneri and gallinarum species are resistant to 10% NaCl solution, Bacillus thuringiensis, Bacillus firmus and Pseudomonas aeruginosa isolates it was noted that it was unbearable. Among the isolates shown in Table 3.1.1, the oxidase activity of the isolates belonging to the genera warneri and gallinarum of the genus Staphylococcus and the species thuringiensis and firmus of the genus Bacillus was negative, but it was noted that the isolate of Pseudomonas aeruginosa showed positive activity.

Also, according to catalase activity, it was found that all isolates, that is, warneri and gallinarum species of Staphylococcus genera, as well as isolates of Bacillus thuringiensis, Bacillus firmus and Pseudomonas aeruginosa, showed a positive result.

In the studies on the reaction to Candelabrum, the data recorded on catalase activity were repeated, that is, the negative activity of isolates belonging to the genera Staphylococcus warner and gallinarum species and Bacillus thuringiensis and firmus species from the isolates shown in Table 3.1.1 on the reaction to Candelyabr, Pseudomonas aeruginosa isolate on the reaction to Candelyabr showed positive activity.

Based on biochemical analysis, it was found that the species of Staphylococcus warneri and gallinarum showed a negative reaction in terms of nitrate recovery, while

the isolates of the genus Bacillus thuringiensis and firmus and the isolate of Pseudomonas aeruginosa showed positive activity.

Table 2

Morphological and biochemical characteristics of bacterial isolates isolated from the biomass of Tenebrio molitor larvae before drying (larvae grown on the basis of wheat bran, 35 days old)

№	Sample tests	*Staphylococcus warneri*	*Staphylococcus gallinarum*	*Bacillus thuringiensis*	*Bacillus firmus*	*Pseudomonas aeruginosa*
1	Cell count (CFU/ml)	$2,04\times10^5$	$1,22\times10^5$	$3,21\times10^5$	$1,12\times10^5$	$3,17\times10^5$
2	Reaction description of G	+	+	+	+	+
3	Mobility	-	-	+	+	+
4	Cell shape	coccoid	coccoid	rod-shaped	rod-shaped	rod-shaped
5	Color of colonies	white	yellow	white	milky	milky
6	Spore formation	-	-	+	+	+
7	Heat test	-	-	+	+	+
8	Fluorescence to KB*	-	-	-	-	+
9	NaCl resistance (6.5%)	+	+	+	+	+
10	NaCl resistance (10%)	+	+	-	-	-
11	Oxidase	-	-	-	-	+
12	Catalase	+	+	+	+	+
13	Staining in methyl red	-	-	-	-	-
14	Nitrate recovery	-	-	+	+	+
15	Acid formation of	+	+	-	+	+

	arabinose					
16	O/F test	F	F	F	F	O
17	Starch hydrolysis	-	-	+	+	+
18	Cellulose hydrolysis	-	-	-	-	-
19	Lignin hydrolysis	-	-	+	+	-
20	Allergic (HR) reaction	-	-	-	++	++

Изох: *+ - positive; – - negative; *Resistant to 16% NaCl; *Reaction to chandelier: + - weak reaction; ++ -strong reaction; +++- very strong reaction.*

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OQ LYUPIN EKININI SIDERAT SIFATIDA FOYDALANISH

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Annotasiya

Maqolada Samarqand viloyati o‘tloqi-bo‘z tuproqlar sharoitida Oq lyupin ekinini siderat sifatida foydalanish orqali tuproq unumdorligini oshirish bo‘yicha hamda tuproqni azot bilan boyitishi bo‘yicha ma’lumotlar keltirilgan.

Kalit so‘zlar: Tuproq, tuproq xossalari, o‘tloqi-bo‘z, unumdorlik, siderat, yashil massa, azot, Oq lyupin, don, sifat ko‘rsatkich.

Oq lupin (Lupinus albus L.) dukkakli don ekini hisoblanadi. O‘simlik oqsilining etishmasligi muammosini hal qilish, soya importini kamaytirish va oqsil bilan uzluksiz ta’minlash uchun ishlatiladi. Oq lyupin soyaga qaraganda samaraliroq, yanada og‘ir ekologik sharoitlarda o‘sishi mumkin. Urug‘lar, soya kabi, 35-40% oqsil va 9-12% yog‘ni o‘z ichiga oladi.

Lyupin atmosfera azotni biriktirish qobiliyatiga ega bo‘lib, 1 ga ekin havodan 200 kg gacha azotni to‘plashi va bu 40 tonna go‘ng bilan ekvivalent ekanligi aniqlangan.

rasm. Oq lyupin ildizidagi tuganak bakteriyalar

Lyupinni yashil o‘g‘it (siderat) uchun etishtirish mumkin, tuproqni organik moddalar va azot bilan boyitilgan. Agrotexnik nuqtai nazardan, lupin yaxshi fitosanitar hisoblanadi.

Tuproqni azot va organik moddalar bilan boyitish maqsadida o‘simliklarning yashil massasini (yashil o‘g‘it) tuproqqa haydab tashlash siderasiya hisoblanadi. Tuproq unumdorligini oshirishda oq lyupin ekinidan keng foydalanilmoqda. Respublikamizning turli tuproq iqlim sharoitlarida tuproq unumdorligini oshirish uchun siderat sifatida ekin dozarb masalalardan biri hisoblanadi.

Dala tajribalari Samarqand viloyati Oqdaryo tumani o‘tloqi – bo‘z tuproqlari sharoitida olib borilmoqda. Tajribada oq lyupinning “Dega” navi ob’yekt hisoblanadi. Dala tajribasi qadimdan sug‘orilib kelinayotgan, mexanik tarkibiga ko‘ra o‘rta qumoq, tuproqning haydov qatlamida yalpi oziq moddalar miqdori NPK – 0,10; 0,09;

2,1 % ni tashkil etgan bo‘lib, harakatchan oziq moddalar bilan juda kam va kam ta’minlangan ekanligi aniqlandi.

Oq lupin bahorgi ekinlar hisoblanadi. Eng optimal ekish muddati aprel oyining ikkinyai o‘nkunligi hisoblanadi. Ekish usuli tor qatorli bo‘lib, qator oralig‘i 45 sm, ekish me’yori esa 500 ming yashovchi urug‘/ga (50 urug‘/m^2). Ekish tavsiya etiladi.

2 – rasm. Oq lyupin ekini

Oq lyupin urug‘ining sifat ko‘rsatkichlari laboratoriyada tahlil qilindi.

Olingan ma’lumotlar shuni ko‘rsatadiki, namlik 12,8 %, quruq modda miqdori 87,2 % ni tashkil etgan bo‘lsa, oqsil, klechatka va yog‘ miqdori mos ravishda 38,7; 8,9 va 6,8 % bo‘lganligi aniqlandi. Mineral elementlar asosan azot - 0,5 %; fosfor – 0,4 % va kaliy 0,15 % ni tashkil etdi (1 - jadval)

Dala tajribalarida o‘simlik bo‘yi o‘rtacha 62-63 sm ni tashkil etdi. Don hosili o‘rtacha 36-38 s/ga bo‘ldi. Yashil massa miqdori esa har bir gektar maydondan 4855 tonnani tashkil etdi.

1 - jadval

Oq lyupin ekini doni tarkibida organik va mineral moddalar miqdori, Laboratoriya tajribasi, 2022 yil

№	**Ko‘rsatkich**	**Doni**
1.	Namlik, %	12,8
2.	Kuruq modda, %	87,2
3.	Oqsil, %	38,7
4.	Kletchatka, %	8,9
5.	Yog‘ (moy), %	6,8
6.	Kul miqdori, %	3,5
	Mineral elementlar	
7.	Kalsiy, %	0,3
8.	Fosfor, %	0,4
9.	Azot, %	0,5
10.	Kaliy, %	0,15

O‘rtacha 50 t/ga hisoblanganda har bir gektar maydonga yashil massa bilan birga 250 kg azot, 200 kg fosfor va 75 kg kaliy tuproqqa tushadi. Bundan tashqari tuganak bakteriyalar bilan ham ma’lum miqdorda azot to‘lanadi. Har yili oq lyupin ekinini siderat sifatida foydalanish tuproq oziq moddalar miqdorini oshirishi, yashil massa nafaqat oziq moddalar miqdorini oshiradi, balki tuproqning fizikmexanik, suv xossalarini yaxshilaydi. Tabiiyki bu ko‘rsatkichlar tuproq unumdorligini yaxshilanishiga olib keladi. Keyingi tadqiqotlar donning sifat ko‘rsatikchlarini aniqlashni taqozo etadi.

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YOSHLAR TARBIYASIGA TA’SIR ETUVCHI MA’NAVIY-MAFKURAVIY OMILLAR

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Annotatsiya: Maqolada yoshlar masalasining butun dunyo miqyosida dolzarbligi, tarixan bu mavzu ahamiyatli bo‘lganligi va kishilik jamiyatining ertangi taqdiri ular qo‘lida ekanligi hamda globallashuv asrida yoshlar tarbiyasiga ta’sir qiluvchi ma’naviy-mafkuraviy omillar va ularni bartaraf etish choralari haqida gap boradi.

Kalit so‘zlar: Tarbiya, jamiyat, ma’naviyat, mafkura, g‘oya, mentalitet, axloq.

Abstract: The article talks about the global relevance of the issue of youth, the fact that this topic has historically been important, and that the future fate of human society is in their hands, as well as the spiritual and ideological factors that affect the education of young people in the age of globalization and the measures to eliminate them.

Key words: Education, society, spirituality, ideology, idea, mentality, morality.

Ma’lumki, muayyan xalq va jamiyat hayotida ulkan ahamiyat kasb etib, uning taraqqiyot darajasini yangi bosqichga ko‘taruvchi g‘oya yoki ta’limotlar nisbatan ilgariroq paydo bo‘ladi. Mana shu g‘oya katta maqsad yo‘lidagi o‘zgarishlarni ilg‘ay oladigan, ko‘plarni birlashtira oladigan, insonlar qalbi va ongiga singib, ularning hayotiy maqsadlariga aylanadi. Yana bir tushuncha mavjudki, avvalo insonlar ongi, tafakkuri, dunyoqarashi, atrofdagi voqea-hodisalarga munosabati o‘zgarsagina ular davlat, jamiyat hayotini ya’ni siyosiy tuzulmalarni hamda ijtimoiy munosabatlarni

o‘zgartira oladilar. Zulm ko‘rgan har qanday xalqning ruhi cho‘kadi, qaddi bukiladi, beli sinadi. Oqibatda u o‘zini ojiz his qilishga majbur bo‘ladi, oqibatda esa tanazzul muqarrar degani. Prezidentimiz ta’kidlaganlaridek: “Ayniqsa, hozirgi zamonda, dunyodagi ilg‘or xalqlar katta-katta marralar sari intilayotgan bir paytda ma’naviy jihatdan g‘aflatda botib, “uxlab yotishga”, loqayd bo‘lishga hech kimning haqqi yo‘q. Barcha fojialar va muammolar, Vatanga, millatga, kelajakka xiyonat aynan loqaydlikdan boshlanadi”[1]. Xalq ko‘nglidan bu qo‘rquv, ishonchsizlik, tushkunlikni quvib chiqarish uchun esa kuchli g‘oya, asosli bir ta’limot kerak edi. Insonlar psixologiyasi ularning dunyoqarashi va ma’naviyati, madaniyatini belgilashi shubhasiz. Har qanday ma’naviyatdan begonalik, madaniyatsizlik boshqa insonlar psixologiyasida ham illat urug‘ini paydo qilishdek kuchli xavf tug‘diradi. Mana shunday illatu qusurlar yoshlarga ham ta’sir ko‘rsatishi tabiiy.

Har bir tarixiy davrda yoshlar masalasi dolzarb bo‘lgan. Masalan, faylasuf Suqrot ham o‘z zamonasi yoshlaridan hamisha tashvishlanganligini ta’kidlagan edi. Hatto bugun ham rivojlangan davlatlarda ham ichki siyosatning muhim yo‘nalishi sifatida yoshlarga alohida e’tibor qaratayotganligi ko‘rish mumkin. Xususan, Yevropa davlatlari orasida Germaniyada bu masalaga o‘ziga xos yondoshuv bor. Ushbu davlat tajribasi mazmuni yoshlarni jamiyatga ijtimoiy moslashuvini ta’minlash va ularni sog‘lom muhitga ko‘chirishdan iborat. Shu orqali nemis millati va qadriyatlarini asrashni maqsad qiladi. O‘tgan asrning 20- yillariga kelib yoshlar masalasi har qachongidanda dolzarblashdi, xuddi shu davrda yoshlar masalasiga bag‘ishlangan qator asarlar yaratila boshlandi. Ingliz olimi Mangeymning “Avlodlar muammosi”, yoki vatandoshimiz Fitratning “Oila yoxud oilani boshqarish tartiblari”[2] asarlari yaqqol misol bo‘la oladi. Buyuk sohibqiron Amir Temur ham o‘z tajribalari asosida «Tuzukot»ni yaratdi va uni farzandlariga, avlodlariga pand-nasihat sifatida meros qildi. Shu orqali avlodlarini baxtli-saodatli bo‘lishini, hayotda to‘g‘ri yo‘l tanlashini kafolatlashga uringan.

Buyuk mutafakkir, millatimiz fidoyisi, vatandoshimiz Abdulla Avloniy aytganidek: “Tarbiya biz uchun yo hayot, yo mamot, yo najot, yo halokat, yo saodat, yo falokat masalasidir”[3]. Darhaqiqat, jamiyat tirik organizm, u tarbiyaga muhtoj. Tarbiyaning barcha ko‘rinishlari ma’naviy, axloqiy, ruhiy, jismoniy, aqliy va huquqiy turlari yaxlit bir tizim sifatida jamiyat mafkuraviy tarbiyasining asoslari hisoblanadi. Ma’naviy-mafkuraviy tarbiya tarkibi har qanday siyosiy qarashlardan, davlat tazyiqlaridan holi va o‘z mustaqil tizimiga ega bo‘lmog‘i darkor. Ayni paytda millat ruhiyatidagi salbiy illatlardan qat’iy voz kechish, mavjud ijobiy, umuminsoniy fazilatlarni yanada chuqurlashtirish, boyitish, ularga yangicha mazmundorlik baxsh etish taqazo etiladi. Xalqimizning milliy xususiyatlari va xarakteri o‘ziga xos bo‘lib, tabiatan qiziqqon, his-hayajonga beriluvchan, o‘ta ta’sirchan, mehribon va oqko‘ngil, zaminimiz ham shunga mos[4].

Hayotiy, sog‘lom mafkura – xalqning milliy o‘zligini anglashidagi eng yuksak holatdir. Mafkura xalqni o‘tmishga, zamonga, kelajakka, milliy va umuminsoniy qadriyatlarga, o‘zi yashayotgan davlat va jamiyatga munosabatini belgilashda hal qiluvchi omilga aylanadi. Jamiyat a’zolari mafkura yordamidagina o‘zlarining shaxs sifatida jamiyat taraqqiyotida qanday o‘rin tutishlarini hamda ijtimoiy vazifalarini anglab yetadilar. Milliy goya, milliy mafkuraning milliy deb atalishidan ham ayonki, u, avvalo butun millat, xalq, jamiyatning qalbida, ongida shakllanishi zarur.

Davlat va jamiyat taraqqiy etishi uchun yana boshqa bir qator qudratli omillarga, barqaror ichki, tashqi siyosatga, puxta iqtisodiyotga, mustahkam xavfsizlik tizimiga ega bo‘lishi ham shart. Biroq, milliy mafkura taraqqiyotning barcha boshqa imkoniyatlari orasida alohida o‘rin tutishini unutmaslik kerak.

