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ВЕСТНИК

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NAS RK is pleased to announce that Bulletin of NAS RK scientific journal has been accepted for indexing in the Emerging Sources Citation Index, a new edition of Web of Science. Content in this index is under consideration by Clarivate Analytics to be accepted in the Science Citation Index Expanded, the Social Sciences Citation Index, and the Arts & Humanities Citation Index. The quality and depth of content Web of Science offers to researchers, authors, publishers, and institutions sets it apart from other research databases. The inclusion of Bulletin of NAS RK in the Emerging Sources Citation Index demonstrates our dedication to providing the most relevant and influential multidiscipline content to our community.

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НАН РК сообщает, что научный журнал «Вестник НАН РК» был принят для индексирования в Emerging Sources Citation Index, обновленной версии Web of Science. Содержание в этом индексировании находится в стадии рассмотрения компанией Clarivate Analytics для дальнейшего принятия журнала в the Science Citation Index Expanded, the Social Sciences Citation Index и the Arts & Humanities Citation Index. Web of Science предлагает качество и глубину контента для исследователей, авторов, издателей и учреждений. Включение Вестника НАН РК в Emerging Sources Citation Index демонстрирует нашу приверженность к наиболее актуальному и влиятельному мультидисциплинарному контенту для нашего сообщества.

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DESIGN AND SIMULATION OF VIRTUAL LOCAL AREA NETWORK USING CISCO PACKET TRACER

Abstract. Modern local networks consist of several subscriber devices located inside the same building. Computers on the local network are interconnected using network equipment - switches. By default, all devices connected to the ports of the same switch can communicate by exchanging network packets.

Computer networks of data transmission are the result of the information revolution and in the future will be able to form the main means of communication. The worldwide trend towards the integration of computers in the network is due to a number of important reasons, such as the acceleration of the transmission of information messages, the ability to quickly exchange information between users, receiving and transmitting messages (faxes, E-mail letters, electronic conferences, etc.) without leaving the workplace, the ability to instantly receive any information from anywhere in the world, as well as the exchange of information between computers of different manufacturers working under different software.

A large number of broadcast packets sent by devices leads to a decrease in network performance, because instead of useful operations, the switches are busy processing data addressed to everyone at once. The situation forces us to divide such large networks into autonomous subnets; as a result, the logical structures of the network are different from the physical topologies. This article discusses VLAN technology (Virtual Local Area Network - VLAN), which allows you to divide one local network into separate segments.

Key words: Computer Networks, IP Addresses, Cisco Packet Tracer, Ping Test, Virtual Trunking Protocol, Subnetting, VLAN.

Introduction. Today in the world there are more than 130 million computers and more than 80% of them are united in various information and computer networks - from small local networks in offices to global networks. Computer networks - a set of personal computers (PC) distributed over a territory and interconnected to share resources (data, software and hardware components).

Basic requirements for modern computer networks:

- 1) Easy operation and user access to the network;
- 2) Openness – the ability to connect different types of devices;
- 3) Development – the ability to increase network resources and subscribers;
- 4) Autonomy – the user's work on his personal computer (PC) should not be limited to the fact that the PC is included in the network;
- 5) Integrality – the possibility of processing and transmitting information of various kinds: symbolic, graphical, etc.;
- 6) Security – the ability to prevent unauthorized access to the network.

The purpose of a computer network is to provide users with a network service. The organization of network service is carried out by network services. Network service provides the user with the ability to perform the following basic functions, which are based on remote access to network resources:

- work with files distributed over the network (transfer, storage, receiving, playback);
- multi-user access to files, allowing you to have one instance of the data and organize the collaboration of users in a single information space;
- work with geographically distributed databases;
- distributed computing;
- reception, transmission of e-mail;
- remote maintenance, network administration.

The existing networks are currently divided primarily on a territorial basis [1]:

1. Locate Area Network (LAN), this network covers a small area with a distance between individual computers. Typically, such a network operates within the same institution.

2. Wide Area Network (WAN), this network usually covers large areas (the territory of a country or several countries). Computers are located at a distance of tens of thousands of kilometers from each other.

3. Regional networks, such networks exist within the city, district. Currently, each such network is part of a global network and a special specificity in relation to the global network is not different.

4. Virtual Local Area Network (VLAN) is a feature in routers and switches that allows you to create multiple virtual LANs on a single physical network interface (Ethernet, Wi-Fi interface). VLANs are used to create a logical network topology that is independent of the physical topology.

Materials and methods. Virtual LAN technology is used in the design of internal networks of universities, organizations and enterprise networks. VLAN is a data link layer technology for building multiple logical networks on the top of physical network. The LAN network is divided into different logical segments called broadcast domains. The workstation division is based on the functions, platforms and teams [2]. Virtual LAN is nothing but a group of devices that are connected virtually but may or may not physically connected [3]. Virtual LAN or VLAN allows network engineers and network administrators to make logical network from physical network. This technology is used to segment a complex network into smaller networks for better manageability, improved performance and security [4].

Types of VLAN:

- Port-based VLAN (Port - based VLAN) - each switch port is assigned to a specific VLAN and any network device connected to that port will be in the assigned virtual network;
- MAC-based VLAN (MAC-based VLAN) - VLAN membership is based on the MAC address of the workstation. In this case, you must bind the MAC addresses of all devices to the VLAN on the switch;
- Port-based VLAN and IEEE 802.1 v protocols - the Protocol type is used to determine VLAN membership;
- VLAN based on IEEE 802.1 Q - field VLAN accessories, integrated into the Ethernet frame structure, which allows you to transfer this information over the network. The advantage is the flexibility of configuration, use not only on one switch, but also within the entire switched network; the ability to use equipment from different manufacturers in the organization of the network [5].

There are two methods for assigning a port to a specific VLAN:

- static assignment - when the VLAN port ownership is set by the administrator during the configuration process;
- dynamic assignment - when the port VLAN membership is determined during the operation of the switch by using the procedures described in special standards, such as IEEE 802.1 x When using IEEE 802.1 X to gain access to a switch port a user is authenticated on the RADIUS server. According to the results of authentication the switch port is placed in a particular VLAN [6].

X.Sun et al. [7] adopted the *K-means clustering algorithm* to partition VLANs for each user group based on a broadcast traffic cost model. The broadcast traffic cost model is defined as

$$B = H * A * W \quad (1)$$

Here, H denotes the number of hosts of a VLAN, A denotes the average broadcast traffic (in packets per second, *pkt/s*) generated by a host, W denotes the sum of links of the spanning tree, and B denotes the total broadcast traffic cost of the VLAN. Fuliang Li et al. [5] extend the model as shown in:

$$B_+ = H * A * C \quad (2)$$

Here, H and A have the same meaning as Sung's model, and we assume that broadcast traffic is generated at 2.12 *pkt/s* per source, that is, $A = 2.12$. C denotes the total link cost of a VLAN. B_+ denotes the weighted (i.e. taking into consideration the link cost) broadcast traffic of the VLAN.

K.He et al. [8] proposed the GreenVLAN approach, An energy-efficient approach for VLAN design, developed a practical equations to solve the proposed model and the complexity of the algorithm is analysed:

$$\min \sum_{l \in L} E_l \quad (3)$$

$$s. t. E_l = \psi_l(F_l) \quad (4)$$

$$\sum_{j=1}^h x_{ij} \leq N, \forall i \in H \quad (5)$$

$$\sum_{j=1}^h (1 - x_{ij}) \leq M, \forall i \in H \quad (6)$$

$$x_{ij}(1 - Q(ij)) = 0, \forall i, j \in H \quad (7)$$

$$x_{ij}x_{jk} - x_{ik} = 0, \forall i, j, k (i < j < k) \in H \quad (8)$$

$$B(v(i)) = \sum_{j=1}^h x_{ij} * A(v(i)) * W(v(i)) \leq Th, \forall i \in H \quad (9)$$

Equation 3 computes the total energy consumption in the network. Equation 4 calculates the energy usage of link l . Equation 5 and Equation 6 guarantee that the produced grouping solution should satisfy the *feasibility criteria*, that is, the number of host per VLAN should not exceed the upper bound N and the number of VLANs created should not exceed the upper bound M . Equation 7 means the produced grouping solution should guarantee the *correctness criteria*, in other words, hosts grouped into the same VLAN must belong to the same logical category. Equation 8 means that if $x_{ij} = 1$ and $x_{jk} = 1$, then x_{ik} must also equals to 1 ($i < j < k$), this equation guarantees the correctness of the solution. Equation 9 makes sure that for each created VLAN, the broadcast traffic will not overflow the threshold Th , which might be determined by the network operator.

The structure of a real network is formed using structure-forming equipment (switches, routers), to which network nodes are connected, and a multi-level (often three-level) network is created [9]. This approach is used when creating a corporate network based on VLAN technology. At the same time, groups of the first level of the information structure are virtual local networks. The second and third levels of the information structure are designed to connect these networks to each other. The number of switches used to connect nodes of the technical structure of the corporate network when creating first-level groups (first-level switches) is determined by the features of the real set, the technical capabilities of the switches. Let's denote this number K_1^* , $K_1^* \geq K_1 \geq 1$. Number of switches to connect first-level switches and create second-level groups (second-level switches) K_2^* , $K_2^* \geq K_2 \geq 1$. The number of switches of the third level to connect the switches of the second level - $K_3^* \geq 0$.

The technical structure of the network is defined by a set of **ST** elements: $Y_1^* = \|y_{1ij}^*\|$, ($i = 1, 2, \dots, M; j = 1, 2, \dots, K_1^*$) matrix of connections of technical network nodes (workstations, servers) with first-level switches; $Y_2^* = \|y_{2ij}^*\|$, ($i = 1, 2, \dots, K_1^*; j = 1, 2, \dots, K_2^*$) matrix of connections of first-level switches with second-level switches; $Y_3^* = \|y_{3ij}^*\|$, ($i = 1, 2, \dots, K_2^*; j = 1, 2, \dots, K_3^*$) matrix of connections between third-level switches and second-level switches; $X_1^* = \|x_{1ij}^*\|$, ($i, j = 1, 2, \dots, K_1^*$) matrix of connections for first-level switches. $X_2^* = \|x_{2ij}^*\|$, ($i, j = 1, 2, \dots, K_2^*$) matrix of connections for second-level switches; $X_3^* = \|x_{3ij}^*\|$, ($i, j = 1, 2, \dots, K_3^*$) matrix of connections of third-level switches. For each level, the following parameters are set matrices that specify the bandwidth of the communication channels used when building networks: $C_1^*(Y_1^*)$, $C_2^*(Y_2^*)$, $C_3^*(Y_3^*)$, $C_1^*(X_1^*)$, $C_2^*(X_2^*)$, $C_3^*(X_3^*)$.

Since routing is used in large-size corporate networks, it is necessary to use appropriate routing algorithms on graphs to calculate flow parameters. For this purpose the matrix of the graph of connections between switches is constructed Ω and it is presented in the following form:

$$\Omega = \begin{pmatrix} X_1^* & Y_1^* & 0 \\ (Y_2^*)^T & X_2^* & Y_3^* \\ 0 & (Y_3^*)^T & X_3^* \end{pmatrix} \quad (10)$$

Thus, the parameters of data flows in the network for a given technical structure are defined by a set of:

$$PST(ST) = \{A_1^*(Y_1^*), A_2^*(Y_2^*), A_3^*(Y_3^*), \lambda_1^*, \lambda_2^*, \lambda_3^*, \gamma_1^*, \Omega\} \quad (11)$$

Any terminal node of the network has a single connection to the transport subsystem that implements full- duplex mode of information exchange (simplex mode and half duplex only take place in special segments of the corporate network). Therefore, from the point of view of the load on the transport subsystem, any host in the network can be considered as a queuing system with one input and one output. Assuming a Poisson flow of service requests and an arbitrary distribution of their service time (the Kendall notation $M/G/1$ system), the analytical model is described following relation:

$$\begin{aligned} A &= \frac{1}{2} \left[1 + \left(\frac{\sigma_{T_s}}{T_s} \right)^2 \right], \rho = \lambda \cdot T_s, \\ \omega &= \frac{\rho^2 A}{1-\rho}, T_\omega = \frac{\rho T_s A}{1-\rho}, \\ r &= \rho + \frac{\rho^2 A}{1-\rho}, T_r = T_s + \frac{\rho T_s A}{1-\rho} \end{aligned} \quad (12)$$

where, σ_{T_s} - the standard deviation of the average maintenance time T_s ; λ - the rate of receipt, i.e. the average number of requests received per second; ω - average number of requests waiting for service; T_ω - average waiting time; r - average number of requests in the system, waiting and served; T_r - the average time that a query spends in the system.

The Poisson flow of requests assumption is valid in client-server technologies if we consider the flow of requests from multiple clients to the server.

From the above data, it follows that it is conceptually natural to imagine the corporate network management process as a two-level management process, where a set of basic parameters is formed at the first level, and at the second, with fixed basic parameters, variable parameters are managed.

The decomposition of a management task involves the decomposition of a corporate network into a set of private networks (subnets) and managing the solution of a group of similar private tasks. This is largely consistent with VLAN management principles.

The Experimental Results and Model Network. Cisco Packet Tracer (CPT) is virtual networking simulation software developed by Cisco, to learn and understand various concepts in computer networks. CPT is a powerful network simulation program that allows students to experiment with network behavior and ask “what if” questions. As an integral part of the Networking Academy comprehensive learning experience, Packet Tracer provides simulation, visualization, authoring, assessment, and collaboration capabilities and facilitates the teaching and learning of complex technology concepts. Like any simulation, Packet Tracer relies on a simplified model of networking devices and protocols. It provides a simulated environment where processes between various networking devices, such as routers, switches, wireless access points, computers, links and applications are visible with animations and easy explanatory descriptions [10].

CPT is able to model a large number of devices for various purposes, as well as many different types of connections, which allows you to design networks of any size at a high level of complexity. There are a lot of researches by using VLAN in Packet Tracer [11,12].

The article considers the location of the network topology of three departments of the *IT - TECHNOLOGY, AUTOMATION AND MECHANIZATION OF AGRO-INDUSTRIAL COMPLEX* faculty of the Kazakh National Agrarian University as an example. The scheme of information flows between departments is shown in figure 1.

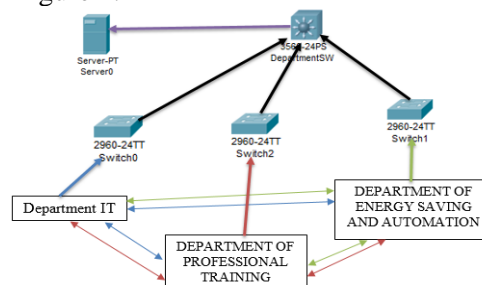


Figure 1 – The scheme of information flows between departments

For experimental work, we created the following topology in Packet Tracer: *Department of Information technology (IT), Department of Professional Training (PT), Department of Energy Saving and Automation (EA)* (figure 2).

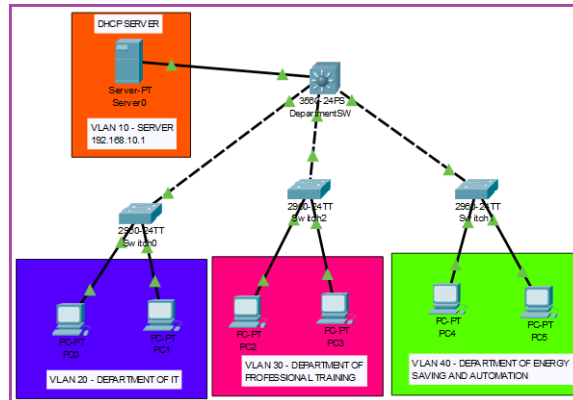


Figure 2 – Topology in Packet Tracer (with VLAN)

Show vlan command description (figure 3):

1 column is the VLAN number. There is initially number 1 here - this is the standard VLAN that is initially available on each switch. Numbers from 1002-1005 for other channel environments. You cannot delete them;

2 column is the name of the VLAN. When creating a VLAN, you can choose meaningful names for them to identify them later. By default there is default, fddi-default, token-ring-default, fddinet-default, trnet-default;

3 column - status. It shows what state the VLAN is in. At the moment, VLAN 1 or default is active, and the next 4 are act / unsp;

4 column - ports. This shows which VLANs the ports belong to. By default, they are in default.

```

DepartmentSW#show vlan
-----
VLAN Name         Status Ports
-----
1    default         active Fa0/1, Fa0/2, Fa0/3, Fa0/4
    Fa0/5, Fa0/6, Fa0/7, Fa0/8
    Fa0/9, Fa0/10, Fa0/11, Fa0/12
    Fa0/13, Fa0/14, Fa0/15, Fa0/16
    Fa0/17, Fa0/18, Fa0/19, Fa0/20
    Fa0/21, Fa0/22, Fa0/23, Fa0/24
    Gig0/1, Gig0/2
10   SERVER          active
20   DepartmentIT    active
30   DepartmentPT    active
40   DepartmentEA    active
1002 fddi-default    active
1003 token-ring-default active
1004 fddinet-default active
1005 trnet-default  active

VLAN Type SAID      MTU   Parent RingNo BridgeNo Stp    BrdgMode Trans1 Trans2
-----
1    enet 100001 1500   -     -     -     -     -     0     0
--More--
    
```

Figure 3 – Show Vlan commands

Virtual Trunking Protocol (VTP) has some issues but not much research has been done for complexities arise in VTP based configuration. In this paper, we focus strongly on various security aspects of VLAN design using with VTP to reduce the much administrative work apart from optimal Inter-VLAN routing design.

Using VTP makes it easier to manage (create, delete, rename) VLANs in the network. In the case of VTP, the change (VLAN information) can be made centrally on one switch, and these changes are propagated to other switches in the network (figure 4). If you don't use VTP, you need to make changes on each switch.

```

DepartmentSW(config)#
DepartmentSW(config)#vtp mode server
Device mode already VTP SERVER.
DepartmentSW(config)#vtp domain cisco.com
Changing VTP domain name from NULL to cisco.com
DepartmentSW(config)#vtp version 2
DepartmentSW(config)#int range f0/2-4
DepartmentSW(config-if-range)#sw
DepartmentSW(config-if-range)#switchport trunk enc
DepartmentSW(config-if-range)#switchport trunk encapsulation dot1q
DepartmentSW(config-if-range)#switchport mode trunk
    
```

Figure 4 – Configure VPT and Trunk – Port

The Dynamic Host Configuration Protocol (DHCP) allows automatic configuration of network devices. Setting up a DHCP server on the router is beneficial in that it allows for maximum use working router by hanging on it the maximum amount of functionality (Internet, NAT, DHCP, etc.) (fig.5). DHCP allows the router to automatically configure the following basic parameters [1,5]:

- IP address;
- Default gateway;
- Subnet mask;
- DNS server;
- Domain name.

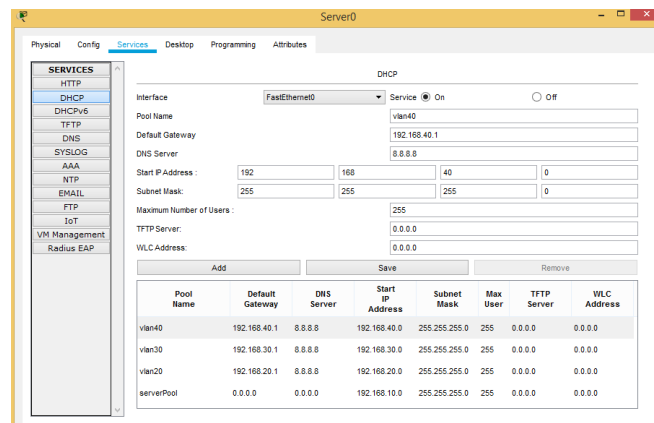


Figure 5 – Enable DHCP Server

Using the ping command, we can see the results of sending packets over the Vlan (figure 6):

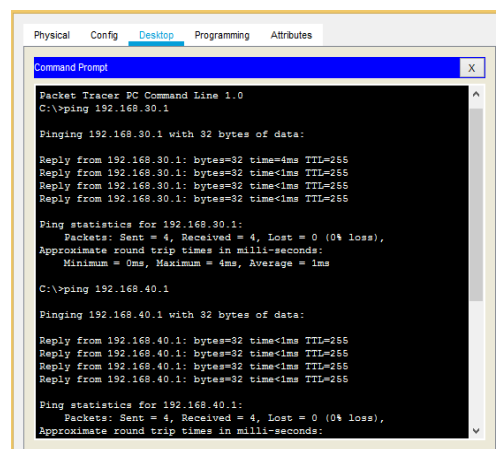


Figure 6 – Ping results

Conclusion. In conclusion, we showed the most popular application of VLANs. Also, regardless of physical location, it is possible to logically combine nodes into groups, thereby isolating them from others. This topology is very convenient when employees physically work in different places, but must be combined. And of course, from a security point of view, VLANs are not interchangeable. The main thing is that a limited circle of people have access to network devices.