Mafkuraning ijtimoiy-tarixiy va ma’naviy zaruriyatiga e’tiborni kuchaytirish, yoshlar uchun aniq va ravshan, ta’sirchan qo‘llanmalar, darsliklar tayyorlash, ularni amaliyotga tadbiq etish dolzarb muammolardandir. Binobarin, o‘sib kelayotgan

yoshlarning ongiga ta’sir ko‘rsatuvchi eng muhim kuch bu axborotdir. XXI asr axborot asri deb xalqning ongiga singdirib ulgurdik, biroq uning zararlaridan muhofaza qilishga qiynalib turibmiz. Ayniqsa, internet kabi global tarmoqdan yoshlarni ajratish mumkin emas.Faqat endigi vazifa yoshlarni onglilik sari undab, zararli xurujdan chetlash lozimligini uqtirishdir. Zarur bo‘lsa agar «sariq matbuot»ni ham muhim tarbiyalovchi mexanizmga aylantirish, ijtimoiylashgan maqolardan dolzarb, mohiyatan kuchli mavzularga safarbar qilish mumkin. Televideniya va kinofilmlarni ham alohida mafkuraviy tarbiya vositasi ekanini unutmaslik kerak. Vatanparvarlikning, millatparvarlik, insoniy sadoqat tuyg‘ulari targ‘ib etilishi yoshlarda ayni insoniy tuyg‘ularni mustahkamlaydi.

Yoshlarning mafkuraviy tarbiyasiga ta’sir qiluvchi, aniqroq aytganda aslida shakllantiruvchi omil bu milliy an’analar, odatlardir. Sir emaski, globallashuv kuchaygan bir paytda milliy madaniyatning ajralmas belgisi bo‘lgan til, kiyim-kechak, marosimlar va odatlarda transformatsiya jarayonlari kuzatilmoqda[5]. Yoxud bu jarayondan kafolatlangan millatning, madaniyatning o‘zi yo‘q. Ba’zan bu o‘zgarishlarning tub sabablarini axtarganimizda iqtisodiy integratsiyaning kuchayganiga e’tibor qilamiz. Iqtisodiy omil insonning turmush sharoitini, moliyaviy ahvolini o‘zgartirishi mumkin. O‘z navbatida yangicha urf-odatlarning paydo bo‘lishiga ham olib keladi. Biroq, davr va xalqning sinovidan o‘tmagan bunday odatlar na tarbiya kamponenti, na milliy an’ana bo‘lolmaydi.

Xulosa qilishdan oldin, jahon tarixiga nazar soladigan bo‘lsak, yuz yillar mobaynida mafkuraviy-g‘oyaviy tarbiya orqali xalqning mentalitetiga, psixologiyasiga singdirilgan umummilliy manfaat juda ko‘plab davlatlarning salohiyatini yuksakka ko‘tardi. Masalan, inglizlardagi kuchli tadbirkorlik, tashabbuskorlik va tarbiyadagi qattiqko‘llik xislati, nemislardagi o‘ta mas’uliyatlilik, o‘ziga ishonch, yaponlarning millatparvarligi va jamoa manfaatini e’zozlashishi, fransuzlardagi doimo yangilikka va erkin fikrlashga intilish hislari bu xalqlar

yashayotgan mamlakatlarini dunyoning taraqqiy etgan davlatlari darajasiga ko‘tardi. Zotan, Yangi O‘zbekiston yoshlari ham buyuk ishlarga va islohotlarga qodirdirlar.

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KOMPANIYANING KOMPLEKS AUDITI

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ANNOTATSIYA

Zamonaviy tillarda iqtisodiy xavfsizlikni ta’minlash mumkin. Havo qatnovi uchun barcha ta’lim choralari ham muhim, tashqi dunyodan bo‘lgani kabi Bunga erishishning eng yaxshi yo‘li - raqobatdir. Biz ushbu maqolamiz orqali ko‘plab kompaniyalarning kompleks auditi haqida to‘xtalib o‘tamiz.

Kalir so‘zlar: kompleks, buxgalteriya, hisobot, soliq, moliya, inventarizatsiya, iqtisodiyot, o‘sish.

ANNOTATION

Economic security can be ensured in modern languages. All educational measures are important for aviation, as from the outside world, and the best way to achieve this is through competition. In this article, we will discuss the comprehensive audit of many companies.

Key words: complex, accounting, reporting, tax, finance, inventory, economy, growth.

Audit - bu mustaqil mutaxassis tomonidan tashkilotning buxgalteriya (moliyaviy) hisobotlarini tekshirish va ko‘rsatkichlarning ishonchliligi to‘g‘risida o‘z fikrini bildirish.

Auditning quyidagi turlarini ajratish mumkin: kompleks majburiy audit - buxgalteriya (moliyaviy) hisobotlarni tasdiqlash, shuningdek soliq solinadigan

bazaning hisob-kitobini va deklaratsiyalarning to‘g‘ri to‘ldirilganligini tekshirish tartiblari;

tizimli kompleks audit - buxgalteriya (moliyaviy) hisobotlarining ishonchliligini baholash, soliq hisobini yuritishning to‘g‘riligini tizimli monitoring qilish, qonuniy moliyaviy zaxiralarni izlash, shuningdek soliq organlarining kafolatlari va da’volaridan himoya qilish;

soliq tekshiruvi - xatolar, yuzaga kelishi mumkin bo‘lgan xavflar va zaxiralarni aniqlash maqsadida soliq hisobini soliq qonunchiligiga muvofiqligini tekshirish;

moliyaviy audit - buxgalteriya hisobini shakllantirish va rasmiylashtirishning to‘g‘riligi va to‘liqligini, hujjat aylanishini, buxgalteriya hisobotlarining ishonchliligini tekshirish;

kadrlar auditi - xodimlar hujjatlarining amaldagi qonunchilik va kompaniyaning ichki talablariga muvofiqligini tekshirish;

UFRS bo‘yicha moliyaviy hisobot auditi - tayyorlangan moliyaviy hisobotning ishonchliligini tasdiqlash, BFRS bo‘yicha auditorlik hisoboti;

proaktiv audit - mustaqil auditorlar tomonidan buxgalteriya hisobining to‘g‘riligini ixtiyoriy ravishda tekshirish;

topshiriq bo‘yicha audit - kompaniya maqsadlaridan kelib chiqqan holda audit topshirig‘ini ishlab chiqish va buxgalteriya hisobi, soliq yoki boshqaruv hisobi ma’lumotlari asosida deyarli har qanday ishni bajarishni ta’minlash;

biznesning zaruriy tekshiruvi yoki yuridik audit - maqsadli xo‘jalik yurituvchi sub’ektning iqtisodiy, moliyaviy va huquqiy faoliyatini har tomonlama va ob’ektiv tahlil qilish;

konsolidatsiyalangan hisobotlarning auditi - 208-FZ-sonli Qonunga muvofiq, ijtimoiy ahamiyatga ega tashkilotlarni tekshirish;

inventarizatsiyani tekshirish - inventarizatsiyani monitoring qilish yoki o‘tkazish, aktivlar va ularga bo‘lgan huquqlarning mavjudligini tasdiqlash;

buxgalteriya siyosati auditi - tashkilotning istaklari va ehtiyojlarini hisobga olgan holda bizning mutaxassislarimiz tomonidan shakllantirilgan hisob siyosati va ularni yangilash bo‘yicha tavsiyalarni tekshirish.

elektron tijorat sohasidagi audit - Internet tarmog‘ida tijorat faoliyatini amalga oshirishda nazorat tizimlari va tartiblari samarali bo‘lishi uchun etarli kafolatlar berish;

Due Diligence auditi - investitsiya ob’ektini mustaqil baholash, shu jumladan investitsiya risklarini baholash, sotib olish ob’ekti faoliyatini har tomonlama o‘rganish, uning moliyaviy holati va bozordagi holatini har tomonlama tekshirish;

biznesning uzluksizligini boshqarish auditi (ta’minlash) va nosozliklarni bartaraf etish - muhim biznes jarayonlarining uzilishlari xavfini va bunday uzilishlarning salbiy oqibatlarini minimallashtirish uchun nazorat tartib-qoidalari amalga oshirilganligiga etarli kafolatlar berish;

Umumiy sifat menejmenti (TQM) tizimining auditi - tekshirilayotgan funktsiya yoki tarkibiy bo‘linma alohida mahsulot birligining belgilangan sifat standartlariga muvofiqligini etarli kafolatlar bilan ta’minlash;

"uchinchi" shaxslarning auditi - tashkilotning uzluksiz ishlashi bog‘liq bo‘lgan xizmat ko‘rsatuvchi tashkilot ("uchinchi" shaxs) u bilan tuzilgan shartnoma talablariga (xizmatlar ko‘lami va standartlari, muvofiqligi) javob berishiga etarli kafolatlar berish. minimal qabul qilinadigan xususiyatlar (moliyaviy holat) va boshqalar.);

jinoiy audit, sud ekspertizasi (sud-ekspertiza, sud ekspertizasi) - moliyaviy suiiste’mollikni tekshirish va jiddiy huquqiy oqibatlarga olib keladigan holatlarga (korrupsiya elementlari bilan operatsiyalar, jinoiy daromadlarni legallashtirish va boshqalar) nisbatan amalga oshiriladi.

Operatsion audit - bu korxona faoliyatining samaradorligini baholash uchun uning ishlash tartibi va usullarini ko‘rib chiqish. Masalan, biznes-rejalar, maqsadli dasturlarning bajarilishini, xodimlarning ish faoliyatini tekshirish va hokazo.

Qonun hujjatlariga muvofiqligini tekshirish. Xususan, ushbu toifaga soliq tekshiruvi - soliq qonunchiligiga rioya etilishini tekshirish kiradi.

Maxsus audit - bu mijoz faoliyatining muayyan masalalarini ma'lum tartiblar, normalar va qoidalarga muvofiqligini tekshirish (masalan, soliq hisobotining to‘g‘riligi, maxsus mablag‘lardan foydalanish, ekologik, operativ audit va boshqalar).

Boshqaruv (ishlab chiqarish) auditi - korxona faoliyatini tashkil etish va boshqarishni, shuningdek, barcha turdagi resurslardan foydalanishni tekshirish. Muvofiqlik auditi - bu muayyan moliyaviy yoki tadbirkorlik faoliyatining belgilangan shartlarga, qoidalarga yoki qonunlarga muvofiqligini aniqlash uchun tahlil qilish.

Narxlar auditi - mahsulot, ish yoki xizmat uchun narx belgilashning asosliligini tekshirish.

Konsalting firmasi buxgalteriya hisobi va soliq hisobini va ularning alohida bo‘limlarini tekshirish bo‘yicha xizmatlarni faqat mezonlarga ko‘ra audit o‘tkazmasligi kerak bo‘lgan tashkilotlarga taqdim etishi mumkin. Bundan tashqari, u tekshirilayotgan bayonotlarning ishonchliligi to‘g‘risida fikr bildira olmaydi va auditorlik xulosasini bera olmaydi.

Umuman olganda, audit deganda nazorat ob'ektining faoliyati yoki uning holati to‘g‘risida buxgalteriya hisobi ma'lumotlarini olish va buxgalteriya hisobi ma'lumotlarining belgilangan mezonlar, normalar va standartlarga muvofiqligi darajasini aniqlash jarayoni tushuniladi.

Ushbu ta'rif muayyan faoliyat turi bilan bog‘liq emas va auditorlik faoliyatining barcha turlarida - moliyaviy, iqtisodiy, tashkiliy auditlarda qo‘llaniladi.

Tashkiliy audit - bu jarayon va hodisa sifatida tashkilotning qabul qilingan normalari, qonunlari va tamoyillari asosida tashkilotni tashkil etish, faoliyat yuritish, qayta tashkil etish va tugatish jarayonlarining normalari va standartlariga asoslangan nazorat.

Har bir rahbar va bo‘lim tomonidan erishilgan ish va natijalarni nazorat qilish, o‘lchash, baholash

Tashkilotda ishlab chiqarish va boshqaruv faoliyatini nazorat qilish

Tashkiliy boshqaruv samaradorligini (samaradorligi va mahsuldorligini) baholash

Tashkilot natijalarini tahlil qilish

Qoniqarsiz, etarli emas yoki zaif ishlash sabablarini aniqlash

Tavsiyani ishlab chiqish

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WOOD POLYMER COMPOSITE MATERIALS

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Abstract: In this study, wood polymer composites were obtained using local poplar and paulownia tree flours and their physical and mechanical properties were analyzed. In addition, the effect of composite composition on the strength of composites was studied and analyzed. That is, the role of chemical bonds was studied and the results were presented.

Keywords: poplar, paulownia, tree filler, wood, poplar, polymer, secondary polyvinyl chloride, wood polymer composites, chipboard, fiberboard

Introduction. When producing WPC materials, two main aspects must be taken into account: production conditions, i.e. location and climate, selection of wood fillers introduced into their composition, depending on their mechanical properties. Because there are two types of wood: softwood and hardwood, in which hardwoods have higher mechanical properties than softwoods, and, in turn, the materials

produced from them are relatively strong. In addition to the woodworking and furniture industries we know, wood materials in the construction industry of Uzbekistan are mainly imported. Deciduous tree species of Nina are quite difficult to grow in the climate of Uzbekistan, and this type of tree is of little industrial importance. Therefore, wood-composite materials (chipboard, MDF, plywood, etc.), widely used in the woodworking industry and production based on them, are imported.

Based on this, in the conditions of Uzbekistan, the creation and development of technologies for the production of composite materials based on local wood species and their mechanical properties is being carried out. Our previous studies examined the effect of wood fillers in wood-polymer composite materials on the compositional mechanical properties of waste chipboards (chipboards) and wood fiber boards (MDF, HDF), which are wood-composite materials widely used in the furniture industry. investigated.

Methods and materials: To obtain a new type of wood-polymer composite material in the laboratory, we used local poplar wood flour from the Tashkent region, recycled polyvinyl chloride from polyvinyl chloride suspension grade C-6346 of the NavoiAZOT chemical production complex in the Navoi region, samples of the composite material were obtained by extrusion based on recycled polyvinyl chloride and auxiliary chemical fillers made in China from the WOODWIN enterprise operating in the city of Tashkent, according to several developed recipes.

Experimental part: Modification of the filler is one of the ways to regulate the properties of wood-polymer composites. Shredded poplar and paulownia wood were used as a filler for wood-polymer composites. The granulometric composition of wood flour particles corresponded to the brand and was ensured by sieving on a sieve separator. The particle size distribution diagram for wood flour is shown in Fig. 1.

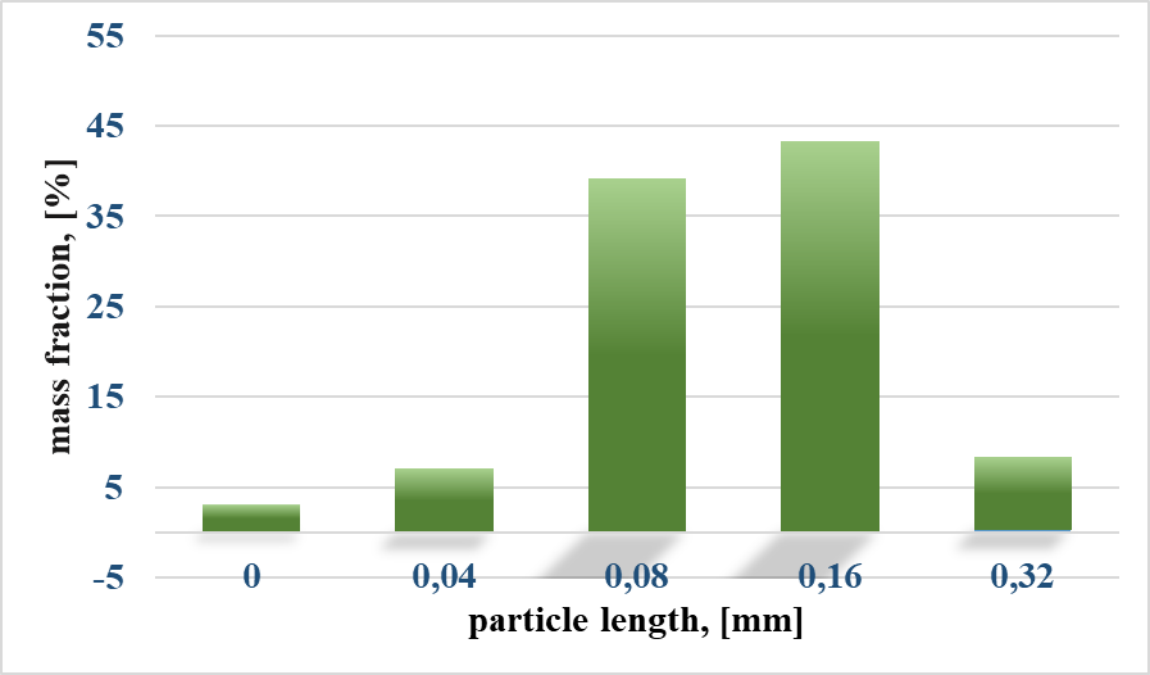

Figure 1 - Diagram of particle size distribution of poplar and paulownia wood flour ("0" - the remainder of particles is less than 0.04 mm at the bottom of the sieve separator)

Torrefaction of wood flour was carried out on an installation whose operating principle is described. During the thermal decomposition of lignocellulosic biomass, the polymers that make up wood, in most cases, behave as an additive mixture of the three high-molecular compounds (Table 1).