As a result of the work the following advantages were identified when using Vlan networks between departments:

- facilitates moving, adding devices, and changing their connections to each other;
- a large degree of administrative control is achieved due to the presence of a device that performs routing between VLAN networks on the 3rd level;
- bandwidth consumption is reduced compared to the situation of a single broadcast domain;
- prevention of broadcast storms and the prevention of loops.

The proposed approach to analysing the technical structure of the corporate network and the results obtained allow the network administrator and developer to evaluate the load of communication channels and network equipment with a known information structure. The proposed results can be applied to networks built using VLAN technology.

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CISCO PACKET TRACER АРҚЫЛЫ ВИРТУАЛДЫ ЖЕРГІЛІКТІ ЖЕЛІНІ ЖОБАЛАУ ЖӘНЕ МОДЕЛЬДЕУ

Аннотация. Қазіргі заманғы жергілікті желілер бір ғимаратта орналасқан бірнеше абоненттік құрылғыдан тұрады. Жергілікті желідегі компьютерлер желілік жабдық-коммутаторлар арқылы қосылған. Бір коммутатор портына қосылған құрылғылар желілік пакеттермен алмасуы мүмкін.

Компьютерлік желілер негізінде деректерді тарату ақпараттық революцияның нәтижесі саналады және болашақта байланыстың негізгі құралдары бола алады. Компьютерлердің желіге кірігуінің жалпы әлемдік үрдісі ақпараттық хабарламаларды таратуды жеделдету, пайдаланушылар арасында жылдам ақпарат алмасу мүмкіндігі, хабарламаларды (факс, электрондық хат, электрондық конференция және т.б.) қабылдау және жіберу сияқты бірқатар маңызды себептерге негізделген, сондай-ақ түрлі бағдарламалық жасақтама арқылы жұмыс атқаратын өндіруші компьютерлері арасында ақпарат алмасады.

Қазіргі кездегі желілер мынадай топтарға бөлінеді: жергілікті желі (LAN); ауқымды желі (WAN); аймақтық желілер; виртуалды жергілікті желі (VLAN). Таратылатын домен көлемін шектеу арқылы VLAN жергілікті желілердің қауіпсіздігі мен өнімділігін қамтамасыз етеді.

Виртуалды LAN технологиясы университет, ұйым және корпоративтік желілердің ішкі желісін жобалауда кеңінен қолданылады.

Хаттамалар желіде бірнеше ішкі желілерді бағдарламалауға мүмкіндік береді, олардың әрқайсысы трафикті бір-бірінен оқшаулайтын жеке VLAN-ға қосылған. Ethernet коммутаторлары орнатылған жылдамдықты шектеу мүмкіндіктерін қолдана отырып, физикалық интерфейстер арқылы ағын жылдамдығын шектей алады.

Қазіргі Ethernet коммутаторларындағы осы құрылымдық механизмдердің көпшілігі SNMP, HTTP немесе командалық жол интерфейсі арқылы қолжетімді келеді. Басқару хаттамалары негізінде VLAN және соған байланысты желілерді, өзге де интерфейс жылдамдығының шектеуін бағдарламалық деңгейде бақылай аламыз. Сондай-ақ, қашықтықтан сәтсіздік қосқышын бақылап отыруға болады және соған орай түрлі әрекеттер басталуы мүмкін.

Мақалада Қазақ ұлттық аграрлық университетінің (ҚазҰАУ) «IT - технологиялар, агроөнеркәсіптік кешенді автоматтандыру және механикаландыру» факультетінің үш кафедрасының желілік топологиясының орналасу жағдайы мысал ретінде қарастырылады.

Эксперименттік жұмысқа арнайы Cisco Packet Tracer-де келесі топологияны құрдық: «IT және автоматтандыру» кафедрасы, «Кәсіптік оқыту» кафедрасы, «Энергияны үнемдеу және автоматика» кафедрасы.

Жұмыста жұмысшы объектілерді орналасқан жеріне қарамастан белгілі бір топтарға, бір-бірінен оқшаулай отырып біріктіруге болатындығы көрсетілді. Бұл топология қызметкерлер әртүрлі аймақтарда бірге жұмыс атқарғанда өте ыңғайлы. Қауіпсіздік тұрғысынан VLAN бір-бірін алмастыра алмайтыны белгілі. Ең бастысы, қызметкерлердің шектеулі тобы желілік құрылғыларға қол жеткізеді.

Жұмыс нәтижесінде Vlan желілерін кафедралар арасында пайдалануда келесі артықшылықтар анықталды:

– орын алмастыру, құрылғыларды қосу және олардың бір-бірімен байланысын өзгертуді жеңілдетеді;

– 3-деңгейлік VLAN құрылғысының желі арасында байланысты жүзеге асыруына байланысты әкімшілік бақылаудың жылдамдығы артады;

– ақпаратты тарату қабілеттілігі орталық тарату доменімен салыстырғанда төмендеді.

Топология факультеттің жергілікті желісін 3 жеке сегментке бөлуге мүмкіндік берді, бұл желілік жүктеме трафигін едәуір азайтты. Тұрғызылған топология ҚазҰАУ желілік әкімшілігіне енгізу үшін ұсынылды.

Түйін сөздер: компьютерлік желілер, IP-адресстер, Cisco Packet Tracer, Ping Test, виртуалды транкингік хаттама, ішкі желілер, VLAN.

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ПРОЕКТИРОВАНИЕ И МОДЕЛИРОВАНИЕ ВИРТУАЛЬНОЙ ЛОКАЛЬНОЙ СЕТИ С ИСПОЛЬЗОВАНИЕМ CISCO PACKET TRACER

Аннотация. Современные локальные сети состоят из нескольких абонентских устройств, расположенных внутри одного здания. Компьютеры в локальной сети соединены между собой с помощью сетевого оборудования - коммутаторов. По умолчанию все устройства, подключенные к портам одного коммутатора, могут обмениваться сетевыми пакетами.

Компьютерные сети передачи данных являются результатом информационной революции и в будущем смогут стать основными средствами связи.

Существующие сети в настоящее время разделены в основном по территориальному признаку: Локальная сеть (LAN); Глобальная сеть (WAN); Региональные сети (Regional networks); Виртуальная локальная сеть (VLAN). VLAN помогает безопасности и производительности локальных сетей, ограничивая размер широковещательных доменов.

Технология виртуальной локальной сети используется при проектировании внутренних сетей университетов, организаций и корпоративных сетей.

Протоколы позволяют программировать в сети несколько подсетей, каждый из которых связан с отдельной VLAN, изолируя трафик друг от друга. Коммутаторы Ethernet могут ограничивать скорость входящих или исходящих потоков через свои физические интерфейсы, используя встроенные функции ограничения скорости.

Большинство из этих механизмов структурирования в современных коммутаторах Ethernet доступны через интерфейсы SNMP, HTTP или командной строки. Можно программно настроить VLAN и связанные с ними связующие сети, а также ограничения скорости интерфейса, используя протоколы управления. Также возможно удаленное отслеживание коммутаторов на предмет сбоев, и различные действия могут быть инициированы в ответ на эти события сбоев.

В статье в качестве примера рассматривается расположение топологии сети трех кафедр факультета «IT-технологий, автоматизации и механизации агропромышленного комплекса» Казахского национального аграрного университета (КазНАУ).

Для экспериментальной работы мы создали следующую топологию в Cisco Packet Tracer: кафедра «IT и автоматизации», кафедра «Профессионального обучения», кафедра «Энергосбережения и автоматизации».

В данной работе мы показали, что, независимо от физического расположения, можно логически объединять узлы в группы, тем самым изолируя их от других. Такая топология очень удобна, когда сотрудники физически работают в разных местах, но должны быть объединены. И конечно, с точки зрения безопасности, VLAN не являются взаимозаменяемыми. Главное, чтобы ограниченный круг людей имел доступ к сетевым устройствам.

В результате проведенной работы были выявлены следующие преимущества при использовании сетей Vlan между подразделениями:

- облегчает перемещение, добавление устройств и изменение их соединений друг с другом;
- большая степень административного контроля достигается за счет наличия устройства, выполняющего маршрутизацию между сетями VLAN на 3-м уровне;
- потребление полосы пропускания снижается по сравнению с ситуацией одного широковещательного домена;
- предотвращение широковещательных штормов и предотвращение петель.

Построенная топология позволило разделить локальную сеть факультета на 3 отдельные сегменты, которая значительно снизил трафик загружаемости сети. Построенная топология предложена системным администраторам КазНАУ для внедрения.

Ключевые слова: компьютерные сети, IP-адреса, Cisco Packet Tracer, Ping Test, виртуальный транкинговый протокол, подсети, VLAN.

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USE OF THREADS FROM ULTRA-HIGH-MOLECULAR WEIGHT POLYETHYLENE FOR THE PRODUCTION OF REINFORCING FRAMES FOR FIRE PRESSURE HOSES AS ONE OF THE DIRECTIONS FOR IMPROVING THEIR OPERATING CHARACTERISTICS

Abstract. The problem of choosing the material of synthetic threads for the production of reinforcing cages of fire pressure hoses with improved performance is considered. A promising direction for the production of new durable and high-tech fire pressure hose is proposed. Using along with traditional polyester yarns based on polyethylene terephthalate (PET), ultra-high molecular weight polyethylene (UHMWPE-threads) which, along with carbon and aramid threads belong to the three “superthreads” and differ from traditional threads, it will increase the strength and resistance to abrasion. Such a fire pressure hose will have significantly higher operational characteristics compared to traditional sleeves based on only polyester threads. The resistance of fire pressure hose to abrasion wear will increase several times (due to the use of UHMWPE threads) under the same operating conditions in intensity, the reliability and durability of the fire pressure hose will increase several times, the strength of the fire pressure hose will increase by at least two, and it will meet the requirements of GOST not only on working pressure 1.6 MPa but also 3.0 MPa (at least for sleeves with a diameter of 38 mm, 51 mm, 66 mm, 79 mm) which makes it universal. The use of a complex synthetic threads consisting of a polyester threads and an equally strong UHMWPE threads in the fire pressure hose reinforcing cage will provide significantly higher performance characteristics of the fire pressure hose compared to traditional sleeves based on polyester threads. Despite the rise in price of the fire pressure hose, due to the use of UHMWPE threads, the strength, wear resistance, reliability and durability of the fire pressure hose increase in several times. A patent has been obtained for use in fire pressure hose of weft complex synthetic threads consisting of traditional polyester threads and UHMWPE threads.

Key words: a pressure fire hose, the woven reinforcing fire hose frame, breaking stress of weft threads.

Introduction. During operation, fire pressure hoses (FPH) are exposed to internal hydraulic pressure, mechanical wear, exposure to low and high temperatures, sunlight, the irreversible aging process of the material, accidental contact with chemically active substances, etc. [1,2]. In this regard, increased demands are placed on the material of synthetic thread of the FPH which must have high strength, resistance to abrasion, a relatively high melting point and resistance to chemically active substances. FPHs produced in Russia and operated in the Republic of Kazakhstan are made of polyester threads based on polyethylene terephthalate (PET) which have low creasing properties, excellent light and weather resistance, relatively high strength and melting point and good resistance to organic solvents. However, their abrasion resistance is not sufficient. The practice of using a FPH made of polyester threads shows that the main cause of hose rupture during operation is the abrasive wear of their main bearing element - a woven reinforcing frame that perceives fluid pressure inside the fire hose. In this regard, the urgent issue is the choice of the synthetic threads material for the manufacture of new high-tech fire prevention and testing equipment that surpasses fire hoses currently operating on the basis of polyester threads in strength, abrasion resistance and satisfying other requirements of GOST R 51049-97 (Russia) [3] on the FPH.

Research results and discussion. In our opinion, one of the promising directions for the production of new durable and high-tech FPHs is to use along with traditional polyester threads based on polyethylene terephthalate (PET), ultra-high molecular weight polyethylene (UHMWPE) threads which along with carbon and aramid threads, belong to the three “superthreads” and differing from traditional threads with exceptionally high strength and resistance to abrasion.

So, the specific breaking load of UHMWPE threads is 310-360 CN/Tex, while the same indicator for technical polyester threads is in the range of 60-85 CN/Tex. The abrasion resistance of UHMWPE - threads is more than four times higher than that for technical polyester threads. However, along with low negative operating temperatures (-100°C and lower), UHMWPE is a thermoplastic substance with a relatively low melting point ($144-152^{\circ}\text{C}$) and thermal degradation (thermal destruction of the structure) at $112-115^{\circ}\text{C}$ due to the molecular structure. Therefore, UHMWPE products are not recommended for operation at temperatures exceeding 100°C . The latter circumstance creates two problems in the use of UHMWPE - threads for the production of FPH.

The first problem is associated with the production technology of rubberized FPHs based on synthetic threads which is as follows. One of the technological operations of the FPH production is that a rubber shell with glue applied on its surface is introduced into the woven reinforcing carcass, and 5-6 atmospheres of steam with a temperature of about 150°C are applied under it to straighten the rubber sheath and stick it to the frame. Under the influence of this temperature even though this effect is transmitted not directly to UHMWPE threads but through a rubber sheath, the probability of thermal destruction of UHMWPE threads is high. The solution to this problem can be achieved by reducing the vapor pressure and, as a result, bringing its temperature to values close to 110°C , or by using instead of steam compressed air under a pressure of 5-6 atmospheres with a heating temperature of $80-100^{\circ}\text{C}$.

The second problem is due to the fact that a FPH with a reinforcing cage made only of UHMWPE - threads with a high probability will not pass the test on resistance to contact burning (regulated by GOST R 51049-97 [3]) due to the relatively low temperature of thermal degradation. This problem, in our opinion, can be solved by using an integrated synthetic thread in the reinforcing cage as a weft, consisting of a relatively heat-resistant traditional polyester thread and an equally strong first thread, but having a lower linear density of UHMWPE-thread. When designing the reinforcing framework of the FPH on the basis of the calculation methodology and rational design which is based on formula (1) [5], we conditionally assume that the breaking strength of a multifilament thread is equal to the breaking strength of a polyester thread included in its composition, and the strength we do not take into account the breaking of UHMWPE threads. The linear density of the polyester threads and the reinforcing cage parameters are selected so that they fully satisfy the GOST R 51049-97 requirements including the burst pressure, resistance to contact burning, etc. Thus, a FPH reinforcing frame with an actual double tensile strength of integrated weft thread will be designed, which, in our opinion, will be justified due to the following considerations.

As noted above, the main reason of hose rupture during operation is the abrasive wear of their surface due to polyester threads insufficient resistance to abrasion. But even the complete wear of the polyester thread, in our opinion, will not lead to a rupture of the hose, since the action of the internal hydraulic pressure will be perceived by the UHMWPE thread resistant to wear. At the same time, the presence of a relatively heat-resistant traditional polyester thread is necessary since the latter will provide the required resistance of the reinforcing cage to contact piercing.

It should be noted that such a solution of the problem will not lead to a significant overspending of the material and, consequently, to a significant increase in the mass of the FPH and its cost, since the additional consumption of UHMWPE threads will be only a few hundred grams for hoses of medium diameters.

On the other hand, such a FPH will have, as we expect, significantly higher performance compared to traditional hoses based on only polyester threads, namely:

- 1) the resistance of the FPH to abrasive wear will increase several times (due to the use of UHMWPE threads) under identical operating conditions in intensity;
- 2) the reliability and durability of the FPH will increase several times;
- 3) at least two times the strength of the FPH will increase, and it will meet the requirements of GOST not only for a working pressure of 1.6 MPa but also for 3.0 MPa (at least for hoses with a diameter of 38 mm, 51 mm, 66 mm, 79 mm), which makes it universal.

Conclusion. In our opinion, the use in the FPH reinforcing framework of complex synthetic thread consisting of a polyester thread and UHMWPE thread of equal strength, which will provide significantly

higher performance characteristics of the FPH compared to traditional hoses based on polyester threads, will justify itself, even despite the rise in FPH price due to the use of UHMWPE threads, since the strength, wear resistance, reliability and durability of the FPH are several times increased.

We have obtained a patent for the use weft complex synthetic threads consisting of traditional polyester threads and UHMWPE threads in FPH [6]. We consider this direction as one of the promising directions for the production of new, durable and high-tech FPH.

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АСА ЖОҒАРЫ МОЛЕКУЛАЛЫҚ ПЛИЭТИЛЕНДІ ӨРТКЕ СУ СЕБЕТІН ТҮТІК ҚҰБЫРДЫҢ АРМИРЛЕНГЕН ҚАҢҚАСЫН ӨНДІРУДЕГІ ЖІП ҚОЛДАНЫСЫН ОЛАРДЫ ЖЕТІЛДІРУДІҢ БІР БАҒЫТЫ РЕТІНДЕ ҚАРАСТЫРУ

Аннотация. Қолдану сипаттамасы жақсартылған өртке су себетін түтік құбырдың армирленген қаңқасын өндіру үшін синтетикалық жіптерді таңдап алу мәселесі қарастырылған. Дәстүрлі полиэфирлі жіптен жасалған өртке су себетін түтік құбырды пайдалану тәжірибесі көрсеткендей, оларды қолдану кезіндегі ажыраудың негізгі себебі – сұйықтық қысымды су себетін түтік ішінде қабылдайтын негізгі элемент – тоқымалы армирленген қаңқаның түрпілік тозу жағдайы. Осыған байланысты өртке су себетін түтік құбыр жасауда материал таңдау мәселесі маңызды саналады. Өртке су себетін түтік құбырдың төзімді және жоғары технологиялық жаңа түрін өндіріп шығарудың басым бағыты ұсынылды. Полиэтилентерефталат (ПЭТФ) негізіндегі дәстүрлі полиэфирлі жіп әрі көміртекті және арамидті жіппен бірге «үздік жіптер» үштігіне кіретін және дәстүрлі жіптен өзгеше болып келетін аса жоғары молекулалық پلیэтиленді жіптерді (АЖМПЭ-жіптерді) қолдану беріктігін және түйіршіктің қажалуға төзімділігін арттыруға мүмкіндік береді. Мұндай өртке су себетін түтік құбыр, тек бір полиэфирлі жіп негізіндегі дәстүрлі түтікше құбырлармен салыстырғанда қолданыс сипаттамасы жоғары болып келеді. Пайдалану қарқындылығы бірдей жағдайда өртке су себетін түтік құбырдың төзімділігі (АЖМПЭ-жіптерді қолдану есебінен) бірнеше есе артады, өртке су себетін түтік құбырдың сенімділігі және төзімділігі бірнеше есе артады және ол жұмыс қысымының 1,6 Мпа, сонымен қатар 3,0 МПа (кем дегенде диаметрі 38 мм, 51 мм, 66 мм, 79 мм түтікше құбырлар) МЕМСТ талаптарына сәйкес келеді әрі түтікше құбырды әмбебапқа айналдырады. Өртке су себетін түтік құбырдың армирленген қаңқасына полиэфирлі жіптен құралған кешенді синтетикалық жіп және соған төзімділігі тең келетін АЖМПЭ-жіптерді қолдану дәстүрлі полиэфирлі жіп негізінде жасалған түтікше құбырлармен салыстырғанда су себу түтікше құбырының жоғары қолданыс сипаттамасын қамтамасыз етеді. АЖМПЭ-жібін қолдану себебінен өртке су себетін түтікше құбыр бағасының қымбаттауына қарамастан, тозуға төзімділігі, тұрақтылығы және ұзақмерзімді қолданыс аясы артады. Өртке су себетін түтікше құбырда арқау жіп ретінде дәстүрлі полиэфирлі жіптен және АЖМПЭ-жіптерден құралған кешенді синтетикалық жіп қолдануға патент алынған. Тек полиэфирлі жіп негізінде жасалған дәстүрлі түтікшелермен салыстырғанда, мұндай FPH жоғары қолданысты сипаттамаға ие болып келеді.

Түйін сөздер: өртке су себетін түтікші құбыр, өртке су себетін түтікші құбырдың тоқымалы армирленген қаңқасы, арқау жібінің үзілу күші.

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ИСПОЛЬЗОВАНИЕ НИТЕЙ ИЗ СВЕРХВЫСОКОМОЛЕКУЛЯРНОГО ПОЛИЭТИЛЕНА ДЛЯ ПРОИЗВОДСТВА АРМИРУЮЩИХ КАРКАСОВ НАПОРНЫХ ПОЖАРНЫХ РУКАВОВ КАК ОДНО ИЗ НАПРАВЛЕНИЙ УЛУЧШЕНИЯ ИХ ЭКСПЛУАТАЦИОННЫХ ХАРАКТЕРИСТИК

Аннотация. Рассматривается проблема выбора материала синтетических нитей для изготовления тканых армирующих каркасов напорных пожарных рукавов с улучшенными эксплуатационными характеристиками.

Практика использования напорных пожарных рукавов из традиционных полиэфирных нитей показывает, что основной причиной разрыва рукавов при эксплуатации является абразивный износ их основного несущего элемента – тканого армирующего каркаса, воспринимающего давление жидкости внутри пожарного рукава. В связи с этим становится актуальной проблема выбора материала для изготовления напорных пожарных рукавов. Предложено перспективное направление для производства новых долговечных и высокотехнологичных напорных пожарных рукавов, в основу которого положено использование наряду с традиционными полиэфирными нитями на основе полиэтилентерефталата (ПЭТФ), нитей из сверхвысокомолекулярного полиэтилена (СВМПЭ - нитей), относящихся наряду с углеродными и арамидными нитями к тройке «супернитей» и отличающихся от традиционных нитей исключительно высокой прочностью и сопротивляемостью абразивному истиранию. Использование в армирующем каркасе комплексной синтетической нити, состоящей из полиэфирной нити и равнопрочной ей СВМПЭ-нити, обеспечит существенно более высокие эксплуатационные характеристики напорных пожарных рукавов по сравнению с традиционными рукавами на основе полиэфирных нитей и оправдывает себя, даже несмотря на удорожание рукавов из-за использования СВМПЭ-нитей, т.к. в несколько раз возрастает прочность, износостойкость, надежность и долговечность напорных пожарных рукавов. Такой рукав будет отвечать требованиям ГОСТа не только по рабочему давлению 1,6 МПа, но и 3,0 МПа (по крайней мере, для рукавов диаметром 38 мм, 51 мм, 66 мм, 79 мм), что делает его универсальным. Получен патент на использование в тканых армирующих каркасах напорных пожарных рукавов в качестве уточных комплексных синтетических нитей, состоящих из традиционных полиэфирных нитей и СВМПЭ-нитей. Такой ФРН будет иметь значительно более высокие эксплуатационные характеристики по сравнению с традиционными рукавами на основе только полиэфирных нитей.

Ключевые слова: пожарный напорный рукав, тканый армирующий каркас пожарного рукава, разрывное усилие уточных нитей.

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IN REFERENCE TO THE RESEARCH OF PIPE BELT CONVEYOR

Abstract. The article considers the initial provisions of the research and design of conveyor transport that allows to transport bulk cargo in safety.

At the same time, it is noted that there is a need for a harmless impact on the environment, especially in long-distance routes transporting with vertical and horizontal bends, as well as with a minimum number of reloading nodes.

The review and analysis of the standard sizes of existing conveyors shows certain advantages of the technological nature of the pipe belt conveyor (PBC).

The considered construction of PBC, in comparison with existing ones is formed with a closed belt tray due to support devices placed along the perimeter of the transportation line of bulk cargo.

It is indicated that when the belt with the load moves simultaneously behind the roller support, due to some collapse of the belt the relationship between the cargo particles and the belt decreases and the system "transported cargo – conveyor belt" is in an active stress state. This circumstance makes it possible to ignore the active phase at high transport speeds.

It is revealed that the main advantages of conveyor transport are a high level of labor productivity, achieved by automating the operation of equipment and low production costs. The problems are the need to split the transported cargo, accurate reconciliation of transition areas, coordination of drives and synchronization of movements, easily adjustable in the course of work, subject to certain initial construction conditions.

The tractive calculation of the PBC by circumventing the contour, as with traditional conveyors, allowed us to determine the force of resistance to the movement of the belt, the load pressure along the cross section, and the forces acting on the lower and side rollers.

A computer 3D model of the PBC was created by using the SolidWorks software product, which includes: creating special support elements and roller supports that twist the belt into the pipe, selecting metal construction elements and calculating their strength, roller supports, and supporting conveyor devices.

The stress-strain state of the belt is shown and a model of the PBC under load is constructed, a load map that allows analyzing the distribution of various internal reactive force factors, i.e. forces and moments that occur in the elements of the design model.

Key words: bulk cargo transportation, conveyor belt, pipe belt conveyors, ring roller supports, computer modeling, stress-strain state of the belt.

Introduction. Nowadays a modernized type of conveyor systems called pipe belt conveyors (PBC) are becoming widely used in production [1,2].

It is characterized by the efficiency of in-line transportation of bulk cargo over long distances having routes with vertical and horizontal bends with a minimum number of reloading nodes.

Elimination of losses of transported cargo, isolation of dust-like, hot, aerating and chemically aggressive cargo from the impact on environment are the main prerequisites for creating new highly

efficient systems for horizontal and steeply inclined movement of bulk cargo [2-4]. The closed transport system not only protects the transported material from external influences, but also allows to avoid loss and leakage of cargo.

This type of conveyor system serves cement and power plants, port loading and unloading complexes, as well as the chemical, steel and mining industries [5].

The first PBC concept was introduced in 1978 by the Japan Pipe Conveyor Company, which received patents worldwide.

The basis for the patent was the ability to form a so-called conveyor pipe using a unique belt design and special pipe-forming roller supports.

Bridgestone Corporation acquired all rights to the system developed by the Japan Pipe Conveyor Company and granted Krupp Robins, Inc. exclusive marketing rights in the United States., Bridgestone in cooperation with Krupp Robins, Inc. has developed and refined the limited original technology [6].

Today, PBC systems are used by such companies as: Koch, ContiTech (Germany), Noyes (France), Nova (Italy), Dosco (UK), Simplicity (India), Krupp Robins (USA), Young Poony (Korea) and Sistemas (America), etc. [5,6].

In the Republic of Kazakhstan, there are many industrial sectors that transport various materials by bulk density on both mountain landscapes and plain quarries (Temirtau, Sokolov-Sarbay), where the use of this type of conveyor is advisable [2,7]. The issues of separating sand from water and transporting them to the working body of a mini and small hydroelectric power station due to the energy of a swirling jet are set out in [8,9]. All this shows the relevance of the problem under consideration in the Republic of Kazakhstan, as well as on a global scale.

Description of the considered construction. In general the PBC is a closed curved system for transporting bulk materials. The technological novelty of the conveyor construction (figure 1) is forming a closed belt tray using support devices placed along the perimeter of the tray intended for transporting bulk cargo. For this novelty the patent of the Republic of Kazakhstan No. 32227,2015 was obtained [7].

It consists from a drive 1; a grooved support 2; a belt 3; a metal structure 4; a tubular part of the belt 5; a support 6 and a tension station.

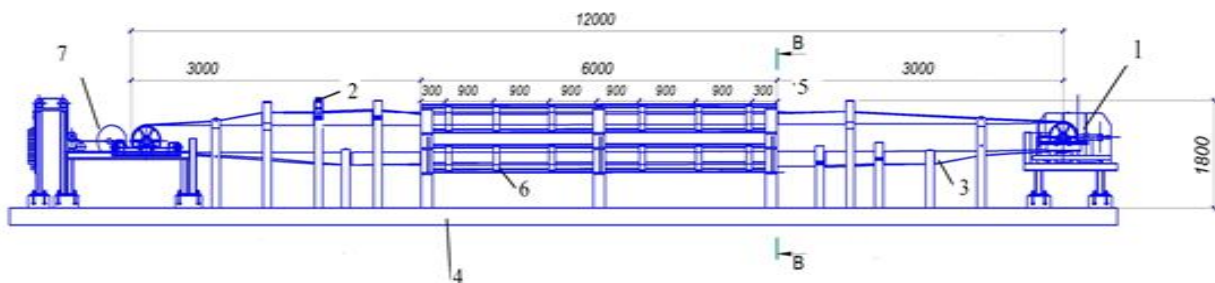


Figure 1 – Pipe belt conveyor

In the loading and unloading zones the system is in an open belt conveyor form. After loading the bulk cargo, the belt is formed into a pipe shape overlapping with special roller supports at a certain distance and then guided by the same roller supports. In the unloading zone, the belt automatically opens after the idle end station and transfers the material to the destination.

The main problems of such conveyor systems are the need of the transported cargo fragmentation, accurate reconciliation of transition sections, coordination of drives and synchronization of movements, which are easily regulated in the operation process, subject to certain initial design conditions [2].

When using PBC, it is possible to transport materials at an angle. Because of the special belt and its orientation, the conveyor can change the trajectory with a radius of less than one meter. The transported material is isolated, easily loaded and unloaded in the necessary places, and you can also use the reverse branch to transport other material in the opposite direction [3,4,10].

The results of traction calculation. The PBC traction calculation was performed using the contour bypass method as for traditional conveyors.

Due to changes in the structure of the stands, the distributed forces of movement resistance that occur on the loaded and empty branches of the linear part of the PBC differ significantly from similar forces that occur on traditional belt conveyors.

At the same time the belt is supported by grooved roller supports and when moving inside the ring roller supports it is deformed which leads to a force of resistance to movement and vice versa [11-14].

Analytically, it is extremely difficult to solve the problem of deformation of a pipe-shaped belt with sides connected by overlapping and loaded with an uneven load along and across [15-18].

There is also a second task to determine the force of movement resistance from pressing the supporting rollers into the lower lining of the pipe-shaped belt and vice versa.

When the loaded belt is moving, immediately behind the roller support due to some collapse of the belt the relationship between the cargo particles and the belt is reduced, and the system "transported cargo-conveyor belt" is in an active stress state. Therefore, at high transport speeds, the active phase can be ignored.

Then the force of resistance to the movement of the belt can be determined by the formula:

$$W_x = (a + bv) \cdot \dot{u}(0) + C_p \cdot P + C_f \cdot F_0, N \quad (1)$$

where P and F – radial and axial loads, N; C_p , C_f – radial and axial load coefficients, $C_p = 16 \cdot 10^{-5}$, $C_f = 1.5 \cdot 10^{-5}$; $\dot{u}(0)$ – ambient temperature coefficient during the rotation of the rollers; a , b – coefficients considering the constructive sealing of assembly and the amount of lubrication [12].

The pressure from the cargo across the cross section is distributed as follows [7,11,13]:

$$p'(\varphi, \alpha) = R \cdot \rho \cdot g \int C(\alpha) d\alpha, Pa \quad (2)$$

where $C(\alpha) = (\cos 2\varphi + \cos \alpha) \cdot (\cos^2 \alpha + \frac{\sin^2 \alpha}{m})$ – passive pressure function; $C(\alpha) = (\cos 2\varphi + \cos \alpha) \cdot (\cos^2 \alpha + m \cdot \sin^2 \alpha)$ – active pressure function; φ – the angle that characterizes the filling degree of the belt cross section; m – the mobility coefficient of cargo; α – the current inclination angle of the considered site to the horizontal; ρ – bulk density of cargo, kg/m^3 ; R – radius of the pipe-shaped belt, m.

$$p_{pas}(\alpha) = p'_{pas} \frac{l'_p}{2} = \frac{1}{2} R \rho g l'_p \int C_{pass}(\alpha) d\alpha, N/m \quad (3)$$

$$p_{act}(\alpha) = p'_{act} \frac{l'_p}{2} = \frac{1}{2} R \rho g l'_p \int C_{act}(\alpha) d\alpha, N/m \quad (4)$$

Then the equation of total load is determined as follows:

$$p_{\Sigma}(\alpha) = p_{pas}(\alpha) + p_{act}(\alpha) = \frac{1}{2} R \rho g l'_p \int (C_{pas}(\alpha) + C_{act}(\alpha)) d\alpha, N/m \quad (5)$$

The equivalent concentrated load acts on the roller from the load within the angle $\Delta\delta$, and on the section of the belt width $\Delta B = R \Delta\delta$, (Figure 2).

A force that acts on the lower roller:

$$P_{p1} = 2P_1 = 2 \cdot \frac{\pi}{6} \cdot 0,0075 \cdot 1.27 = 0.00996 kN = 9.06 N$$

Loads that are applied to the lower side rollers:

$$P_{p2} = P_{p6} = \frac{\pi}{3} R^2 \rho g \frac{l'_p}{2} = \frac{1}{2} R \rho g l'_p \int_{\frac{\pi}{6}}^{\frac{\pi}{2}} (C_{pas}(\alpha) + C_{act}(\alpha)) d\alpha, N \quad (6)$$

$$P_{p3} = P_{p5} = \frac{\pi}{3} R^2 \rho g \frac{l'_p}{2} = \frac{1}{2} R \rho g l'_p \int_{\frac{\pi}{2}}^{\frac{5\pi}{6}} (C_{pas}(\alpha) + C_{act}(\alpha)) d\alpha, N \quad (7)$$

At the moment DS-SolidWorks software is one of the most popular and widely used software packages in the world. It includes a wide range of integrated CAD/SAM modules and more than 500 specialized applications. In this regard, PBC modeling was performed using DS-SolidWorks.

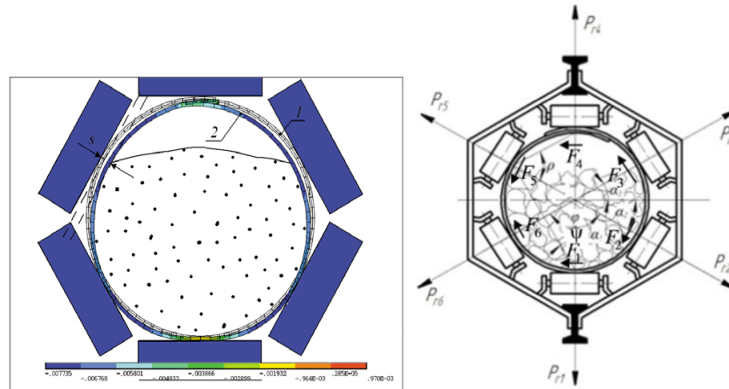


Figure 2 – B-B cross section of a loaded pipe belt with loads

Figure 3 shows the stress-strain state of the belt with a width of 800 mm and a load transport speed of 2.5 m/s. It can be seen that the middle part under the belt is the most loaded. The constructed model of PBC is loaded at various cargo, the material density is 1.1-1.6 t/m³.

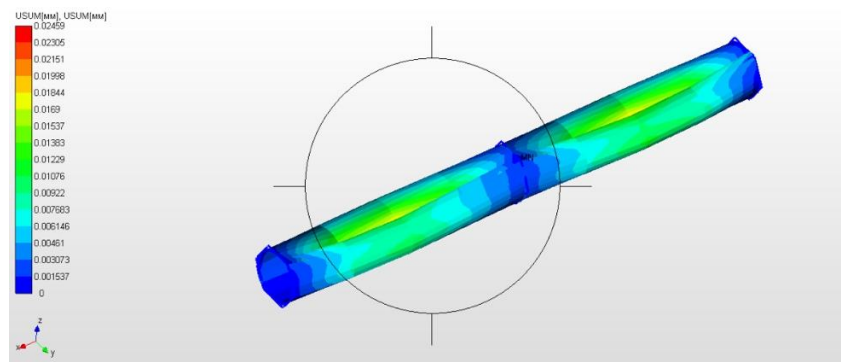


Figure 3 – Stress state of the loaded pipe belt

The map of loads made it possible to analyze the distribution of various internal reactive force factors (forces and moments that occur in the elements of the construction model). Using the settings of the dialog box, the results of the components and normal stresses in the X and Y axes plane of the local coordinate system of the structure can be viewed (figure 4).

The stress map showed the maximum stress at the joints of the construction, but there is a sufficient strength reserve $\sigma_{max} = 179$ MPa.

A 3D computer model of a pipe belt conveyor was performed using the SolidWorks software product, which includes: creating special support elements and roller supports that twist the belt into the pipe, selecting metal construction elements and calculating their strength, and roller supports - supporting conveyor devices.

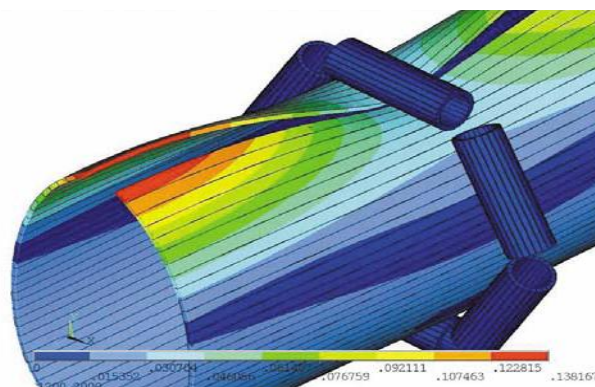


Figure 4 – Stress-strain state of the belt

Torsional oscillations of the PBC occur during the operation of the PBC, so research have been carried out using the finite element method. As the speed of the conveyor belt increases, the lowest natural frequency decreases and tends to zero [10,14]. The Hamilton-Ostrogradsky principles are used to describe the PBC movement. To determine the rotational movement of the tubular conveyor belt, consider a linear section of the PBC.

To illustrate the application of the developed approach, consider a straight section of pipe belt conveyor with the following parameters: $a = 16 \text{ m}$ – linear section length of the conveyor; $R = 0.108 \text{ m}$ – average radius of the pipe circumference; $\delta = 0.06 \text{ m}$ – belt thickness; $G = 0.16 \cdot 10^6 \text{ Pa}$ – shift modulus; $\psi = \pi$ – the angle that characterizes the filling degree of the belt cross section with a load; $\rho = 800 \text{ kg/m}^3$ – coal density; $\rho_b = 1200 \text{ kg/m}^3$ – belt density; $\rho = 1223 \text{ kg/m}^3$ – given density; $I_{p.rot.} = 5.12 \cdot 10^{-4} \text{ i}^4$ – moment of inertia of the pipe rotation; $I_{c.rot.} = 0.15 \cdot 10^{-4} \text{ i}^4$ – moment of inertia of the cargo rotation; $\rho I_0 = 0.63 \text{ kg} \cdot \text{m}$ – linear mass moment of inertia; $GI_k = 29.3 \text{ N} \cdot \text{m}^2$ – torsional cross-section stiffness; $v = 0 \div 5 \text{ m/s}$ – speed of the conveyor belt.

The inertia and stiffness matrices of the n^{th} rod element having a length a_n , the torsional stiffness of the section $(GI_k)^{(n)}$, and the linear mass moment of inertia $(\rho I_0)^{(n)}$, where ρ is the reduced density of the pipe with the load, I_0 is the polar moment of inertia of the pipe cross section with the cargo, taking into account (6) are equal to:

$$M_n = \rho I_0 \int_0^{a_n} H_n(z)^T H_n(z) dz = \rho I_0 \int_0^{a_n} \begin{bmatrix} 1 - \frac{z_n}{a_n} \\ \frac{z_n}{a_n} \end{bmatrix} \begin{bmatrix} \left(1 - \frac{z_n}{a_n}\right) & \frac{z_n}{a_n} \end{bmatrix} dz =$$

$$K_n = \int_{a_n-1}^{a_n} B_n^T(z) (GI)_n B_n(z) dz - v^2 \int_0^{a_n} B_n^T(z) (\rho I_0)_n B_n(z) dz =$$

Let's consider a section of the PBC as two finite elements containing three nodes. The inertia and stiffness matrices of individual finite elements using the formulas (9) are equal to:

$$M_1 = M_2 = \frac{\rho I_0 a_n}{12} \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix} \quad (10)$$

$$K_1 = K_2 = \frac{2GI_k}{a} \left[1 - \left(\frac{v}{v_0}\right)^2 \right] \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix} \quad (11)$$

The corresponding global degrees of freedom have the form:

$$f_1 = \begin{bmatrix} \varphi_1(t) \\ \varphi_2(t) \end{bmatrix} \quad (12)$$

$$f_1 = \begin{bmatrix} \varphi_2(t) \\ \varphi_3(t) \end{bmatrix} \quad (13)$$

In node 1 of the PBC, the rotation angle $\varphi_1(t)$ is zero.

By satisfying the boundary conditions we obtain a characteristic equation for determining the eigenfrequencies of torsional vibrations can be obtained in the form:

$$\det \left\{ \frac{2GI_k}{a} \left[1 - \left(\frac{v}{v_0}\right)^2 \right] \begin{bmatrix} 2 & -1 \\ -1 & 1 \end{bmatrix} - \omega^2 \frac{\rho I_0 a}{12} \begin{bmatrix} 4 & 1 \\ 1 & 2 \end{bmatrix} \right\} = 0 \quad (14)$$

By taking into account the dimensionless frequency parameter $v_0 = \sqrt{\frac{GI_k}{\rho I_0}}$ equation (14) can be rewritten as:

$$\det \left\{ \begin{bmatrix} 2 & -1 \\ -1 & 1 \end{bmatrix} - \left(\frac{\omega}{v_0}\right)^2 \beta \begin{bmatrix} 4 & 1 \\ 1 & 2 \end{bmatrix} \right\} = 0 \quad (15)$$

$$\beta = \frac{a^2}{24 \left[1 - \left(\frac{v}{v_0} \right)^2 \right]} \quad (16)$$

By solving the quadratic equations (10) and (11), we obtain the eigenfrequencies $\omega_1 \leq \omega_2$ for the finite element model of the PBC can be obtained:

$$\omega_1 = \frac{v_0}{a} \sqrt{\frac{5 - 3\sqrt{2}}{7} 24 \left[1 - \left(\frac{v}{v_0} \right)^2 \right]}$$

$$\omega_2 = \frac{v_0}{a} \sqrt{\frac{5 + 3\sqrt{2}}{7} 24 \left[1 - \left(\frac{v}{v_0} \right)^2 \right]}$$

These values are the upper bound for the true natural eigenfrequencies.