Table 1

Main components of wood

Wood type	Component content, %		
	Cellulose	Hemicellulose	Lignin
Poplar	45-48	17-23	33
Paulownia	40-45	15-24	23-25

In particular, it is known that during thermal modification of wood in the temperature range of 200-300°C, the most significant changes occur in connecting

glycans, as the least heat-resistant biopolymers. Moreover, the least thermally stable of them is xylan.

As the temperature increased from 200 to 3000C, the yield of the thermally modified filler decreased, and the color darkened from natural color to dark brown. Moreover, for samples from pine, the weight loss was more uniform up to 55% at 300 °C, and for samples from poplar samples there was a characteristic fracture at processing temperatures above 250 °C, while the yield at 300 °C was 43%.

These differences are most likely due to the mechanism of thermal decomposition of hemicelluloses and lignin in the poplar and paulownia samples. A decrease in filler weight during thermal modification is an undesirable characteristic, so it was necessary to determine the temperature at which the change in sample weight would be minimal while maintaining the required level of filler characteristics.

One of the main goals of thermal modification of samples is to reduce the ability to absorb moisture and water. The lower the equilibrium moisture content of the material and the higher its hydrophobicity, the more likely it is to increase the performance characteristics of the filled composite (due to the absence of hidden pores, a nutrient medium for microorganisms, dimensional stability, etc.).

For this purpose, the moisture content of the treated samples was assessed. The presented dependence of the humidity of heat-treated wood on the torrefaction temperature shows that the most significant change in humidity for both samples lies in the range of 200-225°C with its subsequent stabilization.

Also, in this range of processing temperatures, hydrophobic properties begin to appear in both types of wood. Wood filler does not absorb water for a long time.

It is also quite possible to form water-stable high-molecular compounds as a result of the polycondensation interaction of dehydrated xylose monomers (furfural) with lignin monomers, which already at these temperatures undergo thermal decomposition due to the cleavage of alkyl-aryl and ether bonds.

As a result, it is possible to obtain water-resistant, brittle, resin-like products that are localized on the surface of microfibrils. These resins encapsulate cellulose microfibrils, which largely explains the increase in hydrophobic properties, increased water resistance and fragility of torrefied wood.

The formation of water-resistant resins and reactive oligomers during thermal modification explains the hydrophobic properties of torrefied wood.

Information about changes affecting various functional chemical groups in a sample that occur as a result of heat treatment can be obtained using IR spectroscopy. This statement is confirmed by the results of the IR spectra, which clearly show a decrease in the intensity of the bands at 3600-3200 cm-1, which are responsible for O-H stretching vibrations with a maximum at 3350 cm-1, involved in the system of hydrogen bonds.

In the region of 3000–2800 cm–1 there are bands of stretching vibrations of C–H bonds. This region is characterized by symmetric and asymmetric C–H stretching vibrations in methyl and methylene groups. The intensity of these bands also decreased with increasing sample processing temperature.

The absorption band 1240-1230 cm-1, correlated with vibrations of C=O and C-O bonds in acetyl groups, possibly connected with polysaccharides, was present in the spectrum of birch before heat treatment and gradually decreased in intensity in the case of torrefaction at 200 and 225°C, then disappearing. This band was not detected in the spectra of pine wood samples.

The absorption band with a maximum at 1033 cm-1, correlated with deformation vibrations of the C-O bond in cellulose I and II or hemicelluloses, is equally strongly expressed in the spectra of the original birch and pine samples. Heat treatment at 225 °C reduces its intensity by approximately half.

Therefore, for further research, it was decided to use wood filler processed at a temperature of 225 °C. In this case, the conditions for maximum output with its desired characteristics are met. The effect of heat treatment of fillers on the physical and mechanical properties of WPC compositions with fillers (50 and 60 wt. %) poplar and thermally modified (T) poplar and paulownia and thermally modified (T) paulownia rocks are presented in Fig. 2.

a b

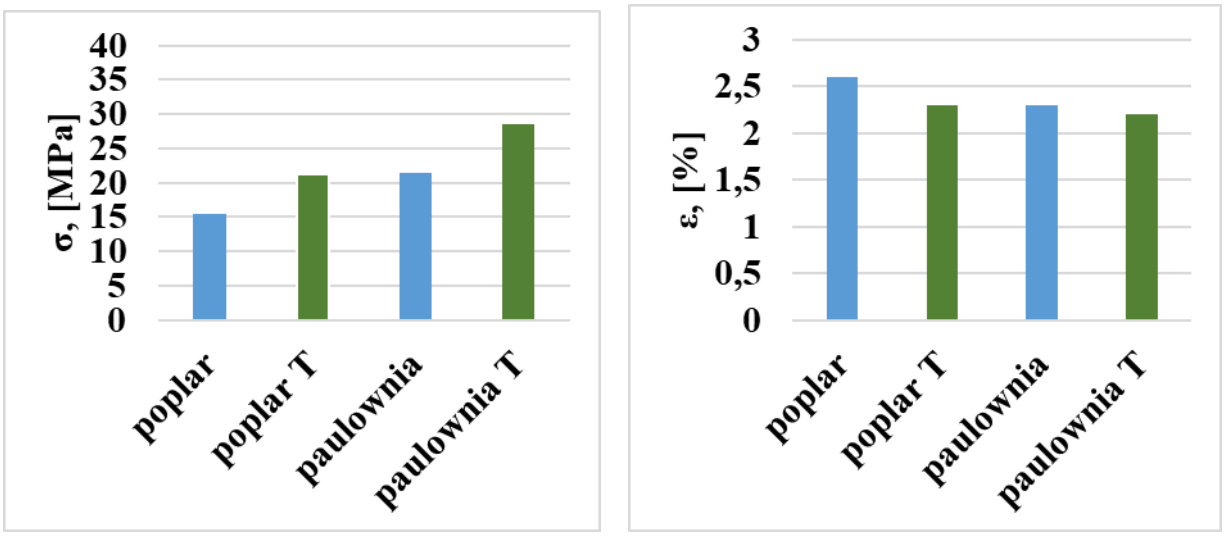

Figure 2 – The influence of thermal modification of different types of WF on the physical and mechanical properties of WPC, dosage of WF 50%: a) σ – tensile strength, MPa; b) ε - elongation at break, %

As can be seen from Fig. 2, for compositions with heat-treated hardwood filler there is a slight decrease in tensile strength and elongation at break in comparison with the original filler. At the same time, for compositions with heat-treated poplar filler, an increase in strength by 38% is observed with a decrease in elongation at break by 12%.

To assess the influence of particle size and the method of modifying wood flour on the physical and mechanical properties of WPC, wood flour WF 180 was subjected to thermal and mechanical treatment (WF 180T and WF 180*). At the same

time, the decrease in the average particle size during mechanical activation ranged from 0.17 to 0.11 mm. The physical and mechanical properties of the compositions are presented in Fig. 3.

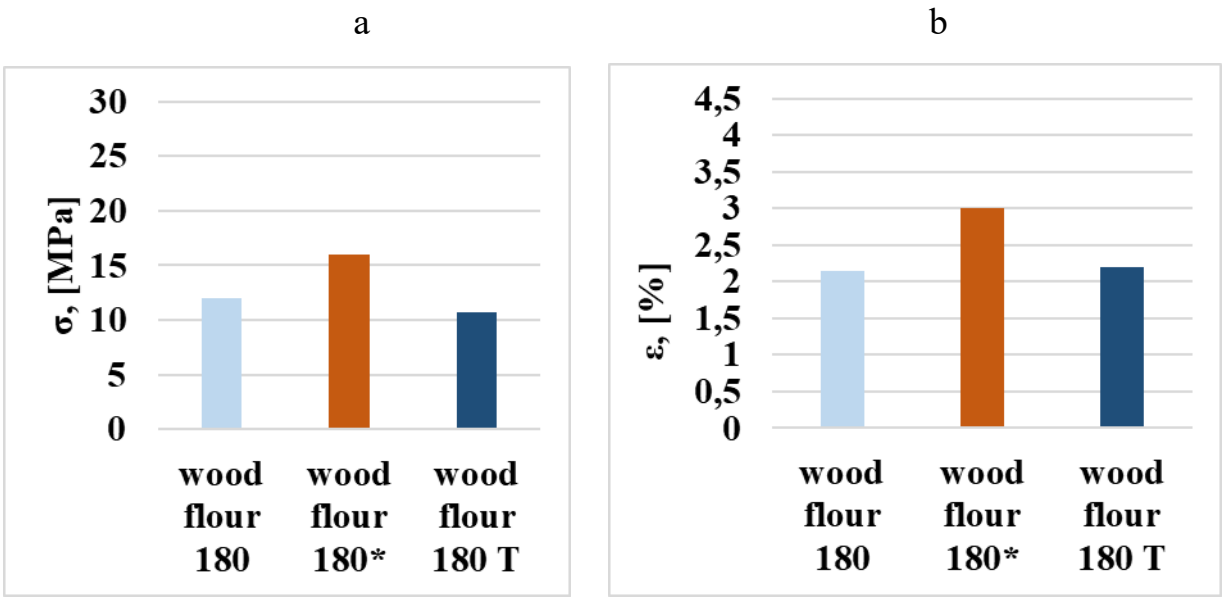

Figure 3 – Influence of the method of modifying wood flour WF 180 with a content of 50% wt. on the physical and mechanical properties of WPC: a) σ – strength at rupture, MPa; b) ε - elongation at break, %

As follows from Fig. 3, compositions with WF 180* have higher elastic-strength properties compared to WF 180 and WF 180 T. In this case, the increase in the surface area of interaction of WF 180* with the polymer matrix by reducing the size of filler particles is of greater importance.

Water absorption is one of the main indicators of the durability of WPC, since it allows you to evaluate the resistance of the material to aggressive weather conditions.

The dependence of the water absorption rate upon boiling for 2 hours in relation to the weight of the test sample for WPC containing wood flour modified in various ways is shown in Fig. 4.

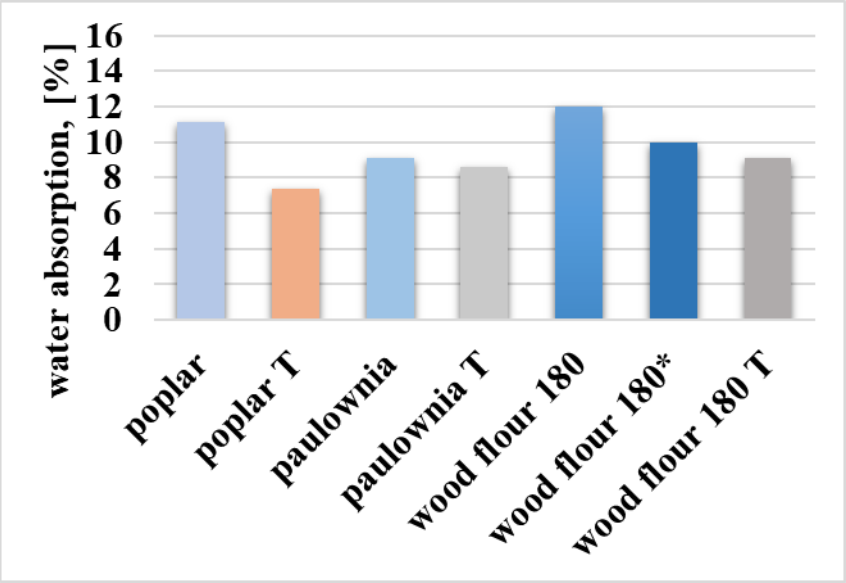

Figure 4 – Influence of the type and method of modification of wood flour on the water absorption of WPC

As follows from Fig. 4, thermal modification of wood flour leads to a decrease in water absorption for all samples, and this is most significantly observed for poplar species. Modification of the surface of flour WF 180 also leads to a decrease in water absorption, and this is most significantly observed for thermal modification. [128]

An important characteristic of wood-polymer compositions that affects performance properties is their density. In Fig. Figure 5 shows the density indicator of the resulting compositions.

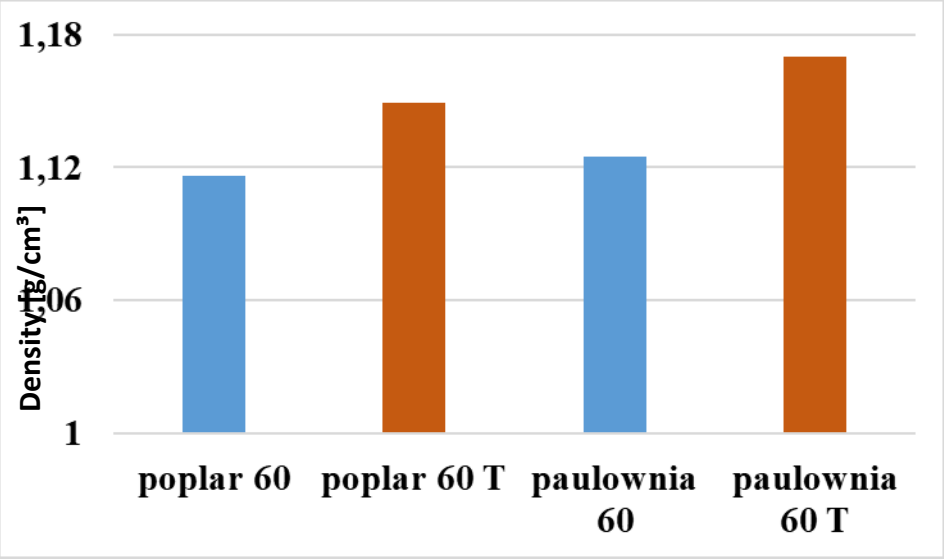

Figure 5 – Effect of thermal modification of wood flour on WPC density

From Fig. 5 it follows that the density of compositions with paulownia wood flour is slightly higher than with poplar. Thermal modification helps to increase the density of compositions with wood flour of both species. Moreover, this is more pronounced in compositions with hardwood wood flour. The increase in the density of compositions with thermally modified wood flour is explained by the removal of moisture during the torrefaction process of the filler. As a result of this, the possibility of the formation of air pores created by the effect of steam “explosion” during the extrusion process is sharply reduced in the composite.

Conclusion. Thus, mechanochemical modification of wood flour makes it possible to increase the physical and mechanical properties of WPC by 30% and reduce the degree of water absorption by 17%. Heat treatment of poplar flour leads to an increase in the tensile strength of WPC by 38%, a decrease in water absorption by 32%. Thermal modification of poplar flour, on the contrary, leads to a decrease in elastic strength characteristics by 5-10%. Apparently, modification of paulownium wood filler requires slightly different temperature conditions. But, at the same time, an increase in density is observed in compositions with thermally modified paulownia wood flour.

Thermal modification of poplar and paulownia wood flour does not have a significant effect on the change in the viscosity properties of the compositions under consideration.

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ПИЁЗ (*Allium*) НИНГ ҲАЛҚ ХЎЖАЛИГИДАГИ АҲАМИЯТИ ВА ШИФОБАХШЛИГИ

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Аннотация

Мазкур мақолада, озиқ овқат маҳсулотларини ишлаб чиқариш, аҳолини озиқ овқат хавсизлигини таъминлашда муҳум ўрин тутадиган маҳсулотлардан бири, пиёзнинг Республикамизда бугунги кундаги, ўрни, келиб чиқиш тарихи теримдан кейинги жараёнларда уни аҳоли томонидан фойдаланиш усуллари, пиёзнинг кимёвий таркиби, унинг инсон саломатлиги учун фойдали ва хавфли жиҳатлари, ушбу маҳсулотни нес нобуд қилмасдан аҳолига етказиш жаҳарёнларининг муҳумлиги пиёзни сақлаш ва қайта ишлаш жараёнлари муоммоларни ечиш бўйича илмий тадқиқотларни олиб бориш тадбирлари бўйича маълумотлар келтирилган.

Калит сўзлар. Пиёз, озиқ овқат хавсизлиги, кимёвий таркиби, фойдали хусусиятлари, сақлаш ва қайта ишлаш жараёнлари, илмий тадқиқот ишлари.

Аннотация

В данной статье рассматривается один из продуктов, играющий важную роль в производстве пищевых продуктов, обеспечении продовольственной безопасности населения, роль и история лука в нашей республике сегодня, способы его использования населением в послеуборочные процессы, химический состав лука, его польза и опасность для здоровья человека, важность доставки этого продукта населению без его уничтожения,

представлены сведения о деятельности по проведению научных исследований по проблемам хранения и переработки лука

Annotation

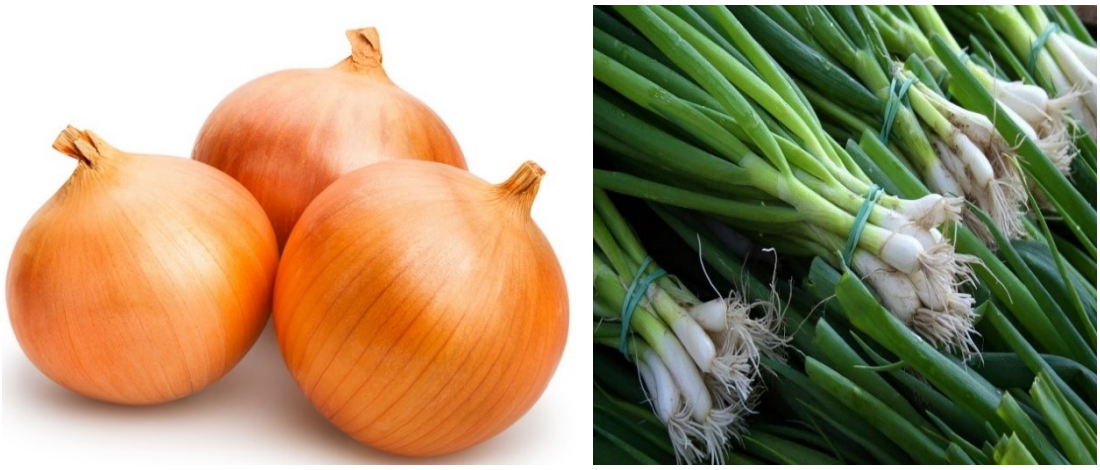
This article discusses one of the products that plays an important role in food production, ensuring food security of the population, the role and history of onions in our republic today, ways of using them by the population in post-harvest processes, the chemical composition of onions, their benefits and dangers to human health, the importance of delivering this product to the population without its destruction, information is provided on scientific research activities on the problems of storage and processing of onions

Кириш. Сўнги йилларда дунё аҳолиси сонини ортиб бориши билан уларни озиқ овқат маҳсулотларига бўлган талаби ҳам ортиб бормоқмокда. Жаҳон озиқ-овқат хавсизлиги (ФАО) ташкилоти тмонидан берилаётган статистик маълумотларга қараганда, бугун дунё бўйича қарийиб (1 млрд) га яқин аҳоли қорни тўйиб овқат ейиш имкониятига эга эмас. Шундай экан мутахассислар зиммасига озиқ овқат маҳсулотлари, жумладан мева ва сабзавот маҳсулотлари миқдорини ошириш уларни истемолчиларга нес нобуд қилмасдан етказиб бериш вазифаси долзарб масала бўлиб қолмоқда.

Шу сабабли сўнгги йилларда Республикамиз аҳолисини сифатли озиқ-овқат маҳсулотлари билан таъминлаш билан бир қаторда экспорт салоҳиятини тубдан оширишга алоҳида эътибор берилмоқда. Ушбу тадбирларни ривожлантириш бўйича Ўзбекистон Республикасининг “2022-2026 йилларга мўлжалланган Янги Ўзбекистоннинг тараққиёт стратегияси”да “Қишлоқ хўжалигини илмий асосда интенсив ривожлантириш орқали деҳқон ва фермерлар даромадини камида 2 баравар ошириш, қишлоқ хўжалигининг йиллик ўсишини камида 5 фоизга етказишда, айниқса, 2026 йилга бориб озиқ-

овқат маҳсулотлари ҳажмини 7,4 млн тоннага, қайта ишлаш даражасини мева-сабзавот бўйича 28 фоизга етказиш”га дастур қабул қилинди. Юқорида таъкидлаб ўтилган вазифалар ижросини таъминлаш, мутахассисларга мева сабзавотчилик жумладан аҳоли тамонидан севиб истемол қилинадиган пиез (*Allium*) сабзавотидан олинадиган ялпи ҳосилни аҳолига нес нобуд қилмасдан етказиб бериш бўйича илмий-тадқиқот ишларини олиб бориш долзарб вазифа ҳисобланади. Адибиётларда келтирилишига қараганди пиёзнинг ватани-Ўрта Осиё, Афғонистон. Табиатда пиёзнинг тўрт юз навидан ортиқ нави маълум бўлиб, улардан икки юз юздан ортиғи МДҲ давлатларига тўғри келади [1].

Услублар. Бугунги кунда пиёзни етиштириш очиқ далаларда ва маҳсус иссиқ хоналарда амалга оширилмоқда. Таъкидлаш жоизки иссиқ хоналарда етиштирилган пиёзлар асосан яшил ҳолатида териб олиниб аҳолини йил давомида кўкатларга бўлган эҳтиёжини қондирилишига имкон беради. Очиқ далаларда етиштирлганлари эса сақлаш ва чуқуур қайта ишлашга яроқли маҳсулотлар ҳисобланади.



а-бош пиёз **б – кўкат пиёз**

1-расм. Пиёз сабзавотининг кўриниши

Пиёзни йиғиштириб олиш муддатларини аниқлаш унинг тепа қисимларининг сарғайиши билан бошланади, аммо ҳали ҳам сувли бўлиб

турган бўлиши керак. Шу билан бирга, пишмаган бўлади Одатда, пиёз ер юзасида ўсади, шунинг учун уни қўлларингиз билан тортиб олишингиз ёки маҳсус техникалар ёрдамида териб олишингиз мумкин бўлади.

Natijalar va ularning muhokamasi: Пиёзларнинг кимёвий таркиби уларнинг пишиб етилганлик даражасига боғлиқ маълумки, пиёзлар яшил ҳолатда яъни пишиб етилмаган, кўкат пиёз ва бош пиёз яъни мевасининг устки қисми сарғайиб туганаклари шаклланган даврдаги бош пиёзлардаги кимёвий таркиби бир биридан фарқ қилади.

Қуйида келтирилган маълумотлар, бош пиёзнинг кимёвий таркиби келтирилган бунда: унинг такрибидаги *(100 % қуруқ моддалар ҳисобида)* 8-14 % гача углеводлар (фруктоза, сахароза, малтоза, полисаккарид инулин), (1,5—2 %) гача оқсиллар, бундан ташқари витаминлар (аскорбин кислотаси), флавоноид, ферментлар, сапонинлар, калий, фосфор, темир ва бошқаларнинг минерал тузлари, фитонцидлар мавжуд.

Бош пиёзнинг инсон организимидаги фойдали хусусиятлари. Пиёзнинг фойдали хусусиятлари кўп қиррали. Бу ички ва ташқи инфекцияга қарши самарали курашадиган кучли микробларга қарши воситадир. Пиёз вирусларга қарши, антибактериал, гижжаларга қарши, турли замбруғларга қарши ва дезинфекцияловчи хусусиятларга эга. Инсонлардаги шамоллаш ҳолатлари кузатилганида, нафақат уни истемол қилиш бундан ташқари хонада кесилган ҳолатда сақланиши ҳам ҳавони зарарсизлартирилишига ёрдам беради. Уни тиш милки тўқималарини яллиғланиш (цинга) касаллигини даволашда фойдаланилади.

Шу билан бир қаторда пиёзнинг хавли хусусиятлари ҳам учрайди. Бунда асосан биринчи навбатда, пиёз шарбатининг ошқозон ва ичак шиллиқ қаватини тирнаш хусусияти билан боғлиқ. Пиёзнинг ўзи ва унинг шарбатини кўп истеъмол қилиш ошқозон-ичак тракти ва овқат ҳазм қилиш тизими муаммолари бўлган одамлар учун тавсия этилмайди. Таомларга пиёз қўшишдан олдин, нафас олиш тизими билан боғлиқ муаммолар, бронхиал астма ташхиси

қўйилган инсонларга баъзи юрак-қон томир касалликлари бўлган одамлар учун ҳам зарарли ҳисобланади.

Хулоса қилиб айтганда, сўнги йилларда аҳолини сифатли озиқ-овқат маҳсулотларига, уларнинг ассортименти хилма хиллигини ошириш долзарб масала бўлиб қолмоқда. Шунга кўра, етиштирилган пиёз маҳсулотларини истемолчиларга етказиш усулларини такомиллаштириш, улардаги инсон саломатлиги учун фойдали бўлган моддаларни сақлаб қолган ҳолда турли маҳсулотлар ишлаб чиқариш бўйича мавжуд муоммоларни илмий тадқиқотлар орқали амалий ечимини излаб топиш муҳум вазифа деб ҳисоблаймиз.

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POSSIBILITIES OF CLINICAL APPLICATION OF ORGANIC BONE MATRIX IN CHRONIC HEMATOGENOUS OSTEOMYELITIS IN CHILDREN

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Abstract: role of biomarkers of organic matrix of bone tissue in chronic hematogenous osteomyelitis in children bone biomarkers included arrangement, resorption and controller are discharged amid the bone remodeling forms. These bone biomarkers have pulled in much consideration within the clinical assessment of osteoporosis treatment within the past decade. Combination with the estimation of bone mineral thickness, the clinical applications of bone biomarkers have given comprehensive data for conclusion of osteoporosis. In any case, the explanatory approaches of the bone biomarkers are still the challenge for encourage clinical trials.

Keywords: organic matrix, bone tissue, chronic hematogenous osteomyelitis, bone biomarkers.

Several factors have to be considered in the design of a human biomonitoring programme or the use of biomonitoring data, for example whether the parent compound or a stable metabolite is the most suitable biomarker and in which matrix

it should be determined. Analytical methods have to be sufficiently sensitive and selective to produce reliable data. The objective of this study was therefore i) to identify the most suitable biomarkers (parent compound vs. metabolites) for the selected substance groups and metals, ii) to describe the most suitable human matrix for their biomonitoring and iii) to discuss state-of-the-art analytical methods for the determination of this biomarker in this matrix., including the sample selection and a comprehensive quality assurance/quality control programmed to ensure precise, accurate and comparable data across the EU. Osteoporosis is a worldwide disease with reduction of bone mass and decrease of bone strength to result in bone fragility and fracture. Based on the report of World Health Organization (WHO), the disease of osteoporosis has been diagnosed by bone mineral at the hip and/or the spine at least 2.5 standard deviations below in comparison with the bone mass of young healthy adults as determined by dual-energy X-ray absorptiometry.

The people with osteoporosis are steadily increased because of aging society occurring worldwide. There are about 200 million people are suffered from osteoporosis in the word and approximately 8.9 million fractures are caused by osteoporotic fracture. In the osteoporotic fractures, hip fractures have led to mortality rates up to 20-24% within the first year and then the death rate has steadily increased for at least 5 years. After hip fractures, the survivors may lose the capability of action and independence with 40% unable to walk independently and 60% requiring assistance at least 1 year. Due to the loss of capability, around 33% patients are totally dependent or in a nursing home in the year following a hip fracture. Nowadays, osteoporosis is a major concern of public health because of its healthcare cost. Moreover, the fracture caused by osteoporosis is the most important factor for the decreases of quality of life and survival rate in aging people.

Osteomyelitis - (osteomyelitis, Greek osteon - bone, myelos - bone marrow and itisinflammation) - an infectious inflammatory process that affects all elements of the bone - the bone marrow, the bone itself and the periosteum, i.e. panostitis, however the term panostitis has not found wide application in medical literature. Chronic

hematogenous osteomyelitis is a consequence of an acute process. Its substrate is bone necrosis. Primary chronic osteomyelitis is a rare form of the disease and is characterized by a predominantly sluggish torpid course, often with minimal patient complaints.

Chronic hematogenous osteomyelitis (CHO) develops after an acute one and is characterized by a long-term course, when periods of exacerbation and remission (relative well-being) alternate. The morphological substrate for such a course of the disease, as a rule, is the site of a bone that died as a result of acute inflammation. Over time, it is rejected by the living bone, and a sequester is formed, which is usually located in the bone cavity - the sequester box. Purulent fistulas, which are pathological passages in tissues connecting the osteomyelitic cavity with the external environment, are a frequent component of CGO. Usually, a fistula opens on the skin with its external opening and is a kind of drainage that dumps excess pus into the external environment. Being an unconditional pathology, the fistula, however, allows the patient sometimes to live for many months and years with minimal manifestations of the inflammatory process. When the fistula closes or it is not able to drain the pathological intraosseous focus, conditions are created for the exacerbation of the disease. Pain appears or intensifies, the temperature rises, local signs of an acute inflammatory process (swelling, redness, etc.) are observed.

In the future, paraossal phlegmon may develop, or a purulent fistula will reopen. As a rule, patients with an exacerbation of CHO urgently seek medical help. Untimely assistance in this case is fraught with the danger of spreading the purulent process to the surrounding tissues, increasing intoxication, and developing sepsis. Diagnosis of CHO in most cases is not difficult, since usually patients with such a diagnosis have long been in the field of view of a specialist who is familiar with the features of the course of the disease. However, it is possible to judge structural changes in the bone: their nature, severity and prevalence only on the basis of an instrumental examination of the patient. The examination begins with a survey

radiography, which makes it possible to identify the main pathological changes in the bone tissue. At the same time, many details of the bone lesion may be inaccessible even to an experienced eye. At the same time, their assessment is extremely important when planning a surgical intervention, which is the main method of treating patients suffering from CGO.

The possibilities of multispiral X-ray computed tomography allow objectifying and visualizing in detail changes in bone structures, which is especially important in case of damage to massive bones, such as, for example, pelvic bones, sternum, etc. Moreover, modern instrumental diagnostics of osteomyelitis in a significant number of cases provides for the mandatory performance of computed tomography (CT). In HGO, it is absolutely necessary. The presence of a purulent fistula is considered the basis for fistulography. The study involves the introduction of a radiopaque substance into the fistulous tract, followed by a series of x-rays. Fistulography is primarily necessary for planning surgical intervention, since all purulent fistulas must be removed.