In the intermediate cases, figure 5 shows the dependence of the lower dimensionless eigenfrequency $\xi = \frac{\omega_1 a}{v_0}$ from parameter v for different values of a . The solid line corresponds to $a=5$ m, dotted – $a=10$ m, dashed – $a=20$ m, dash-dotted – $a=40$ m.

Consideration shows that as the speed of the conveyor belt increases, the lowest natural frequency decreases and tends to zero. As the length of the straight section of the conveyor increases, the lower frequency decreases.

The computer simulation was performed in the SIMULINK system, which is included in the MATLAB application package. Using typical SIMULINK blocks a block diagram of the system was assembled, including a conveyor belt contour, a drive and tensioning device. A mathematical model of the PBC movement was created:

$$\begin{aligned} \dot{x} &= Ax + Bu \\ y &= Cx + Du \end{aligned} \quad (17)$$

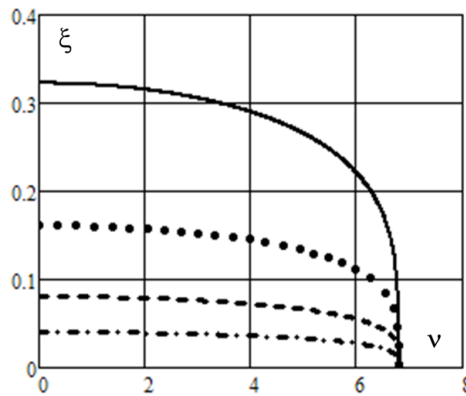


Figure 5 – Dependence of the dimensionless lower eigenfrequency on the speed of the conveyor belt

where \dot{x} – belt speed; Ax , Cx – static tractive force ("tractive force" in short) that must be applied to a tractive organ in order to move it at a constant speed, N; Bu – the inertial resistance to movement of the belt, N; y – total tractive force developed by the drive, N; Du – braking force that occurs when the brakes are closed, N.

All forces in (2) are applied to the circumference of the drum drive.

Equation of motion in the start-up phase:

$$y = F_{max} = \lambda F_{nom} = \frac{1000\eta N}{g} \quad (18)$$

where F_{max} – the maximum tractive force that can be approximated based on the nominal tractive force F_{nom} and the multiplicity of the starting torque of the engine λ ; N_{nom} – nominal capacity of the drive, kW; ϑ – nominal speed of the traction body, m/s; η – drive efficiency coefficient.

The development of the PBC movement model allowed us to determine transient processes by the speeds of generalized coordinates when starting the conveyor at a speed of 2.5 m/s. Determination of rational technological parameters is the task of further research.

Conclusion. As the world experience shows, PBC are one of the alternative installations for transporting bulk cargo in a closed way.

The results of the traction calculation of the developed conveyor by circumventing the contour, to the necessary extent allows to set the movement resistance force of the belt, the pressure from the cargo along the cross section, the forces acting on the lower and side rollers.

The results of PBC computer modeling in 3D using the SolidWorks software product and the developed mathematical model allows to describe the change in the tension of the PBC along the linear part of the PBC and reveal the essence of the ongoing process when using the conveyor.

The research of the stress-strain state of the belt with a width of 800 mm, a transportation speed of 2.5 m/s and a material density of 1.1-1.6 t/m³ shows that the middle part under the belt is the most loaded.

In further improvements to the conveyor and its operation technology it is necessary to ensure accurate reconciliation of the transition sections, synchronization of movements, easily adjustable during operation if the initial conditions are met.

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ҚҰБЫРЛЫ ТАСПАЛЫ КОНВЕЙЕРДІ ЗЕРТТЕУ МӘСЕЛЕСІ

Аннотация. Мақалада сусымалы жүкті жол бойында сақтап, тасымалдауға мүмкіндік беретін конвейерлі көлікті зерттеуге және жобалауға негіз болатын бастапқы жағдайлар қарастырылған. Сонымен қатар, қоршаған ортаға зиянсыз әрекеті, әсіресе, трассадағы тік және көлбеу бұрылыстармен алыс қашыққа тасымалдау және тиіп-түсіру түйінінің аз кездесетіні жайында айтылады.

Қолданыстағы конвейерлердің пайдаланылатын стандартты өлшемдеріне жүргізілген шолу мен талдау жұмыстары құбырлы таспалы конвейердің (ҚТК) технологиялық сипатының белгілі артықшылықтарын көрсетеді.

Қарастырылған ҚТК конструкциясының қазіргі қолданыстағы түрінен ерекшелігі, тасымалданатын сусымалы жүк периметрі бойымен орналасқан тірек құрылғылары есебінен тұйықталған таспа лотоктардан тұрады.

Таспа жүкпен бірге бір уақытта қозғалғанда роликті тіректен кейін таспаның кейбір тұстары жалпаятындықтан, жүк пен таспаның бөліктері арасында өзара байланыс әлсірейді және «тасымалданатын жүк – конвейерлік таспа» жүйесі активті кернеулі жағдайында болады. Бұл жағдай тасымалдаудың жоғары жылдамдығындағы белсенді фазаны есептемеуге мүмкіндік береді.

Конвейерлік көліктің басты артықшылығы – жабдық жұмысын автоматтандыру және өндірістік шығынды азайту жолымен қол жеткізетін еңбек өнімінің жоғары деңгейі екендігі анықталған. Бұған қатысты басты мәселелер – кейбір бастапқы конструктивтік шарттарды жұмыс барысында сақтау арқылы жеңіл реттейтін тасымалданатын жүк ұсақтау қажеттілігі, ауысатын учаскелерді дәл анықтау, жетектерді сәйкестендіру және қозғалысты синхронизациялау.

Контурдың бойымен айналу әсерінен жүзеге асқан ҚТК тартымдық есебі дәстүрлі конвейерлерді пайдалану кезіндегідей, таспа қозғалысына кедергі күштерді, көлденең кимасына жүк қысымын, астыңғы және бүйірлік роликтерге әсер ететін күштерді анықтауға мүмкіндік береді.

SolidWorks бағдарлама өнімін пайдалана отырып, 3D КЛК-да компьютерлік модель жасалды, оған мыналар кіреді: лентаны құбырға айналдыратын арнайы тірек элементтері мен роликпоралар жасау, металл конструкция элементтерін таңдау және олардың беріктігіне есептеу, роликпор, конвейердің қолдау құрылғылары.

Таспаның кернеулік-деформацияланған күйі және ҚТК-дің жүкпен салмақ түсірілген моделі тұрғызылған, түрлі ішкі реактивті күштік факторлар бөлінісін, яғни конструкция моделінің элементтерінде пайдаланылатын күштер мен сәтті талдауға мүмкіндік беретін жүктемелер картасы көрсетілген.

Түйін сөздер: сусымалы жүктерді тасымалдау, конвейерлік таспа, құбырлы таспалы конвейер, сақиналы роликті тіректер, компьютерлік модельдеу, таспаның кернеулік-деформацияланған күйі.

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К ВОПРОСУ ИССЛЕДОВАНИЯ ТРУБЧАТОГО ЛЕНТОЧНОГО КОНВЕЙЕРА

Аннотация. В статье рассмотрены исходные положения к исследованию и проектированию конвейерного транспорта, позволяющего транспортировать сыпучие грузы в сохранности.

При этом отмечена необходимость безвредного воздействия на окружающую среду, особенно при транспортировке на большие расстояния трассы с вертикальными и горизонтальными изгибами, а также минимальном числе перегрузочных узлов.

Выполненный обзор и анализ используемых типоразмеров существующих конвейеров показывает определенные преимущества технологического характера трубчатого ленточного конвейера (ТЛК).

Рассматриваемая конструкция ТЛК, в отличие от существующих, сформирована с замкнутым лотком ленты за счет опорных устройств, размещенных по периметру линии транспортирования сыпучих грузов.

Указано, что при движении ленты с грузом одновременно за роликкоопорой, вследствие некоторого развала ленты, взаимосвязь между частями груза и лентой снижается и система «транспортируемый груз – конвейерная лента» находится в активном напряженном состоянии. Это обстоятельство позволяет не учитывать активную фазу при высоких скоростях транспортирования.

Выявлено, что главные достоинства конвейерного транспорта – высокий уровень производительности труда, достигаемый путём автоматизации работы оборудования, и низкие производственные затраты. А проблемами, присущими им, являются необходимость дробления транспортируемого груза, точная выверка переходных участков, согласование приводов и синхронизация движений, легко регулируемые в процессе работы при соблюдении некоторых первоначальных конструктивных условий.

Выполненный тяговый расчет ТЛК методом обхода по контуру, как при использовании традиционных конвейеров, позволил определить силу сопротивления движению ленты, давление от груза по поперечному сечению, силы, действующие на нижние и боковые ролики.

Составлена компьютерная модель в 3D ТЛК с использованием программного продукта SolidWorks, включающая: создание специальных опорных элементов и роликкоопор, закручивающих ленту в трубу, выбор элементов металлоконструкции и расчета их на прочность, роликкоопор, поддерживающих устройств конвейера.

Показано напряженно-деформированное состояние ленты и построена модель ТЛК при нагружении грузом, карта нагрузок, позволяющая проанализировать распределение различных внутренних реактивных силовых факторов, т.е. сил и моментов, возникающих в элементах модели конструкции.

Ключевые слова: транспортировка сыпучих грузов, конвейерная лента, трубчатые ленточные конвейеры, кольцевые роликкоопоры, компьютерное моделирование, напряженно-деформированное состояние ленты.

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ENVIRONMENTAL, BIOLOGICAL AND GENETIC FEATURES OF CERTAIN POPULATIONS OF GREAT GERBIL (*Rhombomys opimus* Licht., 1823) OF KAZAKHSTAN

Abstract. The main host of a number of especially dangerous zoonotic infections in the arid zones of Kazakhstan, covering an area of about 1.1 million km², is the great gerbil (*Rhombomys opimus*). In the process of formation in natural foci of the parasitic triad (pathogen-host-vector, mutual adaptation of all its members to environmental conditions and their coevolution occurs. The article presents the results of a study of the intraspecific, population heterogeneity of ecological-biological and some genomic features of the great gerbil in three foci of zoonotic Infections: Pribalkash, Betpakdala and Predustyurt. The features of climate, soil and vegetation cover, tendencies of their perennial and seasonal changes were studied. Differences in climatic conditions and characteristics of vegetation between the 3 foci were revealed at a rather high degree of synchronization of the trend of changes in air temperature and precipitation. Analysis of the cytB gene fragment from 88 individuals from three autonomous plague foci identified 19 haplotypes that form three haplogroups, one of which is represented by individuals from the populations of two autonomous plague foci Populations of great gerbils from Kazakhstan and China are included in the same cluster and are genetically distant from the populations of Iran. Geographic isolation, significant differences in climatic, landscape, and forage conditions, microevolutionary changes in the genomic status determined the heterogeneity of three described populations of the great gerbil. A growing negative impact on the population of the great gerbil and the epizootic status of natural foci of climate warming and an increasing anthropogenic pressure, primarily in the form of overgrazing, on natural phytocenoses was noted.

Key words: great gerbil (*Rhombomys opimus* Licht., 1823), population genetics, microevolutionary factors, cytochrome b gene polymorphism, ecological and biological features.

Introduction. The relevance of this study of the great gerbil populations is due to two circumstances: the importance of this species in the functioning of arid ecosystems occupying about 44% of the territory of Kazakhstan, and the fact that this rodent is a carrier of especially dangerous zoonotic infections, in particular, plague, anthrax and other diseases that pose a danger to humans, domestic and wild animals [1,2].

Despite the keen interest from researchers, many important questions about the biology of great gerbil, including its subspecies differentiation, interpopulation relations in various parts of their range, many aspects of ethology, genetics and phenetic characteristics of populations that determine the specificity of their relationships with pathogens and carriers of infections remain low studied [3,4]. Data on the genomic characteristics of the great gerbil populations from ecologically and biologically different natural foci are of fundamental importance [5,6].

Based on the foregoing, the purpose of our study was to analyze the polymorphism of the cytochrome b gene of mitochondrial DNA in great gerbils, to study changes in ecological conditions, in particular, the long-term, annual and monthly dynamics of air temperature and precipitation, dynamics of biomass of

herbaceous vegetation from the habitats of three populations of gerbils from the Pribalkash, Betpakdala and Predustyurt autonomous natural foci.

Materials and Methods. The material for the study was DNA samples isolated from the liver of great gerbils from 3 autonomous foci of the Central Asian natural desert plague focus of Kazakhstan: Pribalkhash, Betpakdala and Ustyurt (figure 1).

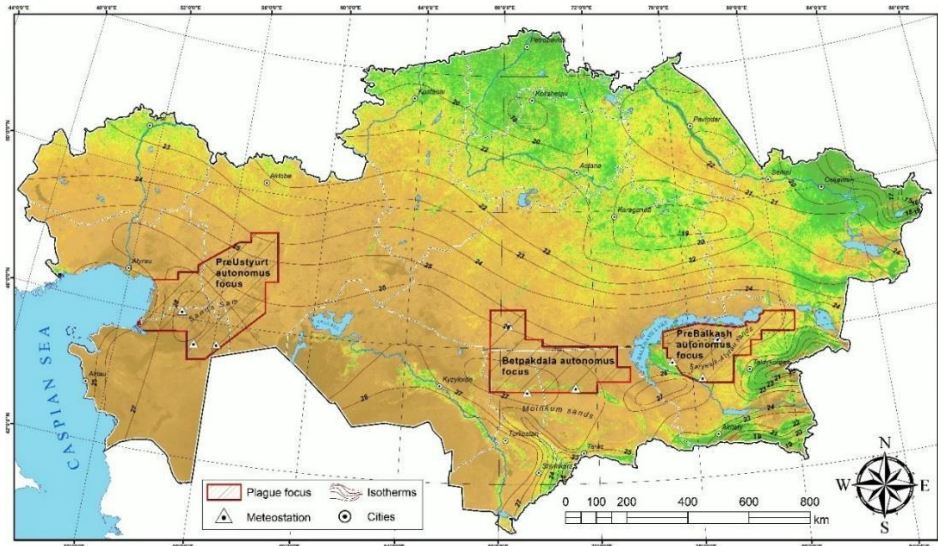


Figure 1 – Map of Kazakhstan with the contours of the Pribalkhash, Betpakdala and Predustyurt autonomous plague foci, isotherms and the location of meteorological stations in the surveyed areas.

Note that the Betpakdala (No. 42) and Predustyurt (No. 19) natural foci are not isolated by natural barriers. The space separating them, with a width of about 700 km, includes several autonomous natural foci of a sandy type, while the Pribalkash focus is isolated by obstacles that are insurmountable for gerbils: Lake Balkash, large rivers Ile and Karatal. To analyze climatic conditions in the investigated foci, data from 9 meteorological stations (MS) located in the surveyed territory were used (figure 1).

Changes in meteorological conditions in the Preustyurt source are described using averaged data from three MS: Sam, Beineu, Borankol. In the Betpakdala focus, averaged MS data were taken: Tasty; Ulanbel; Kyzylkum, and in the Pribalkash focus MS: Bakanas; Akzhar. Additionally, wind speed, humidity, temperature, and atmospheric pressure were measured in the territories of gerbil colonies using a portable weather station, model Kestrel 4500NV. The coordinates of the surveyed points were recorded using a Garmin 62 GPS navigator.

Due to the fact that the number of populations of the plague parasitic triad is directly influenced by the amount of precipitation, temperature and the abundance of vegetation in the surveyed area, the vegetation index, NDVI, was also determined. Considering the vast territory, 16-day averaged NDVIs with a resolution of 500 meters of the MODIS-MOD13A1v006 spacecraft were selected [7]. We used NDVI data from the official website AppEEARS (The Application for Extracting and Exploring Analysis Ready Samples) [8].

The capture of *R. opimus* specimens for genomic studies was carried out within the framework of the state program for monitoring natural focal infections, and therefore no approval of the ethical committee was required. A total of 88 great gerbils were captured from three independent population groups. South Pribalkhash region 20 individuals from 3 points: N44° 49' 460" 'E76° 15' 558" - 10 individuals (I-B1 – I-B12); N44° 48' 948" E76°15' 528" - 7 individuals (I-B14 – I-B22); N44° 48' 827" E76°15' 802" – 3 individuals (I-B23 - I-B25). In Western Betpakdala, 29 individuals were caught from one geographical area N45°10', E68° 00' (I-Sh1 – I-SH30). Eastern Predustyurt - 39 individuals were caught from 6 geographical points: N46°52'54", E59°32'43" - 5 individuals (I-A1 - I-A5); N46°58'31", E59°33'24" - 8 individuals (I-A6 - I-A15); N46°57'57", E60°16'53" – 3 individuals (I-A16 - I-A19); N46°59'06", E60° 24'38" – 5 individuals (I-A21 - I-A25); N47°38'19", E58° 49'43" – 4 individuals (I-A26 - I-A31); N46°48'35", E59° 17'15" – 14 individuals (I-A32 - I-A49).

DNA isolation was performed using the QIAamp DNA Mini Kit (Qiagen).

Fragment of the *cytB* gene, 578 bp in length (excluding primers) was amplified using primers UNFOR403 and UNREV1025 [9]. The reaction PCR mixture included: 75 mM Tris-HCl (pH 8.8 at 25°C), 20 mM (NH₄)₂SO₄, 0.01% (v / v) Tween 20, 2.5 mM MgCl₂, 2 units Taq DNA Polymerase (Thermo Scientific, EP0402), 0.2 mM each dNTP, 0.5 μM each primer and 3 ng. *R. opimus* DNA. The PCR amplification program included: long-term denaturation at 95°C for 5 minutes; 35 cycles 95°C - 20 seconds, 59°-30 seconds, 72°C - 1 minute; final elongation 7 minutes at 72°C.

PCR products were purified by enzymatic method using Exonuclease I (Thermo Scientific) and alkaline phosphatase (Shrimp Alkaline Phosphatase, Applide Biosystems) [10]. The sequencing reaction was performed using the BigDye® Terminator v3.1 Cycle Sequencing Kit (Applide Biosystems) and primers used for PCR amplification according to the manufacturer's instructions. Fragments were separated on an automatic genetic analyzer 3730xl DNA Analyzer (Applide Biosystems). Quality assessment and assembly into contigs was performed using SeqScape 2.6.0 (Applied Biosystems). Phylogenetic analysis was performed using the MEGA 7.0 software using the highest likelihood Tamura 3-parameter model, discrete Gamma distribution and Bootstrap 1000 [11].

Results. The distribution area of great gerbils covers arid and semi-arid regions of central and southern Asia: from Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan, Tajikistan, Iran, Pakistan, Afghanistan to southern Mongolia and northwestern China [12¹]. Based on the characteristics of the life strategy, the great gerbil should be attributed to the colonial, family-group species with limited settlement and movement, especially in the presence of pronounced geographical barriers. Natural landscapes in the form of mountain ranges and water barriers can act as barriers; in addition, large spaces act as a natural barrier between populations, since the great gerbil leads a geographically linked life cycle. According to A.F. Alekseeva, 1974 [13] according to the mobility of great gerbils in the northwestern Kyzyl Kum from August 1959 to April 1961, 723 individuals out of 846 tagged gerbils were recaptured. Of these, 425 rodents did not change their "colony", 135 large gerbils moved at a distance of 10–100 m, 102 gerbils - at 101–200 m, 36 individuals - at 301–650 m, 10 rodents - at 651–1000 m, and 1 male the great gerbil retired 7 km in 23 months.

In 2012–2014, in the spring-summer and autumn seasons in the Southern Pribalkhash, we carried out studies of the motor and migratory activity of the great gerbil by modern methods using radio technology and remote sensing, which made it possible to obtain approximately the same results. Inhabitants of open spaces of deserts and semi-deserts with their sparse vegetation, large gerbils cannot go far from colonies without the risk of becoming easy prey for land and winged predators [14]. Thus, we can say that great gerbils are usually tied to their colonies and rarely migrate from them in search of new habitats over sufficiently large (tens of kilometers) distances. However, long-term and profound climate changes, extinction of competitive species, and other large-scale events in biogeocenoses can probably cause larger-scale mass migrations of these animals. At the same time, complete or partial isolation of populations can lead to their differentiation and the formation of specific genetic characteristics, resulting in the formation of a specific metapopulation structure of their area.