Magnetic resonance imaging in the diagnosis of chronic hematogenous osteomyelitis is of auxiliary importance, helping in some cases to identify the prevalence of damage to the soft tissues surrounding the bone, including purulent streaks in complex anatomical areas, for example, in pelvic osteomyelitis. With the development of acute hematogenous osteomyelitis, a number of successive changes are observed. The process begins acutely with the bone marrow. In the development zone infection develops serous inflammation, manifested by hyperemia and edema, following a short-term stage of serous inflammation, a limited abscess, phlegmon of the bone marrow, then necrosis. Already by the 3rd day of the disease, the bone marrow, periosteum, medullary canals and surrounding soft tissues are infiltrated with exudate.

The process spreads through the medullary canal quickly from the metaphysis to the diaphysis, etc., then pus through the Haversian canals comes out under the periosteum. A developing subperiosteal abscess is not only a consequence of the

release of pus under the periosteum, but also the result of inflammation of the periosteum itself. In children, the periosteum is loosely soldered to the bone and therefore often exfoliates over a considerable distance, in adults - in a limited area.

Detachment of the periosteum, as well as vascular thrombosis in the Haversian canals sharply disrupts bone nutrition, which, along with hyperedges inflammation and toxic exposure leads to necrosis of large areas of bone and periosteum. The periosteum becomes necrotic, pus penetrates into the surrounding tissues and intermuscular phlegmon develops, necrosis and fusion of muscles, and pus penetrates into the subcutaneous tissue fiber - subcutaneous phlegmon, skin necrosis and fistulas open.

Osteomyelitis is a significant cause of morbidity in children throughout the world.Multiple imaging modalities can be used to evaluate for suspected osteomyelitis, however magnetic resonance imaging has distinct advantages over other modalities given its ability to detect early changes related to osteomyelitis, evaluate the true extent of disease, depict extraosseous spread of infection, and help guide surgical management.

MRI has assumed a greater role in the evaluation of osteomyelitis with the increase in musculoskeletal infections caused by methicillin-resistant Staphylococcus aureus which have unique imaging features that are well-demonstrated with MRI.

This review focuses primarily on the use of MRI in the evaluation of osteomyelitis in children and will include a discussion of the clinically important and characteristic findings on MRI of acute bacterial osteomyelitis and related conditions. Hematogenous osteomyelitis is the most common type of osteomyelitis in children.

This occurs when an infection elsewhere in the body spreads to the bone via the bloodstream. Risk factors for development of hematogenous osteomyelitis include trauma, prematurity, urinary tract infections, vascular catheters and immunodeficiencies. The blood vessels in the metaphyses have sluggish flow and discontinuous endothelium, which predispose to infection. The most common bones to be affected are the fastest growing bones that have highly vascularized long bone

metaphyses and metaphyseal equivalents. Common sites include the distal femur, proximal tibia, proximal humerus and distal radius. Most cases start with a focal infection in the metaphyseal marrow which progresses to local decalcification and bony destruction. Occasionally, multiple foci may be infected which eventually coalesce. This infection can spread within the marrow cavity and as the pressure increases within the marrow cavity, the infection can spread through Haversian canals in the cortex into the subperiosteal space, giving rise to a subperiosteal abscess.

Similarly, the infection can traverse the periosteum and infect the adjacent soft tissues leading to pyomyositis. Infection may also spread across the physis into the epiphysis and joint space.The first stage of osteomyelitis occurs with vascular congestion, intravascular thrombosisand increased intraosseous pressure. Next is the suppurative stage where pus traverses the Haversian canals and forms a subperiosteal abscess. Subsequently a sequestrum may form when the periosteal and endosteal blood supply is compromised from increased pressure and vascular obstruction. This may lead to formation of an involucrum: new bone growing from the periosteum.

Depending on medical or surgical treatment at this point the infection may resolve or progress with complications. The site of osteomyelitis varies with patient age and is related to the blood supply. In early infancy osteomyelitis occurs in epiphyses and metaphyses and epiphyseal-equivalent regions. Transphyseal vessels are present in infants younger than 18-24 mo of age, which allow easier spread of infection across the physis from the metaphysis to the epiphysis[4,6].

This is the reason that infantile osteomyelitis frequently involves the epiphysis and joint space. It is important to note that this is not the most common cause of septic arthritis, which more often results from direct hematogenous synovial seeding[4].

During early infancy, isolated involvement of the epiphyseal growth plate can occur. Infection of the epiphyseal growth plate during infancy can result in growth

disturbance. In the 2-16 years age group, osteomyelitis is most often located in the metaphysis.

Triple-phase bone scintigraphy using 99mTc-methylene diphosphonate (99mTcMDP) can demonstrate evidence of infection as soon as 24 h after onset and also has the advantage of being able to depict multiple sites of infection. Osteomyelitis typically manifests as increased radiotracer uptake on all phases (angiographic, blood pool, and delayed) of the triple-phase examination. However, 99mTc-MDP scintigraphy is limited by poor anatomic detail and is insensitive for the detection of abscesses and extraosseous involvement. Furthermore, the sensitivity of 99mTc-MDP scintigraphy for the diagnosis of osteomyelitis, which in the past has been reported to be as high as 80%, may be decreasing with the increasing incidence of MRSA infections that tend to have significant soft-tissue involvement. Positron emission tomography with 18-fluorodeoxyglucose appears to be sensitive (95%) and specific (87%) for the diagnosis of osteomyelitis, however it has limited availability and involves a significant amount of radiation exposure.

Scintigraphy studies using white blood cells labeled with indium-111 or 99mTc hexamethyl propylene mine oxime require relatively large volumes of blood and are not used frequently in younger children. In contrast to the modalities listed above, MRI is both sensitive for the detection of early osteomyelitis and can also accurately depict the extent of disease as well as any associated abscess or soft-tissue extension without the risks associated with radiation exposure. MRI combines high-resolution anatomic delineation of the medullary space, cortex, and periosteum with high soft tissue contrast for detection of edema and fluid. Pre-operative MRI has been shown to reduce operative time and extent of surgical exposure in cases requiring surgical debridement. MRI does have distinct disadvantages in children including long scan times and susceptibility to motion artifacts which necessitate sedation or anesthesia in young children Additionally, MRI is contraindicated in some patients with metallic foreign bodies and certain types of implanted hardware. However, the overall superiority of MRI in evaluating osteomyelitis is reflected in recent clinical practice

guidelines which indicate that MRI is the imaging modality of choice for the detection of osteomyelitis and associated infection of the extraosseous soft tissues. As such, the current best imaging approach for suspected osteomyelitis is radiography followed by MRI.

Osteomyelitis in children demonstrates abnormalities on nearly all imaging modalities, including radiography, ultrasound, computed tomography, radionuclide bone scintigraphy, and magnetic resonance imaging (MRI). The conventional approach to the imaging evaluation of suspected AHO in the past has been radiography followed by bonescintigraphy if the radiographs were negative. In this algorithm, MRI was typically been reserved for cases of poor treatment response or suspected vertebral diskitis-osteomyelitis. However, due to multiple factors, including the rise of rapidly aggressive and invasive musculoskeletal infections with CA-MRSA, this approach may no longer be ideal.

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BIOCHEMICAL CHANGES IN NEWBORNS WITH INTRAUTERINE HYPOXIA BORN BY CAESAREAN SECTION

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ANNOTATION

The medical community is unswervingly joining forces to address issues of maternal and child health, which are acquiring political and social significance against the background of demographic problems of our time. At the heart of many conditions complicating the course of pregnancy and childbirth, there is a damaging factor that is universal for the fetus and newborn - hypoxia, which disrupts the course of basic energy-dependent processes, triggering a complex of pathological endogenous reactions that contribute to the development of multiple organ dysfunction.

Key words: *newborn, postnatal dysadaptation, intrauterine hypoxia, cesarean section*

One of the integral indicators of an adequately proceeding postnatal adaptation is the dynamics of loss and restoration of the initial body weight of a newborn child. The study of indicators reflecting the dynamics of body weight revealed significant differences in children who underwent intrauterine hypoxia from healthy children. The indices of newborns who underwent intrauterine hypoxia and were extracted by CS had significant differences from the children of the comparison group. They had a higher percentage of loss of the initial mass (7.7 ± 0.48 (%) versus 5.9 ± 0.36 (%), p = 0.007), a longer period of its loss (6.5 ± 0.35 days versus 5.1 ± 0.54 days, p = 0.023), as well as a protracted period of recovery of body weight (12.8 ± 0.48 days versus 11.2 ± 0.63 days, p = 0.042) with the maximum severity of changes in immature children, according to the severity of the condition, were forced to be removed at a gestation period of 32 - 34 weeks.

The intensity of metabolic processes in the studied groups was studied according to the results of clinical, biochemical blood tests, acid-base state (CBS) and blood gas composition. The study of the acid-base state of the blood revealed in children who underwent hypoxia, regardless of the method of birth, significant differences from healthy children in terms of base deficiency (p = 0.0002 and p = 0.001), blood saturation (p = 0.002 and p = 0.008), and in group I, differences with healthy children were also obtained in terms of pH (p = 0.016) and blood bicarbonates (p = 0.018). The effect of intrauterine hypoxia in children extracted by CS contributed to a more significant decrease in pH compared with children of group II - 7.35 ± 0.01 versus 7.39 ± 0.02 (p = 0.009), bicarbonate levels 21.7 ± 0.31 mmol / L versus 22.9 ± 0.47 mmol / L (p = 0.027) and pronounced base deficiency 3.9 ± 0.58 mmol / L versus 2.8 ± 0.36 mmol / l (p = 0.032), which reflected a more unfavorable intrauterine state of the fetus. The level of total protein in newborns who underwent hypoxia was comparable and significantly lower than in healthy children (p = 0.0003 and p = 0.001, respectively). At the same time, in children born by CS, a tendency towards lower values of total protein (53.2 ± 0.73 g / l) was shown against children in the comparison group (54.6 ± 0.87 g / l, p> 0.05), especially in the extracted CS at 32-34

weeks (46.5 ± 1.44 g / l). In children of group I, hypoproteinemia (total protein <45 g / l) was significantly more often recorded - 21.3% versus 12.4% in the comparison group ($\chi^2 = 6.15$, $p = 0.013$) with the highest frequency in those extracted at gestation 32-34 weeks (38%). A direct relationship was established between the incidence of hypoproteinemia and excessive loss of initial body weight ($r = 0.782$, $p = 0.001$).

The study of the enzyme activity of the blood showed that the average level of aminotransferases - alanine aminotransferase (ALT) and aspartate aminotransferase (AST) in the studied groups did not exceed the age values (up to 5 days of life ALT up to 50 U / L and AST - up to 140 U / L).

However, in children born by surgery, a significantly lower ALT level is shown (12.8 ± 0.65 U / L) versus the comparison group (18.3 ± 1.19 U / L, $p = 0.002$) and healthy children (17 , 3 ± 1.75 U / L, $p = 0.003$), as well as AST (63.3 ± 1.98 U / L) against children of the comparison group (70.8 ± 3.59 U / L, $p = 0.028$) and the control group (67.9 ± 1.09 U / L, $p = 0.034$), which indicated a decrease in the protein-synthetic function of the liver. Elevated ALT and AST values were found in isolated cases.

The content of protein metabolism products in the comparison groups was comparable. However, in children extracted by CS, a tendency towards a higher level of blood urea (4.8 ± 0.19 mmol / L) versus the comparison group (4.4 ± 0.21 mmol / L, $p > 0.05$) was shown. significant differences from healthy children (3.3 ± 0.17 mmol / L, $p = 0.034$) with the highest values in the extracted CS at 32-34 weeks (6.9 ± 1.07 mmol / L).

In the comparison groups, the frequency of azotemia (urea more than 8.5 mmol / l) was comparable (10% and 8.1%, $p > 0.05$), but the highest urea level was recorded in children extracted by CS - 13.5 ± 1.99 mmol / L versus 8.9 ± 0.48 mmol / L ($p = 0.036$) in naturally born children.

In newborns who underwent intrauterine hypoxia and extracted by CS, there was a tendency to higher creatinine values (90.9 ± 1.98 μmol / L) versus the comparison group (85.8 ± 2.29 μmol / L, $p > 0.05$) and especially against healthy children (57.6 ±

2.16 μmol / l, p = 0.001). At the same time, hypercreatininemia was formed much more often in group I - 50.3% versus 32.9% of children in the comparison group (χ^2 = 13.86, p = 0.0002) with significantly higher average creatinine values - 113 ± 2.46 μmol / l against 104.1 ± 1.67 μmol / l (p = 0.042).

In newborns who underwent hypoxia, regardless of the method of birth, in contrast to healthy children, a significantly higher level of tissue hypoxia - lactate was established (p = 0.003 and p = 0.004, respectively). At the same time, the lactate level in those extracted by CS was significantly higher than in the comparison group - 4.7 ± 0.58 mmol / L versus 4.1 ± 0.49 mmol / L (p = 0.025), especially in immature children extracted by CS at 32-34 weeks - 5.3 ± 0.66 mmol / L versus 4.0 ± 0.47 mmol / L when compared with children of similar maturity (p = 0.049).

Moreover, the frequency of lactic acidosis in children of group I significantly exceeded the same indicator in the comparison group - 34.1% (99 children) versus 22.7% (42%) (χ^2 = 7.08, p = 0.007).

The activity of the enzymes lactate dehydrogenase (LDH), creatine phosphokinase (CPK), alkaline phosphatase (ALP) and a nonspecific indicator of C-reactive protein (CRP) inflammation in children undergoing hypoxia, regardless of the mode of birth, was increased and comparable, significantly differing from those of healthy children.

Evaluation of serum glucose showed comparable results in comparison groups. However, the incidence of hypoglycemia was higher in children born by CS - 36.8% versus 25.9% in the comparison group (χ^2 = 6.16, p = 0.013) with significant differences among term infants - 22% versus 8% (χ^2 = 6.90, p = 0.008).

It should be noted that regardless of the method of birth, the most significant decrease in glucose levels was found among premature infants with GA at 32-34 weeks, but of these, the lowest rates were recorded in 3 newborns born by CS (0.9-1.1 mmol / L). Hyperglycemia (an increase in glucose levels of more than 6.5 mmol / L on an empty stomach) was recorded with a comparable frequency in the

comparison groups (5.2% and 5.4%, p> 0.05), with the highest frequency in children with GA at 32-34 weeks extracted by CS (14.3%).

Thus, against the background of impaired regulation of glucose metabolism, the most unstable situation with pronounced fluctuations in glucose levels was observed in newborns extracted by the abdominal route, especially among premature infants.

The assessment of the hormonal status of newborns was carried out with an analysis of the indicators of the most significant adaptive hormones, which, as you know, have a wide range of metabolic and immunomodulatory activities. In the comparison groups, the level of thyroid-stimulating hormone (TSH), produced by the pituitary gland and regulating the thyroid gland, was comparable in mean values, but lower than in the control group, without going beyond the age values for newborns (up to 20 IU / ml). However, the level of the thyroid hormone thyroxine (T4) in children who underwent hypoxia, regardless of the mode of birth, did not reach the age values (22.0 - 49.0 pmol / ml) and significantly differed from the indicators of healthy children (p = 0.024 and p = 0.038 respectively). The lowest thyroxine values were found in children of group I - 15.9 ± 0.91 pmol / ml versus 18.8 ± 0.85 pmol / ml in the comparison group (p = 0.042) with significant differences in 3 subgroups - 15.2 ± 0.92 pmol / ml versus 19.9 ± 1.27 pmol / ml (p = 0.003), with a tendency to an increase in the incidence of hypothyroxinemia (decrease in the T4 level less than 22.0 pmol / ml) when compared with children of group II (74, 4% versus 65.9%, p> 0.05). Regardless of the mode of birth in newborns who underwent intrauterine hypoxia, the incidence of hypothyroxinemia increased with decreasing gestational maturity (r = -0.934, p = 0.0001) and was highest among immature children born at 32-34 weeks' gestation (90, 4% and 86.7%, p> 0.05). The level of cortisol (a hormone of the adrenal cortex), which affects all types of metabolism (protein, fat, carbohydrate), regulates the processes of gluconeogenesis, catabolism, has an immunosuppressive, anti-inflammatory effect, in the children of the studied groups was comparable and did not go beyond the age range (55–304 nmol / L). In group I newborns, a tendency towards lower mean values of cortisol was shown against children in the comparison

group (208.6 ± 35.63 nmol / L versus 211.5 ± 27.45 nmol / L, p> 0.05). However, the incidence of hypocortisolemia was significantly higher among those born by CS - 10.3% versus 3.2% in the comparison group (χ^2 = 8.13, p = 0.004), especially in children extracted by CS at 32-34 weeks (42, 7% versus 13.3%, p = 0.007).

Gradually, towards the end of the neonatal period, the level of hormones was restored with a continuing tendency to lower values in children extracted by CS.

In newborns who underwent hypoxia, regardless of the mode of birth, higher but comparable mean values of the baseline bilirubin level were recorded compared with healthy children. However, among them, the formation of hyperbilirubinemia was registered already in the first day of life in more than half of the newborns (50.6% and 50.2%, p> 0.05), which had significant differences from healthy children (p = 0.0001). At the same time, by 5-6 days of life, the proportion of patients with hyperbilirubinemia was significantly higher in group I children - 68.2% versus 52.9% in the comparison group (χ^2 = 11.26, p = 0.0004) with significant differences in 2 subgroups - 83.5% versus 62.5% (χ^2 = 11.84, p = 0.0003). Children who underwent hypoxia, regardless of the method of birth, significantly differed from healthy children both in higher values of the maximum bilirubin level and in the duration of hyperbilirubinemia with comparable indicators in the comparison groups (p> 0.05).

The average values of the hemoglobin level in the first day of life in children of the studied groups did not differ significantly, remaining within the admissible age range (134-198 g / l). In the early neonatal period in children who underwent hypoxia, a comparable frequency of polycythemia was revealed (with Hb 220 g / l and above) - 11% and 8% (p> 0.05). Further observation showed a decrease in the level of hemoglobin and by the end of the neonatal period more than a third of children in the comparison groups had anemia, in contrast to healthy patients (p = 0.0003 and p = 0.0003, respectively) with a tendency to a higher frequency of pathology among those born by CS (38.9% versus 32.4%, p> 0.05). The frequency of anemia increased with decreasing gestational maturity of children and was found

most frequently in immature children extracted by CS at 32-34 weeks - 71.4% versus 46.6% ($\chi^2 = 4.52$, $p = 0.033$).

Thus, a comparison of the values of blood parameters in newborns who underwent intrauterine hypoxia revealed a more intense course of metabolic processes in the early neonatal period in children born by surgery, especially premature babies. Evaluation of the frequency of metabolic disorders, taking into account the urgency of the applied CS, showed more significant changes in blood parameters in children, the severity of the intrauterine state of which caused extraction by CS for emergency indications. In term infants extracted by emergency CS, lactic acidosis (33.3% (15/45), $p = 0.0001$), hypoproteinemia (20%, $p = 0.0001$) were more often registered in the absence of these disorders. in term infants born with planned CS, as well as a significant increase in the incidence of hypoglycemia (53.3% versus 4% ,$p = 0.0001$). In premature infants, with a higher and comparable frequency of metabolic disorders against the background of the severity of hypoxia, the deterioration of the condition, which entailed emergency extraction by CS, contributed to an increase in the incidence of lactic acidosis - 55.4% versus 30% ($\chi^2 = 7.60$, $p = 0.006$), hypoproteinemia - 35.9% versus 16.6% ($\chi^2 = 5.47$, $p = 0.019$) when compared with children of the same age, extracted by the planned CS. It should be noted that the high incidence of hypocortisolemia in premature infants, regardless of the urgency of the applied CS (14.2% and 16.4%, $p > 0.05$), correlated with delivery before the onset of labor ($r = 0.742$, $p = 0.004$). and hyperbilirubinemia with delayed onset of breastfeeding both in premature infants ($r = 0.858$, $p = 0.002$) and in term infants ($r = 0.768$, $p = 0.008$).

Taking into account the fact that the metabolic rate, as well as adaptation processes in newborns are closely related to the beginning of natural feeding, the analysis of the dynamics of natural feeding among children who underwent hypoxia was carried out. In children of group I, a lower frequency of the first attachment of newborns to the mother’s breast in the delivery room was found - 64.4% versus 77.2% of the comparison group ($\chi^2 = 8.75$, $p = 0.003$), more often the joint stay of the

child and the mother in the neonatal period - 68.2% versus 58.9% naturally born (χ^2 = 4.33, p = 0.037). Reliably later dates of the onset of natural feeding were revealed in children extracted by CS (6.4 ± 4.84 days) compared with naturally born children (3.6 ± 3.79 days, p = 0.004) with significant differences in 2- x subgroups (7.9 ± 3.71 days versus 5.3 ± 3.91 days, p = 0.023). In the remaining subgroups, a tendency towards a later onset of natural feeding was traced both among term infants (3.42 ± 2.99 days versus 2.5 ± 3.07 days, p = 0.099) and children with gestational age of 32-34 weeks (12 , 4 ± 4.42 days versus 9.8 ± 2.25, p = 0.125). By the end of the first month of life of children, the proportion of mothers who retained lactation was lower among those delivered by CS compared with those who gave birth naturally - 33.7% versus 43.2% in the comparison group (χ^2 = 4.30, p = 0.038) with significant differences among women who gave birth to full-term babies - 50% versus 66.6% in the comparison group (χ^2 = 5.21, p = 0.022). Among premature babies, regardless of the method of birth, the frequency of breastfeeding was significantly lower and comparable, with a tendency to a lower frequency in children extracted by the abdominal route (22.6% and 27.2%, respectively, p> 0.05).

Thus, the indicators of metabolic adaptation in newborns who underwent intrauterine hypoxia significantly differed from healthy children with a more intense course in children born by CS. Changes in the acid-base state of the blood, the level of lactate in these children testified to the severity of hypoxic-mediated disorders. The catabolic orientation of metabolism in children of this group is confirmed by a higher frequency of hypoproteinemia, an increased content of protein metabolism products (urea, creatinine), and a decrease in the protein-synthetic function of the liver. A higher incidence of hypoglycemia, hyperbilirubinemia was found; revealed a hormonal imbalance with a violation of the ratio between TTH and T4 with a significant decrease in the latter, a higher incidence of hypocortisolemia. It was shown that the frequency of metabolic disorders is higher in children, the severity of the intrauterine state of which required emergency extraction by Cesarean section.

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SPECIES COMPOSITION AND POPULATION OF MOSQUITOES IN THE SCENES OF CURMAL LEISHMANIASIS IN UZBEKISTAN

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The World Health Organization has included this group of infections in the Tropical Diseases Research Program. Zoonotic cutaneous leishmaniasis (ZCL) is widespread in Asia and Africa. In Uzbekistan, cutaneous leishmaniasis (CL) is currently registered in the regions of Uzbekistan and in the Republic of Karakalpakstan, an increased incidence is observed in Surkhandarya, Kashkadarya and Jizzakh regions.

In connection with the complication of the situation with leishmaniasis, it is very important to study the species composition and monitoring the number of mosquitoes - carriers of these diseases in the settlements of Uzbekistan. To clarify the current state of mosquito populations, we conducted research in Jizzakh, Kashkadarya and Surkhandarya regions, on the territory, which is the foci of ACL and SCL in Uzbekistan.

On the territory of Uzbekistan, 17 species of mosquitoes belonging to 2 genera were found: *Phlebotomus* 12 species and *Sergentomyia* 5 species [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 16], of which The main carriers of leishmaniasis are 4 types of mosquitoes: *Phlebotomus papatasi , P. _ longiductus , P. _ Sergenti* and *P. _ smirnovi* .

In this regard, a study of mosquitoes was carried out in a number of regions of Uzbekistan - Surkhandarya, Kashkadarya and Jizzakh, where patients with leishmaniasis have been registered in recent years.

Materials and methods. Mosquito capture was carried out during 2017 and 2020. in the above areas. Mosquitoes were caught using sticky sheets of paper (A 4), which were installed in residential and utility rooms and on colonies of large gerbils (*Rhombomys opimus*) 1 hour before sunset and filmed in the morning.

A total of 1241 ind. mosquitoes. Captured mosquitoes were placed in 96% ethanol. To determine the species of mosquitoes, permanent preparations were prepared using a gum arabic mixture (Fora liquid). Species identification was carried out by determinants [1, 12]. The number of mosquitoes was calculated by the index of abundance - the number of mosquitoes of each species per one Velcro.

Results and discussion. In the foci of leishmaniasis of Uzbekistan examined by us, 7 species of mosquitoes belonging to 2 genera *Phlebotomus* and *Sergentomyia were found* : *P . papatasi , P. _ caucasicus , P. _ alexandri , P. _ mongolensis , P. _ sergenti , P. _ andrejevi* and *S. _ Clydei* .

5 species of mosquitoes were found in natural foci of the ZKL in Surkhandarya and Kashkadarya regions. In residential and utility rooms *, the* dominant species was *P. papatasi* (79.0 - 87.9%). In this regard, the highest incidence of people with SCL was registered in the city of Mubarek. The abundance of other species such as *P. _ sergenti , P. _ caucasicus , P. _ alexandri , P. _ mongolensis was* insignificant in all collections.

It should be noted that in the colonies of great gerbils located near the city of Mubarek - in the desert zone, *P prevailed . caucasicus* (62.2%) and *P was subdominant . papatasi* (25.8%). As we approach settlements, the number *of P. caucasicus* decreased, and *P . papatasi* - increased. The number of mosquitoes in the settlements was higher (from 1.7 to 4.87 mosquitoes per sheet of sticky paper per night), mainly due to *P. _ papatasi* . In the burrows of the great gerbil, the number of all types of mosquitoes (from 0.005 to 1.1 mosquitoes) was significantly less than in

the settlements. Our studies have shown that in the Karshi steppe, natural foci of SCRs are ubiquitous.

To establish the role of different mosquito breeding sites in the studied areas, we compared the number of mosquitoes caught in different types of shelters. It turned out that the largest number of mosquitoes were caught in adobe rooms and cattle sheds, therefore, these rooms should be considered the main breeding grounds for mosquitoes in Mubarek.

In the natural focus of ZKL (Mubarek) in the fauna of mosquitoes, the following were found: *P . papatasi* and *P. _ sergenti* are carriers of zoonotic and anthroponotic cutaneous leishmaniasis.

In all settlements and in all collections, 2 types of mosquitoes were present: *P. _ Sergenti* and *P. _ papatasi* .

In the AKL foci in the Jizzakh region, 7 species of mosquitoes were found in residential and utility rooms, in the surveyed settlements, *P was the predominant species, both in residential and utility rooms . sergenti* (50.0-89.0%) is the main carrier of AKL.

The main breeding grounds for mosquitoes in the surveyed settlements were adobe dwellings and utility rooms.

In the fauna of the surveyed areas, mosquitoes are everywhere present: *P . sergenti* , in this regard, in Kashkadarya and Jizzakh regions, it requires increased attention of the sanitary and epidemiological service, not only in relation to SCL and anthroponotic leishmaniasis.

Conclusions.

1. 17 species of mosquitoes were found on the territory of Uzbekistan, in the course of our research in the foci of leishmaniasis in Surkhandarya, Kashkadarya, and Jizzakh regions, 7 species of mosquitoes belonging to 2 genera were found: *Phlebotomus* (6 species) and (*Sergentomyia* 1 species). *The* predominant species in human settlements are *P. sergenti* and *P. _ papatasi* , and in colonies of large gerbils , *P. caucasicus* .

2 . The abundance of mosquitoes in settlements in the oasis zone with foci of leishmaniasis was extremely low, in the steppe zone, due to the proximity to the burrows of gerbils, it was somewhat higher.

3. The main breeding grounds for mosquitoes in settlements are adobe dwellings and utility rooms, and under natural conditions, burrows of the great gerbil, where there are optimal conditions for the development of preimaginal stages and the breeding of mosquitoes.

4. The main vectors (CL) of leishmaniasis - *P. _ papatasi , P. _ Sergenti* in the surveyed territories of Uzbekistan are distributed everywhere.

5. Due to the dominant position of *P . sergenti* among other types of vectors of leishmaniasis in the Jizzakh region in the coming years, cases of ACL may become more frequent.

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КОЖНОГО ЛЕЙШМАНИОЗА В ДЖИЗАКСКОЙ ОБЛАСТИ. ИНФЕКЦИЯ, ИММУНИТЕТ и ФАРМАКОЛОГИЯ.2018.

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MEDIATA'LIM - YOSHLARNI SALBIY AXBOROTLARDAN HIMOYA QILISHNING MUHIM OMILI

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Annotatsiya

Ushbu maqolada mediata'limning yoshlar ta'limiy-tarbiyaviy jarayonidagi ahamiyati, mediata'limning o'ziga hos hususiyatlari va uni tashkil etish jarayonida qo'llaniladigan usullar va samaradorligi haqida fikr yuritiladi.

Kalit so'zlar: axborot, media, mediata'lim, axborot xavfsizligi, mediasavodxonlik, mediamadaniyat, pozitsiya.

МЕДИАОБРАЗОВАНИЕ – ВАЖНЫЙ ФАКТОР ЗАЩИТЫ МОЛОДЕЖИ ОТ НЕГАТИВНОЙ ИНФОРМАЦИИ

Аннотация

В данной статье рассматривается роль медиаобразования в образовательном процессе молодежи, специфика медиаобразования, а также методы и эффективность его организации.

Ключевые слова: информация, медиа, медиаобразование, информационная безопасность, медиаграмотность, медиакультура.

MEDIA EDUCATION IS AN IMPORTANT FACTOR TO PROTECT YOUTH FROM NEGATIVE INFORMATION

Abstract

This article discusses the role of media education in the educational process of young people, the specifics of media education and the methods and effectiveness of its organization.

Keywords: information, media, mediaeducation, information security, medialiteracy, mediaculture.

KIRISH

Hozirgi kunda jamiyat hayotining deyarli barcha sohalarini, shu jumladan ta’limni rivojlanishini “media” (ya’ni: televidenie, radio, kinematograf, ommaviy nashrlar, kompyuter axborot tizimlari)siz tasavvur qilish qiyin.

Axborot makonini globallashuvi va uning “ochiqligi” zaminida yangi bilimlar, faktlar, qarashlar, kontseptsiyalarning oqimi shiddat bilan ortib bormoqda va ommaviy axborot kommunikatsiyalari orqali berilayotgan axborotlardan foydalanish muammosi paydo bo‘lmoqda.

XXI asr, ya’ni “axborot asrida” axborotlarning mazmunini ham, ularni ommaviy axborot tarmoqlari orqali tarqatish usullari va yo‘llarini ham nazorat qilish amalda qiyin bo‘lib bormoqda. Axborotning bunday aralash-quralashligi ta’sirida o‘quvchining mustaqil ravishda tafakkur qilishi muammosi, uning qarashlarini, qadriyatlarini va ideallarini shakllanishi masalalari o‘quvchi ongida axborot olamini tartibga solish yo‘llarini izlashni, axborot bilan muomala qilishning yangi usul va ko‘nikmalari tizimini ishlab chiqish va shakllantirishni taqozo etmoqda. Boz ustiga jahondagi ta’lim amaliyotida bu sohadagi izlanishlar o‘tgan asrning 70- yillaridayoq boshlangan va, pedagogika fanida o‘ziga xos yo‘nalish – medaiata’lim paydo bo‘lib, shakllanib bormoqda.Bugungi kunda endi shakllanayotgan yoshlarni turli axborotlarning salbiy ta’siridan himoya qilish va ularning sog‘lig‘ini asrash muammosi dunyodagi eng dolzarb masalalardan hisoblanadi. Yoshlarga atrofini o‘rab turgan olam haqidagi ma’lumot beruvchi asosiy manbalarga esa, matbuot, televidenie, radio, global kompyuter tarmoqlari va boshqalar kiradi. Bugungi yosh

avlod ongiga ulkan axborot oqimi ta’sir ko‘rsatmoqda, uni majoziy ma’noda “axborot yomg‘iri” yoki “axborot seli” deb atash mumkin. Bugungi axborot makonidagi kutilmagan obrazlar, zamonaviy, yorqin tasvirlar, syujetlar va xatti-harakatlar hali ongi yetarli darajada shakllanmagan yoshlarni albatta ko‘proq o‘ziga jalb qiladi, chunki yosh xususiyatlari va hayotiy tajribaga ega bo‘lmaganligi sababli, bola ulkan ma’lumotlar oqimini qabul qilish va tushunish uchun hali tayyor emas hisoblanadi.