Temperature dynamics and population size of the great gerbil. According to the Intergovernmental Panel on Climate Change (IPCC), an increase in surface air temperature has been observed in most regions of the world since the mid-20th century. The growth of average annual air temperatures in certain regions of Kazakhstan for the period 1941 ... 2010. ranged from 0.27 °C / 10 years (Balkash-Alakol basin, on the territory of which the Pribalkhash autonomous focus is located) to 0.33 °C / 10 years (Zhaiyk-Caspian basin, on the territory of which the Predustyurt focus is located). A more significant increase in average annual air temperatures of –0.44 °C / 10 years was noted in the Shu-Talas basin, where the Betpakdala autonomous focus is located. For the period 1971 ... 2010 the highest rates of temperature increase were observed in winter and spring periods - by 0.51 and 0.47 °C / 10 years, respectively, slightly lower than the rate of warming in autumn - by 0.40 °C / 10 years. In summer, the increase in air temperature was 0.22 °C / 10 years [15].

The specificity of the climatic conditions of the territory of all three surveyed autonomous foci consists in the sharp continental and arid climate. This is expressed in significant daily and annual temperature fluctuations and in a small amount of atmospheric precipitation (100–280 mm) with high evaporation (up to 1000–1200 mm) and in a significant dryness of the air. The sum of temperatures above

10°C in the described natural foci ranges from 3100°C to 3860°C. The consequence of this is the weak development of the natural hydrographic network. The level of solar radiation and the nature of the atmospheric circulation are determined by the geographical position of the territory - a relatively low latitude and distance from water basins (the influence of the Caspian Sea and Lake Balkhash affects only within a narrow coastal strip). All three natural foci lie in the zone of northern deserts, approximately at the same latitude; however, the orographic and insolation features of the territory determine a noticeable variety of local systems of atmospheric circulation and, accordingly, climatic conditions (figure 2).

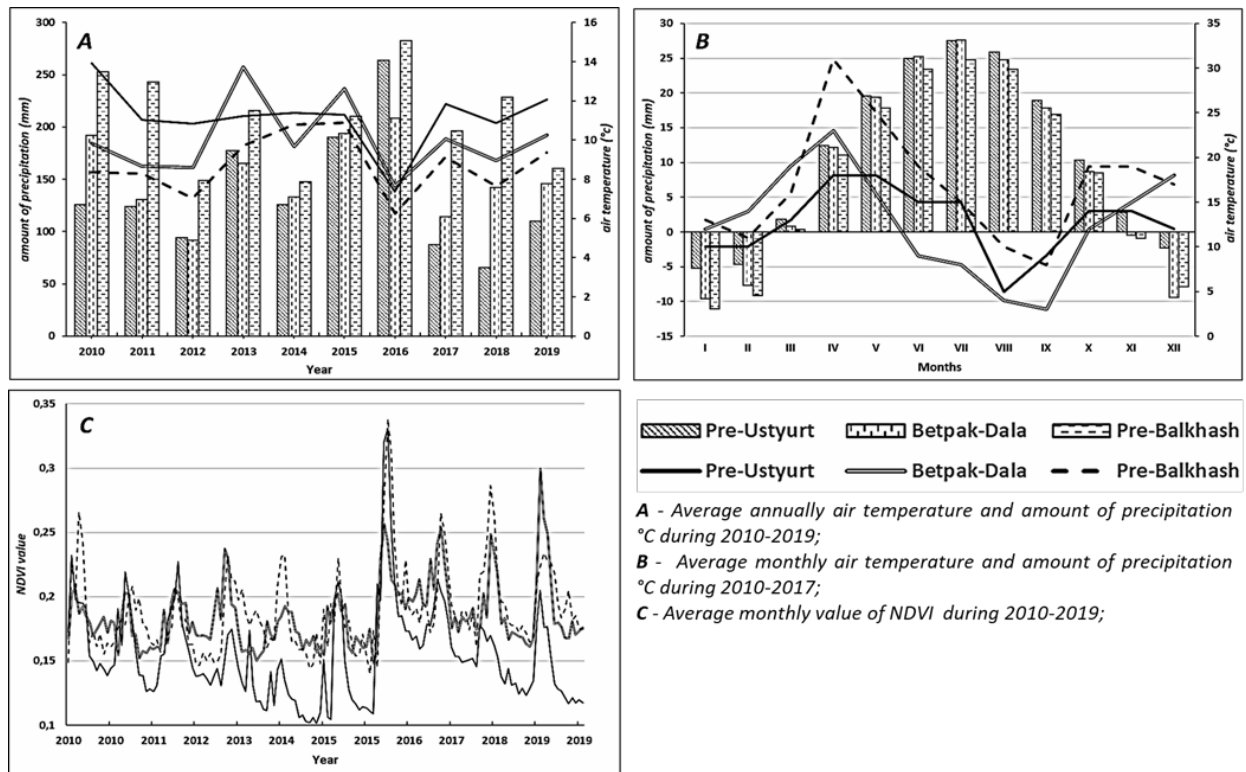


Figure 2 – Climatic conditions and NDVI values of study areas for the period 2010-2019

In January, on some days in the surveyed areas, severe frosts are possible, reaching $-40-44^{\circ}$

C. Spring in all natural foci is short and lasts about one and a half months. Already in March, there is a sharp rise in the average temperature, by $7-8^{\circ}\text{C}$ compared to February, and intensive heating of the soil. In April, frost-free, mostly sunny weather prevails in the desert zone. Daily temperature amplitudes reach $+16-20^{\circ}\text{C}$. Weather anomalies are of great importance for arid biocenoses. So, in the spring, along with an increase in temperature during breakthroughs of the Arctic air masses, returns of cold weather and the establishment of temporary snow cover are possible. In summer, most of the country is captured by the northern periphery of the thermal depression with a predominance of hot dry weather and weak wind. On some days, the temperature exceeds $38-44^{\circ}\text{C}$, with high wind speed and 5-15% relative humidity. Higher average air temperatures during the warm period of the year are typical for the Predustyurt and Betpakdala foci in comparison with the Pribalkhash. During the cold period of the year, especially low temperatures are characteristic of the Betpakdala and Pribalkhash foci (figure 2b).

In all three foci, the frequency of hot and dry weather varies between 75-85%. When the arctic air invades the anticyclones, atmospheric drought occurs for 10-40 days. Forming soil drought and in combination with it, atmospheric drought leads to a sharp decrease in the forage capacity of natural phytocenoses, which is one of the factors in the depression of the population of the great gerbil. Summer lasts 5 months on average, from May to September. In the annual course of atmospheric precipitation, the maximum in the Predustyurt focus falls in April-July, and the second maximum precipitation is observed in autumn, in October-November, in Betpakdala, in March-May and October-December, in Balkhash, in March-July and October-December (figure 2a). That is, it coincides with the vegetation maximum of

desert vegetation. The minimum precipitation is observed in August and September. The negative consequences of excessive pasture loads on the plant communities of the studied deserts are expressed in the form of pasture digression, which is accompanied by a decrease in the projective cover of the soil with vegetation, a decrease in biological and forage productivity, as well as a decrease in biodiversity. According to our assessment, the modern economic use of natural pastures is characterized as unsystematic. The vegetation is characterized by a rather uneven state: from heavily knocked down to partially restored.

Due to overgrazing, regulation of river flow, laying of linear systems (gas and oil pipelines, roads, power lines), frequent droughts and other factors, the process of desertification is intensively developing on most natural pastures. The phytocenoses of the natural pastures of the Pribalkhash focus, to a lesser extent, the Betpakdala autonomous focus, are the most degraded due to the excessive load. On the natural pastures of the Predustyurt focus, dimutational processes of partial restoration of downed vegetation are visible, which is a consequence of a sharp decrease in the number of livestock in the region.

Genetic diversity of *R. opimus*. A total of 19 unique haplotypes were identified by a fragment of the nucleotide sequence of the *Cyt B* gene. Of the 578 analyzed bases, 37 accounted for transitions, and four polymorphisms for transversions, 8 of the analyzed polymorphisms lead to amino acid substitution. 19 haplotypes were clustered into 3 haplogroups (figure 3). The first haplogroup included 7 haplotypes of individuals caught in the Eastern Predustyurt region, 2 haplogroup is represented by 2 haplotypes of individuals caught in the Eastern Predustyurt region and 4 haplotypes from individuals caught in Western Betpakdala, 3 haplogroup is represented by 6 haplotypes of the individuals caught in the South Pribalkhash region.

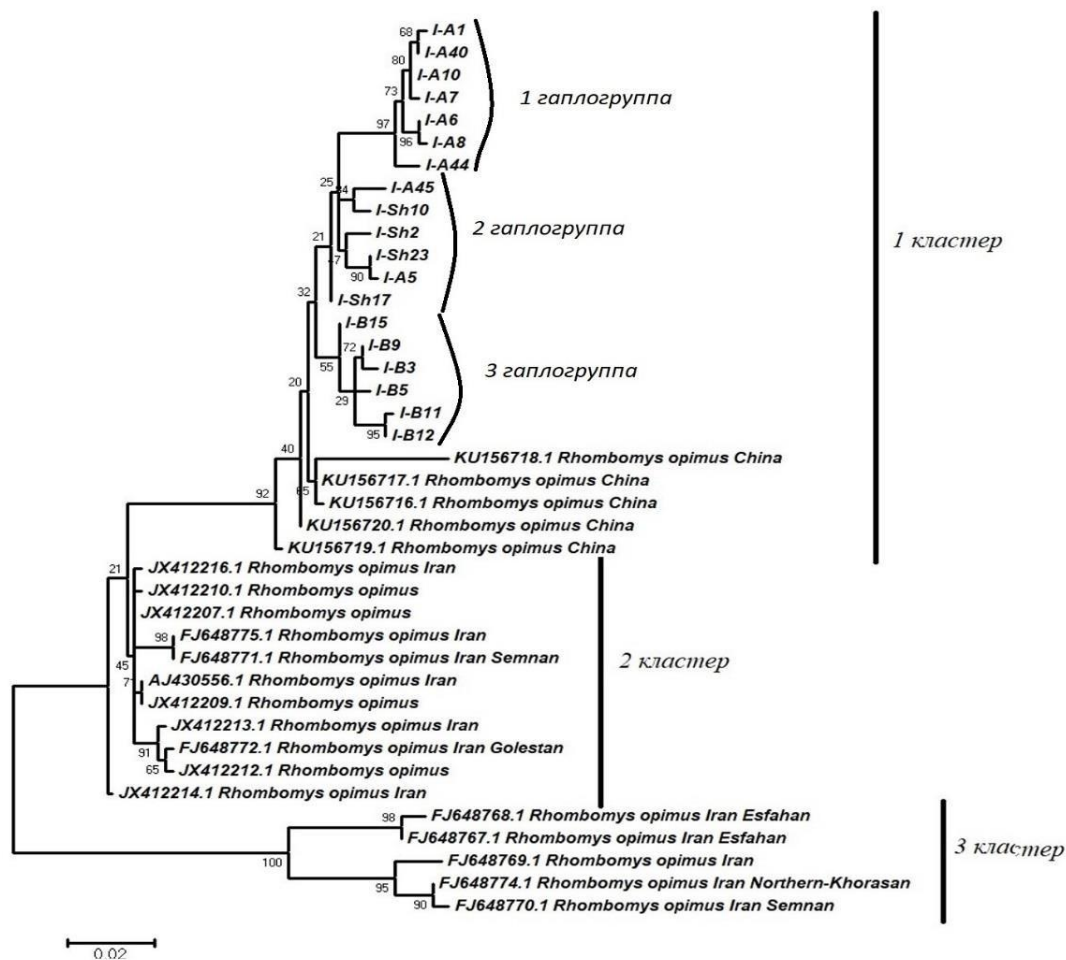


Figure 3 – The phylogenetic tree, built on the basis of nucleotide sequence analysis *Cyt B* gene of *R. opimus* captured in Kazakhstan, China and Iran [16]

Phylogenetic analysis with nucleotide sequences of 19 haplotypes established in Kazakhstan and nucleotide sequences of *Cyt B* of the *R. opimus* gene captured in Iran and China formed three large clusters (figure 3). The first cluster combined the sequences of *R. opimus* caught in Kazakhstan and China, while the great gerbil caught in Kazakhstan is located in a separate clade. The second cluster is represented by the nucleotide sequences of the subspecies *R. opimus sodalis* from the "Sistano-Baluchistan" regional complex from the territory of Iran. The third cluster includes only sequences subspecies *R. opimus sargadensis* from the "Central Iranian" regional complex located in Iran. The Elbrus mountain system is a natural barrier between the two subspecies, which are well differentiated by morphological characteristics, as well as by differences in the nucleotide sequence of the *cyt B* gene, which reaches 10% between subspecies.

Conclusions. Analysis of climatic features revealed pronounced differences between the three autonomous foci with a rather high degree of synchronization of the trend of changes in air temperature and precipitation. At the same time, it should be noted a significant warming of the climate by 1.890C - 3.080C from 1941 to the present. The greatest increase in air temperature was noted on the territory of the Betpakdala focus, less in the area of the Predustyurt focus and the smallest in the Pribalkhash focus. Since the examined natural foci lie in the zone of northern deserts, tendencies of changes in the amount and regime of precipitation were of particular importance for vegetation. For the period 1941 ... 2010, the amount of precipitation in the Predustyurt and Betpakdala autonomous foci slightly decreased, while in the Pribalkhash focus there was a slight increase in precipitation. On average in Kazakhstan, an increase in the amount of winter precipitation and a decrease in the amount of precipitation in other seasons were noted.

A close relationship is known between climate and the spread of infectious diseases [17]. Naturally, the periods of intensive reproduction of the great gerbil were recorded simultaneously over vast territories and correspond to the cyclicity of the maximum amount of precipitation and the optimum temperature for vegetation growth [18]. In years when during the cold months anomalously high precipitation, on average more than 100 mm, fell out, the most intensive reproduction of great gerbils was noted. Less intensive reproduction took place in years with rainfall close to the norm (63-70 mm). Low intensity of reproduction is typical for dry years with 37.5 mm of precipitation. The most favorable conditions for the spread of plague in the settlements of the great gerbil arise in years with warm and humid springs with abundant vegetation [19].

The study of the nature of the soil and vegetation cover on the territory of the three surveyed autonomous foci on multi-temporal satellite images with control showed that the vegetation index (NDVI) adequately reflects the state of food resources of phytocenoses in the habitats of the great gerbil and correlates with the temperature regime and precipitation (Figure 2c). Analysis of the average monthly fluctuations in the amount of precipitation in the territory of the three surveyed foci shows a synchronous regime and rather close values of air temperature in the warm season (IV - X) and noticeable differences in the cold season (XI - III). At the same time, pronounced differences are found in the average monthly amount and mode of precipitation (Figure 2b). Based on the analysis of high-resolution satellite images at different times and geobotanical work in the area, the processes of degradation of vegetation and desertification of ecosystems were described, expressed in the depletion of their floristic composition, the progressive loss of perennial forage plants from the grass stand with the dominance of annuals. The causes of desertification were, first of all, overgrazing of livestock, growing moisture content of the soil and air. The observed climate changes and the intensifying anthropogenic impact cause a negative transformation of desert ecosystems and entail a depression in the abundance of the great gerbil.

Thus, genomic differences were formed in the studied foci in the studied populations of great gerbils as a result of microevolutionary processes caused by genetic and ecological factors.

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ҚАЗАҚСТАНДА МЕКЕНДЕЙТІН ҮЛКЕН ҚҰМТЫШҚАННЫҢ (*Rhombomys opimus* Licht., 1823) КЕЙБІР ПОПУЛЯЦИЯСЫНЫҢ ЭКОЛОГИЯЛЫҚ-БИОЛОГИЯЛЫҚ ЖӘНЕ ГЕНЕТИКАЛЫҚ ЕРЕКШЕЛІКТЕРІ

Аннотация. ХХІ ғасырдағы жаһандану барысында қауіпті инфекциялардың табиғи ошағындағы контргриозды инфекциядан туындайтын эпидемиологиялық қауіп артты, сол себепті көптеген ғалымдардың назары энзоотикалық аумақтардағы паразиттік жүйелер аспектісін зерттеуге бағыттала отыр. Үлкен құмтыштан популяциясын зерттеудің өзектілігі екі бағытпен сипатталады: Қазақстанның 1,1 млн км² аумағын алып жатқан аридті экосистемадағы аталған түрдің маңызы, екінші жағынан аталған түр аса қауіпті инфекциялардың табиғи ошағында адамға, жабайы және үй жануарына зиянды сібір жарасы мен оба таратады. Табиғи ошақтарда паразитті триаданың (қоздырушы – таратушы – тасымалдаушы) қалыптасуы барысында барлық мүшелерінің орта жағдайына бейімделіп, коэволюция жүреді.

Үлкен құмтыштан калониясында әрдайым аса қауіпті инфекциялар тіршілік етеді, олар кейде бүкіл құмтыштан калониясының қырылуына себеп болады. Ғалымдар қызығушылық тудырса да, үлкен құмтышқан биологиясының көптеген маңызды мәселелері, әсіресе, түршілік дифференциациясы, мекен ету ареалындағы популяцияаралық қарым-қатынасы, популяцияның генетикалық және фенетикалық ерекшеліктері әлсіз зерттелген.

Қазіргі уақытта үлкен құмтышқанның түрлі экологиялық-биологиялық аумақтарда орналасқан ошағында қалыптасқан түрлерінің филогенетикалық мәліметтері және олардың паразитті үштіктің басқа мүшелерімен арақатынасын анықтау үлкен маңызға ие. Бұл теориялық және практикалық маңызы бар сұрақтардың жауабын алу үшін классикалық экологиялық-биологиялық және морфобиологиялық әдістермен қоса, соңғы жылдары генетикалық және молекулярлы-биологиялық әдістер кең қолданылып келеді.

Мақалада үш географиялық окшауланған ошақтағы (Бетпақдала, Балқаш маңы және Үстірт маңы) үлкен құмтышқан геномының популяциялық ерекшеліктерін зерттеу нәтижелері көрсетілген. Жоғарыда аталып өткен автономды ошақтағы үлкен құмтышқанның митохондрияльді ДНҚ-ның b цитохром ген полиморфизміне анализ жасалды. Үлкен құмтышқанның мекен ету ортасындағы санының өзгеруіне («популяциялық толқын») әсер ететін экологиялық-биологиялық жағдайының, оның ішінде ауа температурасы мен жауын-шашын мөлшері, шөптектес өсімдік жамылғысы биомассасының айлық, жылдық және көпжылдық динамикасының өзгеруіне анализ жасалды. Зерттеу нәтижесінде үш табиғи ошақтың климаттық жағдайы мен қоректік өсімдік жамылғысының айырмашылықтары анықталды. Бетпақдала және Үстірт маңы табиғи ошақтары өзара табиғи бөгетпен бөлінбегендігі анықталды. Балқаш маңы табиғи ошағы құмтышқандар миграция барысында асып өте алмайтын табиғи кедергілермен, яғни Іле және Қаратал өзендерімен және Балқаш көлімен окшауланған. Әрбір ошақтағы метео жағдайлардың өзгеруі үш метеостанция мәліметтерінің орташалануы негізінде сипатталған. Құмтышқан калониясында қосымша Kestrel 4500NV портотивті метестанциясы арқылы атмосфералық қысым, желдің жылдамдығы, ылғалдылық, ауа температурасы өлшенді. Зерттелген нүкте координаталары Garmin 62 GPS- навигаторы арқылы бекітілді. Жылы мезгілдегі ауаның орташа температурасы Үстірт маңы мен Бетпақдала ошағында Балқаш маңы ошағына қарағанда жоғары болатындығы көрсетілді. Жылдың суық мезгілінде ең төменгі ауа температурасы анықталды. Бетпақдала мен Балқаш маңына сәйкестігі көрсетілді.

Үстірт маңы ошағында атмосфералық жауын-шашынның жылдық үлесіндегі бірінші максимум сәуіршілде айына, ал екінші максимум күзде, қазан-қараша айына сәйкес келеді, Бетпақдала ошағында максимум наурыз-мамыр және қазан-желтоқсан айына, Балқаш маңы ошағында наурыз-шілде және қазан-қараша айына сәйкес келеді. Бұл шөлді аймақтардағы өсімдіктердің вегетациялық максимумына сәйкес келеді. Обаның паразитті триада санына ауа температурасы, жауын-шашын мөлшері мен өсімдік жамылғы көлемінің әсер етуіне байланысты қосымша NDVI вегетациялық индексі анықталды. Зерттелетін аумақтың үлкендігін ескеріп, MODIS-MOD13A1v006 космостық аппаратының 16 күндік орташаланған NDVI 500 көрсеткішімен алынды.

Қазақстанның жер көлемінің шамамен 1,1 млн шаршы шақырымын алып жатқан аридті аймақтардағы қауіпті зооноздық инфекциялардың негізгі тасымалдаушысы – үлкен құмтышқан (*Rhombomys opimus*). Табиғи ошақтарда паразитті триаданың (қоздырушы – таратушы – тасымалдаушы) қалыптасуы барысында

барлық мүшесінің орта жағдайына бейімделіп, коэволюция жүреді. Мақалада занозды инфекциялардың үш табиғи ошағындағы (Бетпақдала, Балқаш маңы, Үстірт маңы) үлкен құмтышқанның түршілік, популяциялық гетерогенді келетінін және кейбір геномдық ерекшеліктерін зерттеу нәтижелері көрсетілген. Сондай-ақ зерттелген аумақта климат және өсімдік-топырақ жамылғысының ерекшеліктері мен олардың көпжылдық және маусымдық өзгерістері, тенденциялары зерттелді. Жауын-шашын мен ауа температурасы өзгеріс трендтерінің жоғарғы синхронизациясына байланысты аталған үш табиғи ошақтың климаттық жағдайы мен топырақ-өсімдік жамылғысының айырмашылығы анықталды. Үш автономды ошақтан алынған үлкен құмтышқанның 88 данасының *cutB* генінің фрагменті 19 гаплотипті көрсетті. Бұл гаплотиптер өзара үш гаплогруппа құрайды. Қазақстан мен Қытайдың үлкен құмтышқан популяциясы бір кластерге жатады және генетикалық тұрғыда Иран популяциясынан оқшауланған. Географиялық оқшаулық, климаттық, ландшафттық және қоректік жағдайлардың ерекшелігі, геномдық орнының микроэволюциялық өзгерісі сипатталатын үш популяцияның гетерогенділігін анықтады. Үлкен құмтышқан популяциясына және табиғи ошақтардың эпизоотологиялық дәрежесіне кері әсердің ұлғайғаны анықталды. Табиғи фитоценоздарға антропогенді қысым малды шамадан тыс жайғандықтан артып отыр.

Түйін сөздер: үлкен құмтышқан (*Rhombomys opimus* Licht., 1823), популяциялық генетика, микроэволюция факторлары, b цитохромы генінің полиморфизмі, экологиялық-биологиялық ерекшеліктер.

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ЭКОЛОГО-БИОЛОГИЧЕСКИЕ И ГЕНЕТИЧЕСКИЕ ОСОБЕННОСТИ НЕКОТОРЫХ ПОПУЛЯЦИЙ БОЛЬШОЙ ПЕСЧАНКИ (*Rhombomys opimus* Licht., 1823) КАЗАХСТАНА

Аннотация. Учитывая, что в процессе глобализации в XXI-ом веке резко возросли эпидемиологические риски контагиозных инфекций из природных очагов, интересы исследователей из многих стран направлены в настоящее время на изучение различных аспектов паразитарных систем на энзоотических территориях. Актуальность исследований популяций большой песчанки (*Rhombomys opimus*), обусловлена двумя обстоятельствами: значением данного вида в функционировании аридных экосистем, занимающих в Казахстане площадь около 1,1 млн. км², и тем, что этот массовый вид является основным носителем в природных очагах особо опасных зоонозных инфекций, в частности, чумы, сибирской язвы и других заболеваний, представляющих опасность для человека, домашних и диких животных. Известно, что для классических природных очагов особо опасных зоонозных инфекций характерен исторический процесс формирования т.н. паразитарной триады (возбудитель – переносчик – носитель), адаптация и коэволюция всех ее членов к средовым условиям. Именно в колониях песчанок, особенно большой песчанки, перманентно персистируют возбудители особо опасных инфекций, вызывающие, в том числе, эпизоотии среди самих песчанок, иногда уничтожающие население целых колоний этих зверьков. Несмотря на пристальный интерес со стороны исследователей, многие важные вопросы биологии большой песчанки, включая ее подвиговую дифференциацию, межпопуляционные отношения в различных частях ареала, ряд этологических аспектов, генетические и фенетические характеристики популяций, определяющие специфичность их взаимоотношений с возбудителями и переносчиками инфекций, существенным образом определяющие уровень энзоотичности природных очагов, остаются слабо изученными. Принципиальное значение имеют данные о филогении различных подвиговых образований большой песчанки из различных в эколого-биологическом отношении природных очагов и взаимосвязанных с ними других сочленов паразитарной триады. Для выяснения этих, важных в теоретическом и практическом отношении вопросов, наряду с классическими эколого-биологическими и морфологическими методами, в последние годы активно используются генетические и молекулярно-биологические методы.

В статье представлены результаты исследования популяционных особенностей генома большой песчанки из трех географически изолированных автономных природных очагов: Прибалхашского, Бетпақда-

линского и Предустюртского. Выполнен анализ полиморфизма гена цитохрома b митохондриальной ДНК больших песчанок, а также изучена многолетняя динамика изменений эколого-биологических условий их местообитаний, определяющих колебания численности («популяционные волны») песчанок, в частности многолетняя, годовая и месячная динамика температуры воздуха и количества осадков, колебания биомассы травянистой растительности в описываемых автономных природных очагах. Были выявлены различия климатических условий и особенностей вегетации кормовой растительности между 3-мя очагами при довольно высокой степени синхронизации тренда изменений температуры воздуха и осадков. Выяснилась важная роль того, что Бетпакдалинский и Предустюртский природные очаги не изолированы естественными преградами. Тогда как Прибалкашский природный очаг изолирован непреодолимыми для миграции песчанок преградами: озером Балхаш, большими реками Иле и Каратап. Изменения метеоусловий в каждом из очагов описаны по усредненным данным трех метеостанций. Дополнительно на территориях колоний песчанок с помощью портативной метеостанции модели Kestrel 4500NV измерялись скорость ветра, влажность, температура, атмосферное давление. Координаты обследованных точек регистрировались с помощью GPS-навигатора Garmin 62. Было показано, что более высокие средние температуры воздуха в теплый период года типичны для Предустюртского и Бетпакдалинского очагов по сравнению с Прибалкашским. В холодный период года особенно низкие температуры характерны для Бетпакдалинского и Прибалкашского очагов. В годовом ходе атмосферных осадков первый максимум в Предустюртском очаге приходится на апрель-июль, а второй максимум осадков наблюдается осенью – в октябре-ноябре, в Бетпакдалинском очаге максимумы осадков приходится на март-май и октябрь-декабрь, в Балкашском – на март-июль и октябрь-декабрь, т.е., совпадает с вегетационным максимумом пустынной растительности. В связи с тем, что на численность популяций чумной паразитарной триады непосредственно влияют количество осадков, температура и обилие растительности на обследованной территории, также определялся вегетационный индекс – NDVI. Учитывая большую площади обследованных территорий, были выбраны 16-ти дневные усреднённые NDVI с разрешением 500 метров космического аппарата MODIS-MOD13A1v006.

Филогенетический анализ фрагмента *cytB* гена от 88 особей из трех автономных очагов чумы определил 19 гаплотипов, которые формируют три гаплогруппы, одна из которых представлена особями из популяций двух автономных очагов чумы. Популяции больших песчанок из Казахстана и Китая входят в один кластер и генетически отдалены от популяций Ирана. Более или менее выраженная географическая изоляция, значительные отличия в климатических, ландшафтных и кормовых условиях, микроэволюционные изменения геномного статуса обусловили гетерогенность трех описываемых популяций большой песчанки. Отмечено растущее негативное воздействие на популяции большой песчанки и эпизоотический статус природных очагов потепления климата и усиливающийся антропогенный пресс, на кормовые ресурсы естественных фитоценозов природных очагов, прежде всего, в форме перевыпаса скота.

Ключевые слова: большая песчанка (*Rhombomys opimus* Licht., 1823), популяционная генетика, факторы микроэволюции, полиморфизм гена цитохрома b, эколого-биологические особенности.

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LOESS LIKE LOAMS AS A SOIL FORMATION FACTOR FOR LIGHT-GRAY FOREST SOILS IN THE CHEBOKSARY REGION OF THE CHUVASH REPUBLIC

Abstract. Covering loess-like loams are widespread in the Chuvash Republic and serve as parent rocks. They are heterogeneous both in the course and in the depth of occurrence. A distinctive feature of loess like loams from other overlying quaternary deposits is a sharp predominance in the granulometric composition of coarse dust fractions ranging in size from 0.05 to 0.01 mm, the content of which is 40% or more. Their granulometric composition varies from light loamy to clayey. Loess like loams, due to the peculiarities of their granulometric composition, have relatively good water permeability and moisture capacity and are superior to original loamy and clay parent rocks of the Permian and Jurassic systems in terms of these parameters. The content of moving forms of phosphorus and potassium (according to Kirsanov) in loess like loams is from 15 to 75 mg/kg, of exchange potassium - from 20 to 105 mg/kg. The soils formed based on them have a well-defined profile, the genetic horizons of which are easily diagnosed in the soil section. Because soils formed on loess like loams have well-developed genetic horizons, clearly manifested features of soil formation peculiar to each soil type, they occupy a central subtype and are diagnosed as typical. However, soils formed on loess-like loams and clays have low erosion resistance and marked as erosion threatening on soil maps.

Key words: granulometric composition, loess like loam, mineralogical composition, profile, chemical composition.

Introduction. Covering loams, including loess like, are widespread in the northern and central parts of Russia, including the Chuvash Republic. They come to the day surface, cover indigenous sedimentary rocks with an almost continuous mantle and serve as parent rocks [1]

Soil-forming rocks, modifying in the process of soil formation and splitting along the soil profile, are its main material (90-98% of the mass) and transfer their granulometric, mineralogical and chemical compositions to it and directly affect fertility [2].

Covering loams belong to cover quaternary sedimentary rocks of problematic origin with an age of fewer than 200,000 years (Middle Pleistocene). The eolian origin hypothesis of the covering loams in recent years has become increasingly preferable. Its essence is that during the melting of glaciers (Central Russian and Valdai Glaciation) fine earth (particles smaller than 1 mm) was blown from their surface by strong winds, which was sorted by wind force, transported and deposited on the surface.

A distinctive feature of loess like loams from other covering quaternary deposits is a sharp predominance of coarse dust fractions of 0.05 to 0.01 mm in the granulometric composition, the content of which is 40% or more, which brings them closer to eolian soil - carbonate coarse-silt rocks of porous composition, common in the southern part of Russia, Ukraine, Kazakhstan, Mongolia, China. Loess like loams have an orange tawny color with various shades of straw or ochraceous. [3].

The mechanical and agrochemical properties of loess like loams change when moving from west to east and from north to south. In the Cheboksary region, they fully cover the indigenous Permian and Jurassic rocks; the thickness of loess like loams on the tops and upper parts of the slopes of the watersheds is mainly from 1.0 to 3 m. In the lower part of the slopes of the watersheds, their thickness increases to 30 m [4,5].

In the southern part of the Cheboksary region, in some places the thickness of loess like loams decreases, and sometimes they disappear, giving away small areas to the eluvium of the upper part of the Tatarian Stage of the Permian system or the Volga stage of the Jurassic system.

The study of soil composition is of considerable importance not only for the development of fodder production but also in various sectors of productive animal breeding [6,7].

Methods of the research. The study region is located on the right bank of the Volga River. Drilling operations were performed by the UGB-50M drilling rig following the document requirements (SP 47.13330.2012, SP 11-105-97, RSN 74-88). The depths of soil horizons were studied in soil sections by studying the morphological features of genetic horizons of the profile. The granulometric composition was studied using the pipette method, the density of composition was studied using the sampler method, the density of the solid phase was determined by the pycnometer method, the plasticity number was defined by the difference in moisture content by weight at the limits of liquidity and rolling-out, and the content of mobile phosphorus and exchange potassium was determined by the Kirsanov method.

The research results. The granulometric composition of loess like loams in the Cheboksary region varies along with the extension from light loamy to clayey (table 1).

Table 1 – Granulometric composition of the main parent rocks of the Cheboksary region (fraction content, %)

Loessoid heavy loam (Studgorodok UNPK)						
1.0-0.25 mm	0.25-0.05 mm	0.05-0.01 mm	0.01-0.005 mm	0.005-0.001 mm	less than 0.001 mm	less than 0.01 mm
0.1	10.5	45.6	9.6	5.9	28.4	43.9
Permian calcareous clay (Lapsarsky IAPC)						
8.8	13.8	26.2	11.5	17.2	19.6	51.2
Jurassic calcareous clay (Kuibyshev IAPC)						
0.7	3.7	21.6	4.5	5.5	64.0	74.0

In their granulometric composition, the content of the coarse and medium sand fractions of 1-0.5 mm and 0.5-0.25 mm in size, respectively, is very small - often less than 0.1%; fine sand fractions from 0.25 to 0.05 mm in size content from 7 to 29%; fractions of coarse dust (0.05-0.01 mm) - from 40 to 57%, medium dust (0.01-0.005 mm) - from 2 to 10%, fine dust (0.005-0.001 mm) - from 4 to 12 %, sludge (size less than 0.001 mm) - from 10 to 35%.

Often loess like loams at a depth of 1.8 - 2.0 m or deeper boil from the addition of 10% hydrochloric acid, i.e. they contain carbonates.

Eluvium of parent rocks of the Jurassic and Cretaceous systems, according to external features (color, density, calcareousness), is sometimes similar to loess like loams and clays; however, they easily differ in particle size distribution, namely, in the content of the coarse dust fraction of 0.05-0.01 mm in size. Loess like loams are also heterogeneous in depth, however, they are all united by a high content of coarse dust (table 2).

It was noted that a powerful layer of Quaternary rocks, reaching 19.5 m or more, does not represent a single homogeneous mass - it is heterogeneous and includes 8 horizons, different in properties, in which color, the content of physical clay, structure, inclusions change. As a result, on the peaks and slopes of the watersheds, various Quaternary rocks can act as soil-forming rocks: loess like loams and ancient alluvial sandy clays and sands. This also explains the slightly different physical properties, mineralogical and chemical compositions of loess like loams in the Cheboksary region, which serve as parent rocks (table 3).

Table 2 – Description of the geological section in the northern part of the Cheboksary region

No	Index	Morphological features of sedimentary rocks	Depth of occurrence, m
1	B (Qh)	The illuvial horizon B is from dark brown with a brownish tint to brown, humid. Loams are dark brown, brown, fissured,	0.5-1.7
2	C (dQ _h)	Parent rock. Loess like loam is medium in granulometric composition, brown and light brown in color, fresh, fissured, with a touch of light dust separately and cracked, dense, dusty, with individual spots of humus. It does not boil.	1.7-2.0
3	D (prQ _p)	The underlying parent rock. Loess like loam is heavy loamy, brown and orange tawny, fresh, hard, silty, with glandular spots. It boils.	2.0-3.8
4	prQ _p	Loess like loam is heavy loamy, humid, light brown or brown, dense, soft-plastic, silty, with individual weak spots of humus. It boils.	3.8-7.1
5	aQ _p	Loess like loam is dark brown, humid, heavy loamy, with gray spots, silty, plastic, with frequent layers of sand and sandy loam. It boils.	7.1-12.6
6	aQ _p	The sandy loam is brown, humid, plastic, silty, with layers of sand and inclusions of calciferous cartilage (granitic subsoil). It boils.	12.6-14.2
7	pdQ _p	The loam is brownish-brown, humid, dense, silty, plastic, with interlayers of sand and clay.	17.4-19.5
8	pdQ _p	Loam is brown, silty, soft plastic, with layers of sand.	19.5-22
9	J ₃	Heavy loams and clays are gray, humid, with ferruginized spots, with frequent layers of yellow fine and silty sand	22-23.5
10	(P _{3S+V})	Heavy loams and clays are reddish-brown, brown, hard and semi-solid, fissured, with layers of gray and brownish-gray siltstone, brown sand with a thickness of up to 0.2 m, with nests and punctures of white and light gray marl.	23.5 and deeper

Note: * C (dQ_h) – integumentary upper quaternary Holocene deluvial loams; D (prQ_p) – Pleistocene loess deposits of problematic genesis; aQ_p - Pleistocene alluvial deposits; pdQ_p - mid-quaternary proluvial-deluvial deposits; J₃ – heavy loams and clays of the Upper Jurassic system; P_{3S+V} – Upper Permian clay of the Severodvinsk and Vyatkian stages.

Table 3 – Physical and chemical properties of sedimentary rocks of the section in the northern part of the Cheboksary region

No	Index	Humidity, %	Density, g/cm ³	Solid phase density, r/cm ³	Total porosity, %	Plasticity number, %	Mobile phosphorus and potassium according to Kirsanov	
							P ₂ O ₅ , mg/kg	K ₂ O, mg/kg
1	B (Qh)	18	1.61	2.68	39.93	9	125	145
2	C (dQ _h)	23	1.61	2.71	40.59	12	98	105
3	D (prQ _p)	19	1.62	2.71	40.22	9	54	85
4	prQ _p	25	1.68	2.71	38.01	8	47	50
5	aQ _p	33	1.75	2.71	35.42	9	32	45
6	aQ _p	14	1.62	2.64	38.64	6	17	20
7	pdQ _p	18	1.74	2.73	36.26	12	26	55
8	pdQ _p	25	1.50	2.71	44.65	13	15	40
9	J ₃	27	1.53	2.71	43.5	11	11	55
10	P _{3S+V}	29	1.52	2.71	43.91	14	68	75

From the results of the analyzes in Table 3, it turns out that the density of the solid phase – the value determined mainly by the mineralogical composition – practically does not change along the profile of geological outcrops. However, relatively high values of the density of the solid phase concerning the most common minerals (quartz, feldspars) indicate a significant presence of heavy fraction minerals (anorthite, muscovite, biotite, hornblende, etc.), which indirectly affects the chemical composition of the rock and its wealth with mobile forms of plant nutrients.

The content of mobile phosphorus and potassium (according to Kirsanov) in loess like loams is from 15 to 75 mg/kg, of exchange potassium from 20 to 105 mg/kg.

Loess like loams and clays generally have a similar mineralogical composition, in which quartz prevails sharply. Its content in loess like loams is more than 80%; feldspars (orthoclase, microcline, albite, plagioclase) - from 9 to 10%; heavy minerals (ilmenite, magnetite, hematite, garnet, zircon, rutile, biotite, etc.) - from 0.70 to 0.9%.

In such a way, among the primary minerals of the loess like loams, as in loesses, light fraction minerals predominate - more than 99%.

The composition and content in the average loess like loam of primary minerals of the light fraction (with a total content in the rock) of 99.23% are as follows: quartz - 81.9%, feldspars - 9.1%, weathered minerals - 9.0% [4].

The composition of the primary minerals of the heavy fraction is quite diverse, but the total content in the rock is small - 0.77%. Almost half of the heavy minerals are the epidote-zoisite group. Higher contents of ilmenite and magnetite, leukoxen and garnet are noted.

The composition and content of the primary minerals of the heavy fraction in the loess like loam is as follows: ilmenite - 14.6%, magnetite - 1.1%, hematite - 3.2%, leukoxen - 5.0%, hornblende - 13.6%, epidote - zoisite group - 46.7%, zircon - 3.75%, garnet - 5.6%, distene + staurolite - 0.6%, rutile + titanite - 2.2%, tourmaline - 0.3%, muscovite - 0.3%, biotite - 0.3%, picotite - 0.4%, rare - 0.8%, weathered - 1.6%.

The total content of the heavy fraction of minerals in the rock is 0.77%. The composition of the coarse and medium sand fraction (1-0.25 mm) in loess like loam is very small, and it almost entirely consists of quartz and feldspars. Secondary minerals - clays - are represented in loess like loams by widespread minerals: hydromica, montmorillonite groups and, less commonly, kaolinite mixed with disordered mixed-layer hydromica-montmorillonite formations, which mainly together with amorphous substances are part of fine dust and silt.

The weathered minerals consist mainly of grains of acidic and basic plagioclases, orthoclase and microcline. They are highly corroded and difficult to detect under a microscope.

The mineralogical composition of loess like loam is reflected in its chemical composition, in which silica predominates. The cation exchange capacity is 21 - 39.5 mg-eq/100g. The amount of exchangeable bases is mostly represented by calcium.

Carbonates in loess like loams are leached to one or another depth (1.2 - 2.5 m).

The acidity of the loess like loams depends on the degree of leaching of carbonates and varies from medium acid to neutral.

It was established that loess like loams are non-saline; the amount of toxic salts is very low. The content of gross forms of heavy metals and microelements in loess like loams ranges from: boron - 40-50 mg/kg, copper - 23-25, zinc - 30-49, molybdenum - 3.0-3.20, cobalt - 7-12, manganese - 550-800 mg/kg (table 4).