ADABIYOTLAR TAHLILI VA METODOLOGIYA

Barchaga ma’lumki bugungi yoshlarning telefon, kompyuter va televizor oldida o‘tkazadigan vaqtlari maktabda yoki boshqa ta’lim muassasalarida o‘tkazadigan vaqtlaridan ancha ko‘proqni tashkil etadi. Bu ularning ongiga salbiy ta’sir ko‘rsatuvchi turli buzuq, ziddiyatli dasturlar, shoular, saytlarni doimiy ko‘rishlariga ko‘proq imkon beradi, uning nozik ruhiyatiga ta’sir ko‘rsatadi. Ular esa bularning turli salbiy oqibatlarga olib kelishi mumkinligini ko‘pincha tushunmaydi. Agar e’tiborimizni qaratsak, faqat ko‘ngilochar saytlar, turli shoularni tanlaydigan va ko‘radigan yoshlar deyarli yurtimizda va dunyoda bo‘layotgan ta’limiy-tarbiyaviy, ma’naviy-madaniy teledasturlar, ijtimoiy tarmoqlarni ko‘rishdan o‘zlarini chetga olishadi.

Hozirda urf bo‘lgan majoziy iboraga ko‘ra, inson o‘zining “axborot pillasi”ga o‘ralib olishi, o‘zini real dunyodan ajratib qo‘yishi, illyuzion axborot makonida yashashi mumkin [1].

Media sohasidagi eng nufuzli tadqiqotchilarning tadqiqot natijalariga asoslanib shuni ta’kidlash mumkinki, ommaviy axborot vositalari tomonidan manipulyatsiya obyekti bo‘lib ko‘proq yoshlar tanlanadi, chunki:

- ular axborotning muhim qismini, to‘liq idrok etmaydilar, chunki ular hali uni idrok etishga tayyor emaslar;
- ular xabarlarning ma’nosini yoki bir nechta ma’noga ega bo‘lishi mumkinligini qisman tushunadilar;
- ular ommaviy axborot vositalariga nisbatan passiv pozitsiyani egallaydilar,

o‘zlarini ularning ta’siridan qanday himoya qilishni bilmaydilar va ko‘pincha bunday himoya zarurligini tushunmaydilar.

Bugungi kunda axborot xavfsizligi va inson ongini ommaviy axborot vositalari tomonidan manipulyatsiya qilinishidan himoya qilish davrimizning eng asosiy muammosiga aylandi, va bu hozirda ota-onalar, shifokorlar, psixologlar va o‘qituvchilarni tashvishga solmoqda. Ushbu muammoni hal etishning eng samarali yo‘li sifatida maktab va ta’lim muassasalarida mediata’lim va mediamadaniyatni rivojlantirish orqali amalga oshirish taklif etilmoqda. Hozirgi kunda dunyoda jadal rivojlanayotgan mediata’lim bu - pedagogikaning ommaviy axborot qonuniyatlarini o‘rganish asosida yoshlarni axborot xurujlaridan o‘zini himoya qilish va odamlar bilan muloqot qilish va o‘zligini namoyon qilishning zamonaviy shakllari bilan tanishtiradigan yo‘nalishdir.

Mediata’limni o‘rganish natijasida inson quyidagi imkoniyatlarga ega bo‘lishi mumkin:

•o‘zi bilan qabul qilinuvchi axborot o‘rtasida “psixologik masofa” o‘rnatish mexanizmlarini yaratish, o‘zining ongini manipulyatsiya qilinishidan psixologik himoya qilish, axborotlarni tanqidiy baholash ko‘nikmalarini egallash;

•audiovizual idrok etishning ongli tajribasini egallash; idrok etish qobiliyatlarini har tomonlama rivojlantirish;

•amaliy darajada noverbal xabarlar tillarini (teletasvirlar tahlili, kino tili, reklama tili va boshqalar) o‘zlashtirish, bu esa ularnga axborotlarning mazmuni anglashga va o‘zini namoyon etish imkonini beradi.

Mediata’limning o‘z oldiga qo‘yilgan maqsadlariga erishish uchun quyidagi faoliyat yo‘nalishlari muhim ahamiyatga ega hisoblanadi:

- maktabda shakllangan bilimlar tizimiga sinfdan tashqari qabul qilinadigan axborotni kiritish, bu bilimlardan turli mediadagi axborotlarni idrok etish va ularni tanqidiy tushunishda foydalanish;

- axborotni talqin qilish, uning mohiyatini anglash, uni maqsadli yo‘naltirish, axborot tarqalishining maqsadi, axborotlardagi yashirin ma’nolarga nisbatan shaxsiy

munosabatini shakllantirish qobiliyatini rivojlantirish; kerakli ma’lumotlarni turli manbalardan topa olish, belgilangan mezonlar asosida ularni tizimlashtira olish;

axborotlarning kommunikativ jihatdan o‘zaro ta’sir maqsadini va mo‘ljallangan auditoriya xususiyatlaridan kelib chiqqan holda ularni hajmini, shaklini, belgilari tizimini, tashuvchisini o‘zgartira olish;

- o‘z fikrlari yuzasidan bahslasha olish, olingan ma’lumotlarda kamchiliklar va ma’nolarni topa olish va ularni tuzatish bo‘yicha takliflar kirita olish;

- axborotlardagi turli muqobil nuqtai nazarlarni qabul qilish va ularning har biriga «yoqlash» va «qarshi» bo‘lgan asosli dalillar keltira olish;

- axborot xabarlari o‘rtasida maqsadli assotsiativ va amaliy aloqalarni o‘rnatish; axborot xabaridagi eng muhim jihatlarni ajrata olish.

Hozirgi vaqtda kino va videofilmlar, ijtimoiy tarmoqlardagi xabarlar va turli teledasturlarning parchalari asosan ko‘rish tamoyilini amalga oshirish sifatida qo‘llaniladi. Biroq yoshlarga qaratilgan elektron, audiovizual, bosma medialarining didaktik va tarbiyaviy imkoniyatlaridan ta’lim-tarbiyaviy yo‘nalishlardagi maqsadlarda yetarlicha foydalanilmayapti, ammo ular insonning xulq-atvor hususiyatlarini shakllantirishga sezilarli ta’sir ko‘rsatmoqda. Zamonaviy axborot madaniyatini shakllantirish va yoshlarning axborot xulq-atvor hususiyatlarini rivojlantirishning yangi usullarini ishlab chiqish sharoitda albatta, media ta’limning o‘ziga hos pedagogik salohiyatini hisobga olish muhimdir.

MUHOKAMA VA NATIJALAR

Bugungi amaliyot shuni ko‘rsatmoqdaki, pedagoglar va ota-onalar tomonidan olib boriladigan turli xil ta’limiy va tarbiyaviy ta’sirlarni yoshlar turlicha qabul qilishlari mumkin: ularga xushmuomalalik bilan muloqot qilish natijasida paydo bo‘ladigan ijobiy munosabatlardan so‘ng ular o‘zining xatti-harakati haqida o‘ylaydi va faollik ko‘rsatib, o‘zini takomillashtirish va rivojlantirishga intiladi. Ana shunda bunday tarbiya usuli haqiqatan ham uning shaxsiy ijobiy hususiyatlarini shakllanishida hal qiluvchi rol o‘ynaydi. Agar ota-onalar, tarbiyachilar va

pedagoglarning tarbiya usuli ular bilan yoshlar o‘rtasida ijobiy munosabat o‘rnatmasa, bu usul yoshlarning psixologik rivojlanishida ijobiy rol o‘ynamaydi va hatto ular tomonidan ma’lum bir qarshilikka ham uchrashi mumkin.

Ko‘rinib turibdiki, o‘quvchi tarbiyaviy ta’sirning nofaol obyekti hisoblanmaydi. Ularda bunday ta’sirlarga nisbatan ichki pozitsiya shakllanadi, ularda ushbu ta’sirlarga nisbatan o‘zini takomillashtirish (rivojlantirish), o‘z ustilarida faol ishlashlari yoki passiv bo‘lib qolishlari mumkin. Shu nuqtai nazardan, ta’lim insonning o‘z ustida ishlashdagi faolligini ichki rag‘batlantirishga ijobiy ta’sir ko‘rsatsagina, uning rivojlanishida hal qiluvchi rol o‘ynashini ta’kidlash mumkin.

Ta’lim-tarbiya shaxsning kamol topishida, uning o‘z ustida ishlashidagi faolligini ichki jihatdan rag‘batlantirishga ota-onalar, tarbiyachi hamda pedagoglar tomonidan ijobiy ta’sir ko‘rsatgandagina bu usullar hal qiluvchi rol o‘ynaydi. Aynan quyidagi hususiyatlar ya’ni o‘sib kelayotgan shaxsning faolligi va shaxsiy intilishi, o‘zini takomillashtirishga bo‘lgan istagi, pirovardida uning shaxsiy rivojlanishini belgilaydi[2].

Yoshlarning darsdan tashqari mashg‘ulotlarida mediata’limdan foydalanishning tarbiyaviy va rivojlantiruvchi ahamiyati shundaki, ularga o‘zini namoyon qilish uchun qo‘shimcha shart-sharoitlar yaratishda ham hisoblanadi, chunki hamma bola ham o‘qish jarayonida o‘zini namoyon qila olmaydi. Bunday sabablar sirasiga yoshlarda etakchilik, turli qobiliyatlarini va o‘zlashtira olmaslik kabi muammolarni ko‘rsatish mumkin. Shu sababli, ta’lim muassasalarida tashkil etiladigan turli sinfdan tashqari mashg‘ulotlarda yoshlar o‘zlarining ijodiy qobiliyatlarini rivojlantirish uchun ijtimoiy motivlar va ehtiyojlarlarini amalga oshiradigan ulkan imkoniyat bilan ta’minlanadilar. Zamonaviy, shaxsga yo‘naltirilgan yondashuvlarni to‘g‘ri tanlash ta’lim-tarbiya vazifalarini yanada to‘liq

amalga oshirishga yordam beradi. Bu jarayonda eng ahamiyatli jihatlardan biri shundaki, yoshlarning o‘zlari ularni rivojlantirishning yangi shakllarni taklif qilishlari ham mumkin.

Yoshlarni medialardan to‘g‘ri foydalanishga o‘qitishdagi samarali uslubiy usullarini quyidagi asoslar bo‘yicha tasniflash mumkin:

Tarbiyaviy ishlar turlari bo‘yicha (axloqiy, vatanparvarlik, ekologik, oilaviy va boshqalar). Bu tasnifni fin olimi Z.Tell ta’biri bilan aytganda, “mediaxabarlari fanlararo va ko‘p tarmoqli xususiyatga ega bo‘lishi” bilan murakkablashadi[3]. Masalan, maktab o‘quvchilarini axloqiy jihatdan tarbiyalash masalalarini hal qilish maqsadida medianing badiiy yoki multfilmlarni namoyish etish orqali ulardagi estetik tarbiya imkoniyatlarini kengaytiramiz, chunki biz san’at asarini axborot manbai deb hisoblaymiz.

Global kompyuter tarmoqlari va boshqa ommaviy axborot vositalari tomonidan taqdim etilgan imkoniyatlar bo‘yicha. Axborotdan foydalanishning turli xil imkoniyatlarini izlash va joriy etish yoshlarga media sohasi bilan yaxshiroq tanishishiga va ta’lim muammolarini samarali hal qilish imkonini beradi.

Mediata’limning tarbiyaviy salohiyatidan foydalangan holda, yoshlar ongni media vositalari tomonidan manipulyatsiya qilinishidan himoya qilish va ularning bu boradagi qobiliyatini rivojlantirish maqsadida samarali zamonaviy usullar ishlab chiqilmoqda, jumladan:

- talabalarni media vositalar va muassasa kutubxonasidan axborotlarni axborot markazi sifatida mustaqil izlab topish va foydalanish qobiliyatini shakllantirish, muammoli vaziyatdan chiqish yo‘lini bir necha usulda topish, mavjud vaziyatni modellashtirishga o‘rgatish, ya’ni, yoshlarni vaziyatdan chiqish yechimning alternativ tanlovini to‘g‘ri topish vazifasini oldiga qo‘yadi. Ushbu xarakatlar usulini tanlash yoshlarning o‘zida qoladi, lekin shu bilan birga u o‘z harakatlarini asoslashi lozim bo‘ladi;
- ijtimoiy tarmoqlar, gazeta va jurnallarda o‘qilgan maqolalar, tele va radio hikoyalar muhokamasi;
- turli xil media vositalaridan foydalangan holda o‘z ma’lumotlarini tayyorlashga o‘rgatish. Bunda media usullaridan qaysi birini tanlash unchalik muhim emas (oddiy qog‘oz varag‘idan Internetdagi veb-saytgacha): chunki zamonaviy yoshlar murakkab

texnik vositalardan foydalanishni afzal ko‘rishadi, ya’ni, kameralar, videokameralar, kompyuterlar, telefonlar. Ushbu zamonaviy texnikalardan foydalanishda topshiriqni shunday tuzish maqsadga muvofiq bo‘ladiki, u fanni o‘qitish va tarbiya vazifalarini o‘zida mujassamlashtirsin;

- bir vaqtning o‘zida ta’limiy va tarbiyaviy muammolarni hal qilishga qaratilgan turli xil uslubiy usullardan foydalanishga imkon beradigan Internetning axborot resurslaridan foydalanish.

Yoshlarning Internetga qiziqishi to‘rtta asosiy omil tufayli rivojlanadi deya hisoblanadi:

- turli xildagi ma’lumotlarga kirishga imkoniyatning mavjudligi;
- keng interaktivlik, doimiy muloqotning mavjudligi;
- o‘zi haqidagi ma’lumotlar ustidan shaxsiy nazorat, ma’lum bir “obraz”ni yaratish imkoni;
- uzatilayotgan ma’lumotlarning anonimligi.

XULOSA

Yuqoridagilardan kelib chiqib, mediata’lim jarayonida yoshlarni Internet bilan muloqot jarayonida xavfsizlikni ta’minlashning muhim qoidalari bilan tanishtirish zarur: barcha shaxsiy ma’lumotlarni (ismi, manzili, telefon raqami, elektron pochta manzili, ota-onalarning shaxsiy ma’lumotlari) oshkor qilmaslik; media tarmoqlardagi begonalarga ishonmaslik: Internetda har kim o‘zini kimligini ochiq ko‘rsatmasligi, aslida kimligini sir tutishi mumkin va hokazo.

Mediata’limning asosiy maqsadi sifatida yoshlarning mediasavodxonligini oshirish, ularda mediamadaniyatini shakllantirish, medialarning salbiy kontentlaridan himoya qilish, manipulyatsiya qurboniga aylanib qolishiga yo‘l qo‘ymaslik, shaxsiy ma’lumotlarini himoya qilish va zamonaviy dunyoda axborotlarni ongli ravishda izlash, talqin qilish va qo‘llash, dunyoqarashini kengaytirish orqali kommunikativ ko‘nikmalarini va mediakompetensiyalarini rivojlantirish vazifalarni ta’limning

oldiga qo‘yishdir. Buning uchun xar bir ta’lim maskanlarida bosqichma-bosqich mediata’limni joriy etish maqsadga muvofiqdir.

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MODERN TECHNIQUES AND TECHNOLOGIES OF CLEANING HYDROTECHNICAL INSTALLATIONS FROM SLUDGE

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Абстрактный:

В данной статье представлена информация по изучению современных приемов и технологий очистки ила, скопившегося перед гидротехническими сооружениями.