Table 4 – The results of the water extraction of loess like loams, Cheboksary (2017-2019)

No	Sampling point	Sampling depth, cm	water extract pH	Conductometer reading, mSm/m	Dry residue, %	The number of toxic salts, %
1	New town	120-145	7.98	0.69	0.274	0.0011
2	Berendeevsky forest	120-160	7.95	0.68	0.268	0.0010
3	Lakreevsky forest	118-150	7.92	0.65	0.258	0.0009
4	Red hill	94-105	7.29	0.49	0.105	0.0003
5	Water canal	150-400	7.80	0.69	0.246	0.0010

The heavier the granulometric composition of the parent rock, the smaller the pore size and lower the filtration coefficient. When soil solutions are infiltrated, high molecular weight humic acids are retained in thin pores, which creates conditions for their precipitation in the form of lime humates and concentration in the upper part of the soil profile.

Therefore, soils formed under the same conditions, but with loess like loams of different granulometric composition, will have different humus contents. The higher the content of physical clay in the soil, the higher the humus content. The maximum amount of humus is found in soils formed based on loess like heavy loams and clays (dark gray forest and chernozemic), and the minimum - in soils on light and medium loess like loams (light gray and typically gray forest).

The calcareousness of the parent rock enhances the process of soil humification.

Light-gray forest soils are formed under conditions of a periodic leaching regime under a mixed forest with herbaceous vegetation, based on leached sedimentary rocks, which are represented in the Cheboksary region by loess like loams, ancient alluvial deposits, eluvium and deluvium of Permian and Jurassic rocks.

The thickness of light-gray forest soil (up to the lower boundary of horizon B₁), formed on heavy loess like loam, is on average 14-15 cm higher than that of soils formed based on parent rocks of Permian and Jurassic systems with similar granulometric composition. This difference is even stronger when comparing the thickness of soil profiles on loess like light clays and light clays of parent rocks (table 5).

Table 5 – Average depths of soil horizons of light-gray forest soil on watersheds in the Cheboksary region (1993-2019)

No	Parent rock, number of soil sections	Depth of genetic soil horizons, cm			
		A ₁	A ₁ A ₂	A ₂ B	B ₁
1	Loess like heavy loam, 12	0-18	18-33	33-46	46-57
2	Permian deluvial heavy loam, 6	0-16	16-22	22-34	34-43
3	Jurassic deluvial heavy loam, 4	0-14	14-20	20-35	35-44
4	Ancient alluvial sandy loam, 9	0-11	11-36	36-55	55-69

Loess like loams have almost no effect on the color of the soil humus horizon. Therefore, in the soils formed on them, the genetic horizons have saturated colors that reflect soil-forming processes, and are easily diagnosed in the soil section.

However, soils developed upon the loess like loams and clays that transfer their granulometric composition to the soil with a predominance of coarse dust, weakly binding to aggregates, have low erosion resistance and easily eroded on the slopes of the watersheds, forming mainly weakly and moderately eroded varieties.

Permian eluvial and deluvial clays are often reddish-brown, and Jurassic clays are greenish-light brown or dark gray. This affects the color of the soil humus horizon giving it brownish or dark gray shades.

Conclusion. Loess like loams due to the peculiarities of their particle size distribution and composition have relatively good water permeability and water capacity and surpass the rest of the loamy and clay parent rocks in these parameters. The distribution of chemicals along the soil profile is natural for each type of soil formation, but the degree of manifestation of the morphological features of the genetic horizons depends on the properties of the parent rocks - color, density, porosity, etc. However, soils formed based on loess like loams and clays have low erosion resistance and marked as erosion threatening on soil maps. Since soils developed on loess like loams have well-diagnosed genetic horizons, clearly manifested features of soil formation distinctive of each soil type, they occupy a central subtype and marked as typical.

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ЧУБАШ РЕСПУБЛИКАСЫ ЧЕБОКСАРЫ АУДАНЫНДАҒЫ АҚШЫЛ-СҮР ОРМАН ТОПЫРАҒЫНЫҢ ТОПЫРАҚ ТҮЗУШІ ҚИЫРШЫҚТЫ-ШАЙЫНДЫ ЖАБЫНЫ

Аннотация. Чуваш Республикасында қиыршықты-шайынды жабын топырақ кең тараған және топырақ түзуші түр болып саналады. Ол жайылу жағынан да, тереңдігі жағынан да әртүрлі болып келеді.

Қиыршықты-шайынды топырақтың айырмашылығы – гранулометриялық құрамында 0,05-0,01 мм аралығында 40% мөлшерінде ірі шаңның кездесуі Ресейдің оңтүстік бөлігін, Украина, Қазақстан, Моңғолия, Қытайдағы қиыршықты-карбонатты топыраққа ұқсас болып келуі. Қиыршықты топырақтың түсі сарғыш-қоңыр түсті болады.

Топырақ горизонтының тереңдігі топырақ қабатындағы генетикалық профиль көкжиегінің морфологиялық ерекшеліктерін қарастыру негізінде зерттелді.

Пипетка тәсілімен гранулометриялық құрамын зерттеу, қабаттардың тығыздығы «бурика» әдісімен, қатты фаза тығыздығы пикнометриялық тәсілмен, Кирсан тәсілімен жылжымалы фосфор және алмасушы калийдің мөлшері анықталды.

Чебоксары ауданындағы қиыршықты-шайынды жабынның гранулометриялық құрамы жеңіл ұнтақтан лайға дейін қамтиды. Олардың гранулометриялық құрамында мөлшері 1-0,5 және 0,5-0,25 мм ірі және орташа құм мөлшері сәйкесінше өте аз, көбінесе 0,1%-дан аз; мөлшері 0,25-0,05 мм ұсақ құм мөлшері 7-29%; ірі шаң мөлшері (0,05-0,01 мм) – 40-57%, орташа шаң (0,01-0,005 мм) – 2-10%, ұсақ шаң (0,005-0,001 мм) – 4-12%, тұнба (мөлшері 0,001 мм-ден аз) – 10-35%.

Аталған топырақ түрі 1,8-2,0 мм тереңдікте және одан әрі тереңдікте 10% тұз қышқылын тамызғанда қайнайды, құрамында карбонаттар бар. Юр және Бор жүйесіндегі жыныспен (түсі, тығыздығы, карбонаттылығы) кейде қиыршықты және лайлы топыраққа ұқсас болады, алайда гранулометриялық құрамы бойынша оңай ажыратылады, атап айтқанда, ірі шаң 0,05-0,01 мм кездеседі. Қиыршықты-шайынды жабын біртекті емес, бірақ бұны құрамындағы ірі шаң біріктіреді.

Жылжымалы калий және фосфор формалары топырақта 15-75 мг/кг, алмасушы калий – 20-105 мг/кг. Топырақ профилді, топырақ қиындысында генетикалық горизонттар оңай анықталады. Сондықтан оның жетілген генетикалық горизонты бар, топырақ түзілудің белгілері айқын көрініс береді. Бірақ қиыршықты-шайынды топырақтың эрозияға төзімділігі төмен және картада эрозияға қауіпті топыраққа жатады.

Батпақ пен қиыршықты-шайынды топырақтың минералды құрамы ұқсас, кварц басым болады. Қиыршықты топырақта оның мөлшері 80 %; дала шпаты (ортоклаз, микроклин, альбит, плагиоклаздар) – 9-10%; ауыр минералдар (ильменит, магнетит, гематит, гранат, циркон, рутил, биотит және т.б.) – 0,70-0,9%. Осылайша қиыршықты- шайынды және орманда жеңіл фракция минералдары басым 99%.

Ауыр фракцияда біріншілік минерал құрамы алуан түрлі, алайда жыныста жалпы мөлшері көп емес (0,77%). Ауыр минералдардың жартысын эпидот-цоизит тобы құрайды. Салыстырмалы түрде алғанда ильменит және магнетит, лейкоксен және гранат мөлшері басым. Қиыршықты-шайынды топырақта ауыр фракциялы біріншілік минерал құрамы мен мөлшері: ильменит – 14,6%, магнетит – 1,1%, гематит – 3,2%, лейкоксен – 5,0%, мырышты қоспа – 13,6%, эпидот-цоизит тобы – 46,7%, циркон – 3,75%, гранат – 5,6%, дистен + ставролит-0,6%, рутил + титанит – 2,2%, турмалин – 0,3%, мусковит – 0,3%, биотит – 0,3%, пикотит – 0,4%, 0,8% – сирек кездесетіндері, үрінді – 1,6%.

Ауыр фракциялы минералдың жыныстағы жалпы мөлшері – 0,77% . Ірі және орташа құмды фракция мөлшері (1-0,25 мм), ол көбінде кварцтан және дала шпатынан тұрады. Қиыршықты топырақта екіншілік минералдар – батпақ алуан түрлі: гидрослюд, монтмориллонит топтары және сирек реттелмеген гидрослюотті-монтмориллонитті түзіліс қоспалы каолинит, негізінен аморфинді заттармен бірге шаң және ил құрамына кіреді.

Қиыршықты-шайынды жамылғыларды сортаң баспаған; улы тұз мөлшері өте аз. Ауыр металл және микроэлементтер қиыршықты-шайындыда шектелді: бор – 40-50 мг/кг, мыс – 23-25, мырыш – 30-49, молибден – 3,0-3,20, кобальт – 7-12, марганец – 550-800 мг/кг.

Түйін сөздер: гранулометриялық құрам, минерологиялық құрам, профиль, химиялық құрам.

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ЛЕССОВИДНЫЕ СУГЛИНКИ КАК ФАКТОР ПОЧВООБРАЗОВАНИЯ СВЕТЛО-СЕРЫХ ЛЕСНЫХ ПОЧВ В ЧЕБОКСАРСКОМ РАЙОНЕ ЧУВАШСКОЙ РЕСПУБЛИКИ

Аннотация. Покровные лессовидные суглинки широко распространены в Чувашской Республике и служат почвообразующими породами. Они неоднородны как по простиранию, так и по глубине залегания. Характерным признаком лессовидных суглинков от других покровных четвертичных отложений является резкое преобладание в гранулометрическом составе фракции крупной пыли размером от 0,05 до 0,01 мм, содержание которой составляет 40% и более, что сближает их с лессами – карбонатными крупнопылеватыми породами пористого сложения, распространенных в южной части России, Украины, Казахстана, Монголии, Китая. Лессовидные покровные суглинки имеют желтовато-коричневый цвет с различными оттенками палевых или буровато-желтых тонов

Глубины залегания почвенных горизонтов изучались в почвенных разрезах методом изучения морфологических признаков генетических горизонтов профиля. Гранулометрический состав исследовался методом пипетки, плотность сложения – методом «бурика», плотность твердой фазы – пикнометрическим методом, число пластичности - по разности весовых влажностей на границе текучести и раскатывания, содержание подвижного фосфора и обменного калия – методом Кирсанова.

Гранулометрический состав лессовидных суглинков в Чебоксарском районе варьируется по простиранию от легкосуглинистого до глинистого. В их гранулометрическом составе содержание фракции крупного и среднего песка размером 1-0,5 и 0,5-0,25 мм соответственно очень небольшое – часто менее 0,1%; фракции мелкого песка размером от 0,25 до 0,05мм содержится от 7 до 29%; фракции крупной пыли (0,05-0,01 мм) – от 40 до 57%, средней пыли (0,01-0,005 мм) - от 2 до 10%, мелкой пыли (0,005-0,001 мм) – от 4 до 12%, ила (размером менее 0,001 мм) – от 10 до 35%.

Часто лессовидные суглинки на глубинах 1,8 – 2,0 м и более вскипают от добавления 10% соляной кислоты, т.е. они содержат карбонаты. Элювий коренных пород юрской и меловой систем по внешним признакам (цвет, плотность, карбонатность) иногда бывает похожим на лессовидные суглинки и глины; однако они легко различаются по гранулометрическому составу, а именно по содержанию фракции крупной пыли размером 0,05-0,01 мм. Лессовидные суглинки неоднородны и по глубине залегания, однако их всех объединяет высокое содержание крупной пыли.

Содержание подвижных форм фосфора и калия (по Кирсанову) в лессовидных суглинках составляет от 15 до 75 мг/кг, обменного калия – от 20 до 105 мг/кг. Почвы, формирующиеся на них, обладают хорошо выраженным профилем, генетические горизонты которого легко диагностируются в почвенном разрезе. В связи с тем, что почвы, сформированные на лессовидных суглинках, имеют хорошо развитые генетические горизонты, четко проявляющиеся черты почвообразования, характерных для каждого почвенного типа, они занимают центральный подтип и диагностируются как типичные. Однако почвы, сформированные на лессовидных суглинках и глинах имеют малую противэрозионную устойчивость и выделяются на почвенных картах как эрозионноопасные.

Лессовидные суглинки и глины в целом имеют схожий минералогический состав, в котором резко преобладает кварц. Содержание его в лессовидных суглинках составляет более 80%; полевых шпатов (ортоклаз, микроклин, альбит, плагиоклазы) – от 9 до 10%; тяжелых минералов (ильменит, магнетит, гематит, гранат, циркон, рутил, биотит и др.) – от 0,70 до 0,9%. Таким образом, среди первичных минералов лессовидных суглинков, как и в лессах, резко преобладают минералы легкой фракции – более 99%.

Состав первичных минералов тяжелой фракции достаточно разнообразен, но общее содержание в породе небольшое – 0,77%. Почти половину тяжелых минералов составляет группа эпидот-цоизита. Отмечается сравнительно высокое содержание ильменита и магнетита, лейкоксена и граната. Состав и содержание первичных минералов тяжелой фракции в лессовидном суглинке следующее: ильменит - 14,6%, магнетит - 1,1%, гематит - 3,2%, лейкоксен - 5,0%, роговая обманка - 13,6%, группа эпидот-цоизита - 46,7%, циркон - 3,75%, гранат - 5,6%, дистен + ставролит - 0,6%, рутил + титанит - 2,2%, турмалин - 0,3%, мусковит - 0,3%, биотит - 0,3%, пикотит - 0,4%, редко встречающиеся - 0,8%, выветрелые -1,6%,.

Общее содержание тяжелой фракции минералов в породе составляет 0,77%. Содержание крупно- и среднепесчаной фракции (1-0,25 мм) в лессовидном суглинке очень небольшое, и она почти целиком состоит из кварца и полевых шпатов. Вторичные минералы - глины - представлены в лессовидных суглинках широко распространенными минералами: гидрослюдами, группами монтмориллонита и реже каолинита с примесью неупорядоченных смешаннослойных гидрослюда-монтмориллонитовых образований, которые, в основном, вместе с аморфными веществами входят в состав тонкой пыли и ила.

Установлено, что лессовидные суглинки незасоленные; сумма токсичных солей очень низкая. Содержание валовых форм тяжелых металлов и микроэлементов в лессовидных суглинках колеблется в пределах: бор – 40-50мг/кг, медь – 23-25, цинк – 30-49, молибден – 3,0-3,20, кобальт – 7-12, марганец – 550-800мг/кг.

Ключевые слова: гранулометрический состав, лессовидный суглинок, минералогический состав, профиль, химический состав.

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ONTOGENESIS AND AGE STRUCTURE OF THE *PULSATILLA MULTIFIDA* MILL POPULATIONS IN THE CONDITIONS OF NORTHERN KAZAKHSTAN

Abstract. The article provides the study results on the age-related stages of *Pulsatilla multifida* Mill. The materials have been gathered in the course of field research taking into account the literary data. The studies were carried out in the Pavlodar and Akmola regions during the season of mass flowering and seeds ripening (2018-2019). A rosette shoot is formed on the stage of seedlings out of 3-4 leaves of different complexity. On the juvenile stage the rosette shoot is formed out of 4-5(6) leaves. The leaves are tripartite, dissected into large lobes and in their turn are cut into prongs. The root system is represented by a stem-root and many roots of the second order. Immature individuals undergo the formation of an elongated rhizome. Leaf-blades are tripartite with deeply dissected lobes. 1-3 rosette shoots grow from resumption buds. The calendar age of an immature plant is 1-2 years. On the virginal stage, there is an increase of resumption buds and rosette modules, the formation of a powerful rhizome with numerous resumption buds on it. Leaves acquire a specificity: the number of prongs on the leaves becomes narrow, middle leaves develop a petiole of different lengths. Young generative plants have 1-3 peduncles and 1-3 rosette shoots. On average generative stage, the rhizome forms a many-headed caudex with numerous rosette shoots. In old age the number of rosette shoots decreases, the peduncles remain underdeveloped and do not start blooming. The leaves are cut into very narrow lobes with a large number of prongs, while the length of the petiole at the central lobe becomes minimal. In subsenile plants, there is a maceration of rhizomes to a greater depth with the formation of vegetative rosettes on separate parcels and they are represented by a system of dying rhizomes, with single vegetative sockets. The coenopopulations of *P. multifida* and *P. aggr. patens* are found in rocky habitats, except CP-1 (a glade between the rocks) where *P. multifida* grows on a dry meadow among steppe shrubs. All the studied populations are generative, the density of species is high enough to ensure the normal existence of the species in natural conditions.

Key words: *Pulsatilla multifida* Mill., coenopopulation, Northern Kazakhstan, age stages, age structure.

Introduction. There are three species of the *Pulsatilla* Mill genus in the flora of the north-western regions of Kazakhstan: *P. flavescens* (Zucc.) Juz., *P. multifida* (Pritz.) Juz., *P. patens* (L.) Mill. [1]. *P. uralensis* (Zäm) Tzvel., which is considered as a synonym for *P. flavescens* (Zucc.) Juz. grows in the adjacent territories of the Southern Urals including the Chelyabinsk region [2,3].

It is difficult to find *P. patens* in the south of Western Siberia and in Northern Kazakhstan. It is hybridized actively with *P. multifida* and *P. uralensis*, and possibly with a Trans-Ural species *P. angustifolia*. Obviously, therefore, when processing the *Pulsatilla* Mill. genus for Flora of Siberia, S.A. Timokhina (1993) believed that *P. patens* does not grow in Siberia, and is represented by two species: *P. flavescens* and *P. multifida* [4]. On the other hand, *P. patens* is tested well, despite a great polymorphism. The main morphological difference of *P. patens* is a palmately separate (long-shaped) leaf blade, while all other representatives of this genus have pinnatipartite dissected leaves [5].

Despite all the hybridity, *P. patens* retains its species features like pink-purple range of crown coloring, palmately separate leaf blade with sessile broad segments. The species is represented widely in Europe [2], it is widely represented in the northern regions of Kazakhstan [1].

Material and research methods. To process floristic descriptions we employed the IBIS program developed by A.A. Zverev (2007) [6]. Species names are given according to the summary of S.A. Adbulina (1999) considering modern data [7]. Age stages were worked out according to the guidelines [8-12]. A schematic describing scheme on age stages is given according to Kupriyanov A.N. (2013) [13].

Ontogenetic structure and number of plants in the coenopopulation were studied on registry fields with the area of 1 m². An individual plant, a partial bush, and a partial shoot were used as counting units. The adoption of one or another counting unit was determined by the specific biormorph formed in a particular location. The ontogenetic spectrum is built according to the conventional method (Plant Coenopopulations..., 1988) [12].

Based on the ratios of plants of different age stages in the CP, T.A. Rabotnov (1950) singled out invasive, normal and regressive coenopopulations [8]. Age ratios are determined by L.A. Zhivotovsky (2001) [14].

Results and discussion. We have conducted studies in the Pavlodar and Akmola regions during the period of mass flowering and seed ripening in the same coenopopulations (2018-2019) to determine systematic affiliation, to study the age stages of the *Pulsatilla multifida* (Pritz.) Juz. species with numerous hybrids combined in *P. aggr. patens* growing in Northern Kazakhstan (table 1).

Table 1 – Study of the *P. multifida* and *P. aggr. patens* coenopopulations in Northern Kazakhstan

CP	Species	Location	Habitat
CP-1	<i>P. multifida</i> (Pritz.) Juz.	Pavlodar region, Bayanaul village, the Bayanaul Mountains, 50.8299° N, 75.8000° W, 407 m above sea level 28.04. 2018; 12.06.2019	a glade between the rocks
CP-2	<i>P. aggr. patens</i>	Akmola region, the Ereimentau village, the Ereimentau mountains, 51.65717° N, 73.19056° W, h=320 m above sea level. 29.04.2018; 12.06.2019	the base of a small hill, gravelly soil
CP-3	<i>P. aggr. patens</i>	Akmola region, the Catarkol village, 52.93281° N, 70.49210° W, h=431 m above sea level. 03.05.2018; 13.06.2019	gravelly and stony hills
CP-4	<i>P. aggr. patens</i>	Akmola region, the Akylbai village, 53.10970° N, 70.12750° W, h=359 m above sea level. 04.05.2018; 13.06.2019	feather grass steppe
CP-5	<i>P. aggr. patens</i>	Akmola region, the Akylbai village, 53.12304° N, 70.18010° W, h=343 m above sea level 04.05.2018; 13.06.2019 the eastern slope of hills, the feather grass steppe	the eastern slope of hills, the feather grass steppe

Latent period. The fruits of *P. multifida* and *P. aggr. patens* begin to ripe in the first decade of June. After ripening in the third decade of June, they crumble. The nuts are equipped with spruce and can plan for a relatively long distance, but most seeds crumble in the diameter of 0.5 m around the mother plant. Seed productivity is 100-140 nuts/fruit. A medium-aged plant on a generative stage produces 450-600 nuts/plant.