Ключевые слова: эксплуатация, ирригационные системы, мутные отложения, очистка от мути, дноуглубительные работы.

Abstract:

In this article, information is provided on the study of modern techniques and technologies for cleaning sludge accumulated in front of hydrotechnical structures.

Key words: exploitation, irrigation systems, turbid sediments, turbidity treatment, dredging.

Enter. The sedimentation of turbid particles contained in running water in front of hydrotechnical structures complicates the processes of exploitation of existing hydrotechnical structures on earth.For example, sedimentation in the basin of water reservoirs causes its volume to decrease, and sedimentation in front of hydrowells causes an excessive rise of the water level in the upper part of the structure and destroys the free control of the valves.

Today, our Republic also has a powerful water management complex, which includes 75 large canals with a total water consumption of more than 2500 m3/sec, 56 water and 25 flood reservoirs with a total volume of 20 billion m3, more than 117 thousand in 230 inter-farm irrigation systems. there are hydrotechnical facilities, 32.4 thousand km of inter-farm canals.

Every year, millions of m3 of muddy sediments that settle in front of the existing irrigation systems and structures in our Republic are cleaned mechanically and by hand.

Problem setting. Cleaning of the silt settled in the irrigation system and water reservoirs is a very complicated process, because the agriculture of our republic has switched to the cultivation of cotton and grain crops.

As for water reservoirs in our republic, it is impossible to clean the reservoir basin with the melioration techniques available in our republic due to the fact that there is always water in their basin. As an example, we can look at the situation of the Zomin reservoir in our Republic

Research method. Conducting field research and analysis of the used literature on the removal of mud-chukindi.

Research results. Zomin Reservoir [Figure 1]. It was built in the Zominsoy basin, and with its help, 51.0 million m3 of water can be collected. 7820 hectares of land can be irrigated with the water collected in the reservoir. The Zomin reservoir was built in 1975-1987 and has been in use for 32 years.

As a result of this, about 30% of the dead volume of the reservoir was filled with mud as a result of mud settling in the reservoir basin. Based on foreign experience, it is possible to clean the sludge that has settled in the reservoir basin, when the reservoir level drops, using submersible pumps (picture 2) or an electric dredger (picture 3).

Picture 1 Groundwater Picture

2 Diesel Zemsnaryad warehouse view

3 – picture. Electric drager.

These devices can clean up to 6 meters deep. Power is from 74 to 325 hp. The water output volume of the pump is 34 - 119 m3/h. This device can also be controlled remotely.In particular, it can work in a harsh environment. Devices of this type are considered suitable for removing sedimentary stones under water.In the spring of our republic, in front of the hydroelectric stations in the foothills of our republic, there are cases of large amounts of turbidity.As an example, Figure 4 shows the condition of the Karshi hydroelectric power plant built in Kashkadarya after vegetation.Today, the

sediments deposited in the Karshi hydroelectric plant are being cleaned with the help of low-efficiency landmines, excavators and bulldozers.The cleaning of the riverbed of the Karshi hydroelectric plant is carried out every year if foreign universal excavators with high productivity and which can work underwater are used.

Summary

If we use foreign equipment and technologies to clean the turbidity that sinks in front of the irrigation networks and hydrotechnical facilities in our country, we will be able to perform the work in a short time with high quality.

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ОПРЕДЕЛЕНИЕ ГОРЕНИЯ МЕХАНИЗМА ДЕРЕВЯННЫХ СТРОИТЕЛЬНЫХ КОНСТРУКЦИЙ

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Аннотация. *В статье рассмотрены некоторые вопросы создания огнестойких деревянных конструкции на основе местных сырьевых ресурсов. Показано, что древесина широко используется не только как строительный, но и как декоративно - отделочный материал. Отмечено, что одним из наиболее существенных недостатков древесных материалов является повышенные воспламеняемость и горючесть, поэтому на сегодняшний день ко всем строительным материалам, в том числе и к древесине, предъявляются высокие требования по пожарной безопасности. На основе проведенных исследовании разработана технология получения модифицированной древесины, а также математическая обработка процесса выгорания древесины. Разработаны мероприятия по безопасному ведению технологического процесса и решены вопросы сохранения окружающей среды.*

Ключевые слова*: древесина, горение, огнезащитный состав, скорость, теплота сгорания, тепловыделение, полимерная композиция, деструкция, математическая обработка, антипирен.*

Abstract. *In article are considered some questions of the creation to fire-resistant wooden designs on base local raw materials resource. It is shown that wood is broadly used not only as building, but also as decorative-trimming material. It is noted that one of the most essential defect wood material is raised flammability and combustibility so for present-day day to all building materials, including to wood, are presented high requirements on fireman of safety. On base called on study is designed technology of the reception modified wood, as well as mathematical processing the process of the burning-out wood. The designed action on safe conduct of the technological process and have settled the problems of the conservation surrounding ambiences.*

Key words*: wood, combustion, flammability composition, velocity, heat of combustion, heat to share out, polymeric composition, destruction, mathematical processing, antipiren.*

Annotatsiya. *Maqolada mahalliy xomashyo resurslari asosida olovbardosh yog‘och konstruksiyalarini olishning ayrim masalalari o‘rganilgan. Yog’och nafaqat qurilish ashyosi, balki dekorativ-bezak ashyosi sifatida xam keng qo‘llanilishi ko‘rsatilgan. Yog‘och va u asosidagi qurilish konstruksiyalarning o‘tga va alangaga chidamliligi past bo‘lganligi sababli bu masalaga bugungi kunda katta e’tibor berilayotganligi ko‘rsatilgan. Olib borilgan tadqiqotlar asosida olovbardosh modifikatsiyalangan yog‘och materiallarini olish texnologiyasi va yog‘ochning yonish jarayonining matematik ishlanmasi ishlab chiqarilgan. Texnologik jarayonni xavfsiz olib borish masalasi va atrof muhitga kam miqdorda salbiy ta’sir ko‘rsatishi aniqlangan.*

Kalit so‘zlar*: yog‘och,yonish,o‘tga chidamli tarkib, tezlik,yonish issiqligi, issiqliq ajralishi, polimer kompozitsiya, destruksiya, matematik ishlanma, antipiren.*

Введение. При возникновении пожара на объекте с применением древесины и материалов на ее основе появляется возможность его быстрого

распространения и увеличивается вероятность гибели людей от комплексного воздействия таких опасных факторов, как: высокая температура окружающей среды, дым, токсичность продуктов сгорания [1-2]. При этом более 75% пожаров произошло в жилом секторе, 39 % пожаров и 43 % гибели людей – в сельской местности. Как известно, самое широкое применение деревянные конструкции находят именно в этих сегментах строительной отрасли.

Поэтому проблемы повышения долговечности и снижения горючести древесных изделий являются актуальными и требуют незамедлительного решения [1]. Капитальное строительство и реконструкция существующих объектов гражданского, промышленного и специального назначения связаны с использованием древесины, которая чувствительна к воздействию высокой температуры, способностью сохранять функциональные свойства в условиях эксплуатации. С учетом этих проблем приняты нормативные документы, которые требуют при проектировании конструкции из древесины учитывать их стойкость против термического разрушения, а также проводить защитную обработку строительных материалов специальными средствами. Сущность защиты антипиренами и антисептиками состоит в торможении процессов термического разложения целлюлозы, снижении константы скорости реакций и энергии активации [2].

Для комплексной защиты древесины от возгорания и биологического разрушения разработано небольшое количество препаратов, в частности смесь сульфата аммония, ди аммоний фосфат и фтористого натрия (МС), или ортобората натрия и борной кислоты (ББ) и смесь карбоната натрия и борной кислоты (БС). На сегодняшний день появились эффективные пропиточные составы для древесины, в частности композиция из антипирена (фосфаты и сульфат аммония) и антисептика полимерного происхождения (поли гексаметилен гуанидин фосфат) - ДСА-1 и ДСА-2. В случае применения ДСА на поверхности древесины образуется полимерная пленка, препятствующая выходу антипирена из древесины наповерхность и предотвращает свободный

доступ кислорода воздуха, изменяя механизм пиролиза целлюлозы и замедляя окислительные процессы [3].

На основе вышеизложенного, нами разработаны новые огнезащитные составы на основе отходов химической промышленности [4], которые обеспечивают комплексную защиту деревянных строительных конструкции, не только от огня, но и от биоразложения.

Методы и объекты исследований. На основе комплексной защиты древесины от возгорания и биологического разрушения проведены исследования скорости выгорания древесины в случае модифицирования ее полимерными огнезащитными составами, полученными на основе реакции взаимодействия ортофосфорной кислоты, полученной из фосфогипса, отхода ОАО «Максам-Аммофос» с дихлоргидринглицерином (КПИ-1). В предыдущих работах [5], нами рассмотрены основные закономерности и механизмы процессов полимеризации вышеуказанных реагентов, а также прикладные свойства полимерных огнезащитных составов. Поэтому представляло интерес, исследование термических параметров процесса горения модифицированных древесных композиции, а также математическая обработка полученных данных.

Как известно внутренние пожары протекают в ограниченном объеме, огражденном от окружающего пространства. Поэтому внутренний пожар слабее зависит от характеристик окружающей среды, т.е. погоды, и в значительной степени определяется тепло газообменом зоны горения с внутренним объемом и окружающей средой. Эти процессы более сложные, чем в случае открытого пожара; они, главным образом, и определяют характер его развития или динамику пожара. Под динамикой пожара понимается изменение его основных параметров в пространстве и времени. Значения этих параметров, а, следовательно, характеристики зон внутреннего пожара определяются теплообменом и газообменом с окружающей средой.[4].

Скорость, с которой будет развиваться пожар, зависит от того, насколько быстро может распространиться пламя от точки зажигания, вовлекая в процесс горения все возрастающие области горючего материала. Для установления процесса горения в закрытом пространстве требуется, чтобы пожар вышел за определенные критические размеры, позволяющие резко повысить температуру на уровне потолка (типичное повышение >600^{o}C). Хотя усиленные уровни излучения увеличивают локальную скорость горения, большее влияние на увеличение размера пламени и скорость горения оказывает увеличивающаяся площадь, охваченная пожаром. [7.8]. Вот почему необходимо проанализировать характеристики распространения пламени по горючим материалам. Распространение пламени можно рассматривать как процесс наступления фронта горения. Внутри этого фронта передняя кромка пламени действует как источник тепла (которое нагревает горючее перед фронтом пламени до температуры воспламенения) и как источник вынужденного зажигания. Рассмотрение этого процесса требует рассмотрения стационарных задач теплообмена, аналогичных, если не идентичных тем задачам, которые были рассмотрены в контексте вынужденного зажигания твердых веществ. Следовательно, скорость распространения пламени может зависеть как от физических свойств материалов, так и от его химического состава. [3.5].

Распространение пламени при горении материалов определяет интенсивность и динамику развития пожара и зависит от эффективности защиты и скорости выгорания строительных конструкций в процессе пламенного горения.

Для определения характеристик тепловыделения материалов при горении использовали фундаментальное уравнение, связывающее скорость тепловыделения при горении материала Q, со скоростью выгорания m, кг/ (м2.с) и низкой теплотой сгорания Q*н*, кДж/кг вида:

Q mQS = η (1)

где η - коэффициент полноты сгорания летучих продуктов разложения вещества в пламени (0,85);

S - площадь поверхности образца, находящегося под действием теплового воздействия, м^2.

При построении математической модели скорости выгорания материала принимаем, что изменение во времени удельной массы образца пропорционально разности между начальной и текущей удельной массой и интенсивностью выгорания:

dm (m$_1$m$_o$) d = a +w t (2)

где τ - время с момента зажигания, с; α - коэффициент пропорциональности, зависящий от вида горючего материала, с$^{-1}$;

M*0* - начальная скорость выгорания материала, кг/(м^2·с);

w=w(t)= ω$_0$ e−gt w - функция, характеризующая интенсивность изменения удельной массы образца в пламени, кг/(м^2·с^2);

ω$_0$- интенсивность сгорания материала в начальный момент времени, кг/(м^2·с^2);

γ - показатель интенсивности замедления реакций горения за счет действия защитных веществ, с$^{-1}$.

После интегрирования (2) получаем следующее выражение для расчета скорости выгорания огнестойких материалов:

m$_1$m$_o$ (e−gt –atw) = m$_1$m$_o$ a− g (3)

Если образец не обработан защитными веществами, то математически это означает, что a>> g или g → 0, тогда уравнение (3) принимает следующий вид:

m$_1$m$_o$ (1 e) −a·tg→ w = a (4)

Это означает, что сразу после зажигания образца начинается период стационарного развития пожара до полного сгорания.

В случае идеальной защиты a <<g или при a → *0* из уравнения (3) получаем:

$\mathbf{m_1 m_o\ (e1)\ -g \cdot t\ a \rightarrow\ w = g}$ (5)

откуда следует, что с момента начала воздействия на образец теплового источника начинается стадия прекращения горения.

Наконец, если интенсивность развития пламенного горения и скорость его подавления примерно одинаковые g» a, то:

$\mathbf{m_1 m_o e - g \cdot t a \rightarrow g = w \cdot t}$ (6)

То есть, при наличии защиты, соответствующей интенсивности развития пожара, горение повышается, а затем проявляется влияние действия защитных средств и пламя подавляется.

Проверка адекватности полученных теоретических результатов натурным условиям была проведена путем определения тесноты связи между расчетными и экспериментально установленными параметрами горения древесины. [6.7].

Для определения значений этих параметров проведены экспериментальные исследования, где в качестве объекта исследований использовали древесину (ШНК 2.002.-06) и древесину пропитанную смесью фосфата и сульфата аммония и антисептиком поли гекса метилен фосфат: поверхностным одно- и двукратным нанесением и глубокой пропиткой). Сначала были проведены испытания необработанных образцов древесины. После температурного воздействия на необработанные образцы, происходило воспламенение исследуемых материалов. Затем были проведены испытания образцов древесины, которые были обработаны антипиренами и антисептиком. Для проведения исследования использовали установку по определению группы горючести материалов по ШНК-2.02-06, которая дополнительно была оснащена устройством для регистрации изменения массы образца в ходе испытаний. [2.6].

Полученные зависимости показывают, что скорость выгорания необработанного образца древесины (g = 0) значительно повышается в начальный период воздействия теплового потока, а затем, в связи с обугливанием поверхности, несколько замедляется.

Расчетное сопротивление древесины стойки на сжатие согласно СНиП II-25-80 для древесины I сорта составляет Rc = 25 МПа.

Задаем последовательные моменты времени горения деревянной стойки при пожаре, определяем рабочее сечение стойки (Fc(τ)) и напряжение сжатия (σc (τ)). Определяем время τ от начала возгорания деревянной стойки при пожаре к потере ею несущей способности, согласно которой σc с R25 σt≥= МПа. Это условие выполняется для необработанной древесины на 40 мин, для обработанной - на 120 мин.

Полученные результаты и их обсуждении. На основе проведенных экспериментальных исследовании нами выявлено, что модификация древесины разработанным полимерным антипиреном КПИ-1 приводит к снижению скорости обугливания примерно в 2,8 раза и изменению структуры и свойств контактной зоны древесины, повышающих ее способность противостоять высокотемпературному воздействию. Установлено, что эта зона представляет собой слой древесины, характеризуемый сопротивляемостью к воздействию внешних источников энергии (высокотемпературного пламени), что свидетельствует о защитном характере модификаторов на поверхности древесины. Устойчивость модифицированной древесины, оцениваемая по изменению прочности при сжатии, в среднем в 3 раза выше по сравнению с необработанной, при выгорании деревянной конструкции. [2.3].

Заключение. Таким образом, разработана технология модификации деревянных конструкции новым полимерным огнезащитным составом и математическая модель процесса выгорания древесных композиции.На основании имеющегося опыта исследования задач теории пожаров можно утверждать, что для разработки теории горения древесины необходимо сочетать экспериментальные и теоретические методы исследования [8].

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