Virginal period. Seedlings (p). As a rule, seeds do not have any rest period and can germinate at the end of the vegetative season. Germination of seeds is high, up to 50-60%. It is aboveground, the seeds do not have any period of rest, they can germinate in autumn, but most of all germinate the next year, at the end of April. Ground germination is high, about 50%, laboratory one is 85%. Germination is aboveground, the cotyledons have a wide-lanceolate shape of 0.5-0.6 cm long. Below the cotyledons, there is a hypocotyl, which turns into a primary stem root. The first true leaf is triple, about 0.5 cm in diameter. A rosette shoot is formed on the stage of seedlings out of 3-4 leaves of different complexity (figure 1, p).

On the juvenile stage (j) the rosette shoot is formed out of 4-5(6) leaves. The leaves are tripartite, dissected into large lobes and in their turn are cut into prongs. The root system is represented by a stem-root and many roots of the second order. In this age, there does not occur any isolation of petiole of the central lobe as a species-specific trait does not occur (figure 1, j). The plants of the first year winter in this state.

Immature plants (im), as well as *P. uralensis* undergo the formation of an elongated rhizome. The leaf blades are tripartite with deeply dissected lobes, their sizes are 1.5 times smaller than on subsequent age stages. Renewal buds located in the hollow of the lower true leaves form 1-3 rosette shoots. A multi-rosette and a short-rhizome plant are formed. The calendar age of an immature plant is 1-2 years (figure 1, im).

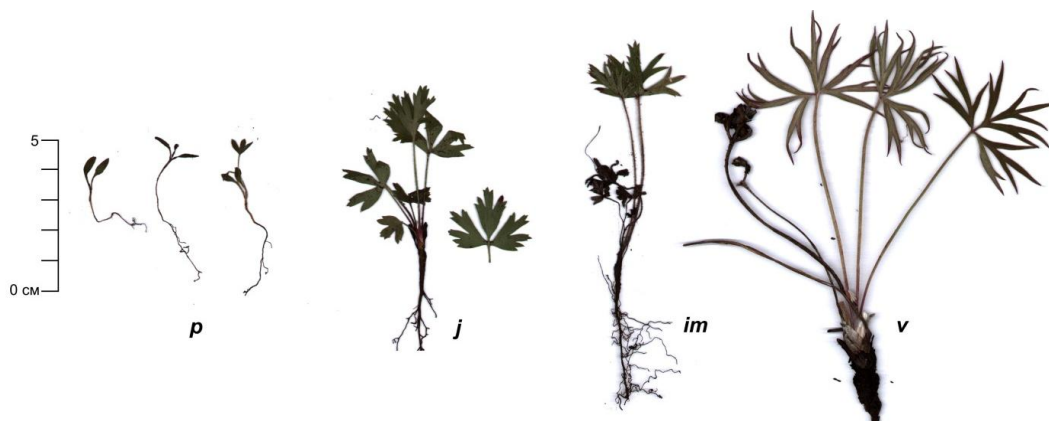


Figure 1 – Age stages of *P. multifida* and *P. aggr. patens*: p - seedlings, J - juvenile stage; im - immature stage, v - virginal stage

On the virginal stage (v), there is an increase of resumption buds and rosette modules, the formation of a powerful rhizome with numerous resumption buds on it. Leaves acquire a specificity: the number of prongs on the leaves becomes narrow, middle leaves develop a petiole of different lengths (figure 1, v).

The first flowers appear in some plants in the third year (about 10%) and in 4-5 years for the plants in natural habitats. Young generative plants (g_1) have 1-3 peduncles and 1-3 rosette shoots. Unlike *P. uralensis*, the rhizome is whole, unbranched in this age (figure 2, g_1).



Figure 2 – Age stages of *P. multifida* and *P. aggr. patens*: g_1 - young generative plants



Figure 3 – Age stages of *P. multifida* and *P. aggr. patens*: g_2 - middle-aged generative plant

On average generative stage (g_2) the rhizome forms a many-headed caudex with numerous rosette shoots (figure 3, g_2). The rhizome is loosely branched into separate parcels and in this respect, it is similar in this age to *P. patens* [15]. The plant remains vegetatively inactive.

In old age (g_3), the number of rosette shoots decreases and the flower stalks remain underdeveloped, they do not start flowering. The leaves are cut into very narrow lobes with a large number of prongs, while the length of the petiole at the central lobe becomes minimal. Systematic studies do not take into account the changes in leaf morphology depending on the age stage. The rhizome is branched into several parcels, but the number of rosette shoots decreases (figure 4, g_3).

Subsenile plants (s) undergo a maceration of rhizomes to a greater depth with the formation of vegetative rosettes on separate parcels and they are represented by a system of dying rhizomes, with single vegetative sockets. Leaf-blades retain their species specificity (figure 4, s).

According to the classification of life forms by I.G. Serebryakov (1962) *P. multifida* and *P. aggr. patens* are perennial herbaceous short-stem multi-headed polycarps and are similar in nature to *P. patens* more than to *P. uralensis*.



Figure 4 – Age stages of *P. multifida* and *P. aggr. patens*: g₃ - old-aged generative plant, s - subsenile plant

We have studied 5 CP of *P. multifida* and *P. aggr. patens* (table 1).

CP-1. The population area is 2000 m², total projective cover (TPC) is 100%, the TPC of *P. multifida* is 30%, the community has 20 species. The vegetation is formed by *Artemisia marschalliana*, *Festuca valesiaca*, *Koeleria cristata*, *Orostachys spinosa*, *Phleum phleoides*, *Potentilla bifurca*, *Stipa capillata*, *Veronica incana*.

CP-2. The population area is 2×10⁴ m², TPC is 60%, the TPC of *P. multifida* is 10%, the community has 23 species. The vegetation is formed by *Antennaria dioica*, *Artemisia austriaca*, *Bromopsis inermis*, *Gagea granulosa*, *Pentophylloides parvifolia*, *Potentilla humifusa*, *Spiraea hypericifolia*, *Stipa pennata*, *Tulipa patens*.

CP-3. The population area is 6×10³ m², TPC is 80%, the TPC of *P. multifida* is 30%, the community has 22 species. The vegetation is formed by *Artemisia austriaca*, *A. latifolia*, *Carex supina*, *Centaurea sibirica*, *Galium verum*, *Phleum phleoides*, *Poa angustifolia*, *Potentilla argentea*, *P. canescens*.

CP-4. The population area is 3×10³ m², TPC is 60%, the TPC of *P. multifida* is 25%, the community has 29 species. The vegetation is formed by *Festuca valesiaca*, *Goniolimon speciosum*, *Helichrysum arenarium*, *Medicago falcata*, *Phlomoides tuberosa*, *Silene chlorantha*, *Spiraea hypericifolia*, *Stipa capillata*, *S. pennata*, *Valeriana tuberosa*.

CP-5. The population area is 6×10³ m², TPC is 80%, the TPC of *P. multifida* is 30%, the community has 25 species. The vegetation is formed by *Echinops ritro*, *Festuca valesiaca*, *Filipendula vulgaris*, *Gentiana fetisovii*, *Gypsophila altissima*, *Pilosella echioides*, *Spiraea hypericifolia*, *Stipa capillata*, *S. pennata*, *Thymus marschallianus*.

The coenopopulations of *P. multifida* and *P. aggr. patens* are found in rocky habitats, except CP-1 (a glade between the rocks) where *P. multifida* grows on a dry meadow among steppe shrubs.

The highest density of 740-880 pcs/100 m² is on the rocky and gravelly hill slopes, nevertheless, the other habitats have a high density of 232-320 pcs/100 m² (table 2).

Table 2 – Characteristics of the *P. multifida* and *P. aggr. patens* coenopopulations

№ CP	TPC %	TPC of <i>P. multifida</i> и <i>P. aggr. patens</i> , %	Area of CP, m ²	Density of plants, pcs/100 m ²	Quantity of plants in CP, pcs	Δ	ω	I
CP-1	100	30	6×10 ⁴	290	174×10 ³	0.40	0.82	0.12
CP-2	60	10	2×10 ⁴	320	64×10 ³	0.40	0.93	0.14
CP-3	80	30	6×10 ³	740	44.4×10 ³	0.41	0.83	0.12
CP-4	60	25	3×10 ³	880	26.4×10 ³	0.33	0.65	0.70
CP-5	80	30	6×10 ³	232	13.9×10 ³	0.29	0.62	1.10

By the age, almost all the coenopopulations are young Δ , between 0.2 and 0.4. According to the "delta-omega" coefficient, most populations are maturing coenopopulations (table 3).

The recovery index (table 2) at *P. multifida* is very low 0.12-0.14; hybrid plants (*P. aggr. patens*) located in the national park have a quite high one (0.7-1.1).

Table 3 – CP stage of *P. multifida* and *P. aggr. patens* according to the age ratio and "delta-omega" (according to Zhivotovsky, 2001)

№ CP	Age stage	"delta - omega"
CP-1	Young	Maturing
CP-2	Young	Maturing
CP-3	Mature	Mature
CP-4	Young	Maturing
CP-5	Young	Maturing

All the coenopopulations of *P. multifida* and *P. aggr. patens* are normal with slight deviations. CP-4 and CP-5 located in the Akylbay village in the boundaries of the national park have an invasive nature. In these populations a large number of virginal plants form left-sided spectrums (table 4).

Table 4 – Population structure, number of plants, pcs/% of the Total

Age stages	Coenopopulations of <i>P. multifida</i> и <i>P. aggr. patens</i>				
	1	2	3	4	5
pl	0	0	0	0	0
J	0	0	0	10/1.1	0
Im	10/3.4	0	0	40/4.4	20/8.6
V	20/6.8	40/12.5	80/10.8	300/34.1	100/43.1
G ₁	110/37.9	120/37.5	250/33.8	220/25.0	35/15.1
G ₂	120/41.4	110/34.4	320/43.2	150/17.4	47/20.3
G ₃	20/6.8	50/15.6	70/9.5	130/14.7	30/12.9
Ss	10/3.4	0	10/1.4	20/2.2	0
S	0	0	10/1.4	10/1.1	0
Total	290	320	740	880	232

Conclusion. The study of the systematic and population species composition of the *Pulsatilla* genus has shown that there are several races and hybrids, which are difficult to distinguish and they can be attributed to *P. aggr. patens*. It should be noted, that all studied populations are usually generative, the species density is quite high which ensures normal existence of the species in natural conditions. Moreover, the populations of *P. aggr. patens* located near Akylbai village have populations of invasive nature, despite the existing anthropogenic load.

The Red Book of Kazakhstan (2014) contains *Pulsatilla patens* (L.) Mill as a rare plant (category II. Rare species) and *P. flavescens* (Zuccar.) Jus. (category III. Decreasing species) [16]. We have not confirmed any presence of a "pure" *P. patens* in the territory of research. On the other hand, the nomenclature of *P. flavescens* has changed. This name turned out to be a late homonym and cannot be used [17]. The name of *P. uralensis* (Zam.) Tzvel is adopted to refer to yellow-flowered plants. To sum up, we believe that more floral studies should be carried out to determine more accurate localization of *P. patens* in Kazakhstan, to exclude *P. flavescens* from the list of rare plants of Kazakhstan, but to put *P. uralensis* to the Red Book of Kazakhstan.

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СОЛТҮСТІК ҚАЗАҚСТАНДАҒЫ *PULSATILLA MULTIFIDA* MILL. ПОПУЛЯЦИЯСЫНЫҢ ОНТОГЕНЕЗИ ЖӘНЕ ЖАС ҚҰРЫЛЫМЫ

Аннотация. Мақалада Солтүстік Қазақстанда өсетін *Pulsatilla* тұқымдас түрлерінің жүйелілігі, жас жағдайын зерттеу нәтижелері келтірілген. Материалдар далалық зерттеулер нәтижесінде алынды, әдеби мәліметтер ескерілді. Зерттеулер Павлодар, Ақмола облыстарының аумағында жаппай гүлдену және тұқымдардың пісіп жетілуі кезеңінде (2018-2019 жж.) жүргізілді.

Қазақстанның флорасында солтүстік-батыс облыстары үшін *Pulsatilla* Mill тұқымдасының мынадай үш түрі келтірілген: *P. flavescens* (Zucc.) Juz., *P. multifida* (Pritz.) Juz., *P. patens* (L.) Mill. [1]. Оңтүстік Оралдың аралас аумағы үшін, оның ішінде Челябині облысында *P. uralensis* (Zäm.) Tzvel келтіріледі.

Латентті кезең. *P. multifida* және *P. aggr patens* жемісі маусымның бірінші онкүндігінде піседі. Бір жемісте тұқым өнімділігі – 100-140 жаңғақша. Орташа жастағы генеративтік күйдегі өсімдікте 450-600 жаңғақша түзіледі.

Виргинилді кезең. Өскіндер (р). Тұқымның өнгіштігі 50-60% дейін жоғары. Топырақ өнгіштігі жоғары – 50%, зертханалық 85%. Өскін жағдайында 3-4 күрделі жапырақтан тұратын шоғыр түзеді.

Ювенилді жағдайда (j) 4-5(6) жапырақтан тұратын шоғыр қалыптасады. Жапырақтар үш бөлікті, үлкен үлеске бөлінген, олар өз кезегінде тісшелерге кесілген. Тамыр жүйесі кіндік тамырмен және екінші ретті көптеген тамыр арқылы ұсынылған. Бұл жас күйінде жапырақтың орталық бөлігі сағақсыз. Бірінші жыл өсімдіктер осы күйде қыстайды.

Имматурлы дарақтарда (im), *P. uralensis*-дегідей ұзартылған тамырсабақ пайда болады. Үш бөлікті жапырақ такта өлшемдері келесі жас жағдайына қарағанда 1,5 есе аз. Төменгі нағыз жапырақ қолтығындағы бүршіктерден 1-3 розеткалы өркендер пайда болады. Имматурлық өсімдіктің күнтізбелік жасы – 1-2 жыл.

Виргинилді жағдайда (v) өсу бүршігі мен шоғырланған модульдер санының өсуі, көптеген бүршігі бар қуатты тамырсабақ түзіледі. Жапырақтары келесідей түрлік ерекшелікке ие болады: жапырақтар бөлігінің тісшелер саны артады және жапырақ бөліктері ұсақ күйге айналып, ортаңғы жапырақ сағағының ұзындығы әртүрлі.

Жас генеративті дарақтарға (g₁) 1-3 гүлсауыты және 1-3 шоғырланған өскіндер жатады. Бұл жастағы *p. uralensis*-ке қарағанда тамырсабағы бүтін, тармақталмаған. Орташа генеративті жағдайда (g₂) тамырсабағы көптеген шоғырланған өркені бар каудекс түзеді.

Ескі жас жағдайында (g₃) шоғырланған өркен саны азаяды, түзілетін гүлдер дамымайды және гүлденуге кіріспейді. Жапырақ тілімдері ұсақталған бөліктерге бөлінген, бұл ретте орталық жапырақ сағағының ұзындығы кішірейеді.

Субсенілді дарақтарда (s) тамырсабақтары үлкен тереңдікте орналасады. Парцеллдерде жеке вегетативтік розеткалар мен тамырсабақтардың қурайтыны байқалады. Жапырақ тактасы түрлік ерекшелікті сақтайды.

Ақмола және Павлодар облыстарында орналасқан *P. multifida* және *P. aggr patens* 5 ценопопуляциясы зерттелді. *P. multifida* және *P. aggr. patens* тасты мекендейтін жерлерге негізделген, ерекшесі 1-ЦП (жартастар арасындағы алан) болып саналады, мұнда *P. multifida* дала бұталарының арасында құрғақ шалғындар кездеседі.

Pulsatilla тұқымдас түрлердің систематикалық және популяциялық құрамын зерттеу мұнда *P. aggr patens* шартты түрде жатқызуға болатын бірнеше күрделі ажыратылатын нәсіл мен будандар бар екенін көрсетті. Барлық зерттелген популяциялар әдетте толық, түрлердің тығыздығы өте жоғары, бұл түрдің табиғи жағдайда қалыпты болуын қамтамасыз етеді. Сонымен қатар, Ақылбай ауылының жанында орналасқан *p. aggr patens* популяциясының антропогендік жүктемесі бола тұра, инвазиялық сипаттағы популяцияға ие.

Қазақстанның Қызыл кітабына (2014) *Pulsatilla patens* (L.) Mill. (II санат. Сирек түрі) және *P. flavescens* (Zuccar.) Jus. (III санат. Жойылып бара жатқан түр) сирек өсімдіктер ретінде енгізілген [16]. Зерттеу аймағында «таза» *p. Patens*-ті біз растамадық. Басқа жағынан *p. flavescens* номенклатурасы өзгерді, бұл атау кейінірек ононимді болып шықты және қолданылуы да мүмкін емес [17]. Сары түсті өсімдіктерді белгілеу үшін *P. uralensis* (Zam.) Tzvel атауы қолданылады. Жоғарыда айтылғандарға байланысты біз Қазақстанның сирек кездесетін өсімдіктер тізімінен *P. flavescens*-ті қоспағанда, сондай-ақ *P. uralensis*-ті Қазақстанның Қызыл кітабына қосу арқылы Қазақстан аумағында *P. patens* неғұрлым дәл орналасқанын анықтау бойынша қосымша флористикалық зерттеулер жүргізу қажет деп есептейміз.

Түйін сөздер: *Pulsatilla multifida* Mill., ценопопуляция, Солтүстік Қазақстан, жас ерекшеліктері.

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ОНТОГЕНЕЗ И ВОЗРАСТНАЯ СТРУКТУРА ПОПУЛЯЦИЙ *PULSATILLA MULTIFIDA* MILL. В УСЛОВИЯХ СЕВЕРНОГО КАЗАХСТАНА

Аннотация. В статье приведены результаты изучения систематической принадлежности, возрастных состояний видов рода *Pulsatilla*, произрастающих в Северном Казахстане. Материалы получены в результате полевых исследований, учтены литературные данные. Исследования проведены на территории Павлодарской, Акмолинской областей в период массового цветения и созревания семян в одних и тех же ценопопуляциях (2018-2019 гг.).

Во флоре Казахстана для северо-западных областей приводится три вида рода *Pulsatilla* Mill.: *P. flavescens* (Zucc.) Juz., *P. multifida* (Pritz.) Juz., *P. patens* (L.) Mill. [1]. Для смежных территорий Южного Урала, в том числе Челябинской области приводится *P. uralensis* (Zäm.)Tzvel., который рассматривается как синоним *P. flavescens* (Zucc.) Juz. [2,3].

Латентный период. Плоды *P. multifida* и *P. aggr. patens* начинают созревать в первой декаде июня. Семенная продуктивность – 100-140 орешков на плод. На растении, находящемся в средневозрастном генеративном состоянии, образуется 450–600 орешков.

Виргинильный период. Проростки (р). Всхожесть семян высокая до 50-60%. Грунтовая всхожесть высокая, около 50%, лабораторная – 85%. В состоянии проростков формируется розеточный побег из 3-4 листочков разной сложности.

В ювенильном состоянии (j) формируется розеточный побег из 4-5(6) листьев. Листья трехраздельные, рассеченные на крупные доли, которые в свою очередь надрезаны на зубцы. Корневая система представлена стержневым корнем и многочисленными корнями второго порядка. В этом возрастном состоянии обособления черешка центральной доли как видоспецифического признака не происходит. В этом состоянии растения первого года зимуют.

У иматурных особей (im), так же как и у *P. uralensis* происходит формирование удлиненного корневища. Листовые пластинки трехраздельные с глубоко рассеченными долями, их размеры, в 1,5 раза меньше, чем у последующих возрастных состояний. Из почек возобновления, находящихся в пазухе нижних настоящих листьев образуется 1-3 розеточных побегов. Календарный возраст иматурного растения 1–2 года.

В виргинильном состоянии (v) происходит нарастание количества почек возобновления и розеточных модулей, формирование мощного корневища с многочисленными почками возобновления. Листья приобретают видоспецифичность: увеличивается количество зубцов, доли листьев становятся узкими, у среднего листочка развивается разной длины черешочек.

К молодым генеративным особям (g₁) относятся растения с 1-3 цветоносами и 1-3 розеточными побегами. В отличие от *P. uralensis* в этом возрасте корневище цельное, неразветвленное. В среднем генеративном состоянии (g₂) корневище образует многоглавый каудекс с многочисленными розеточными побегами. В старом возрастном состоянии (g₃) уменьшается количество розеточных побегов, образующиеся цветоносы остаются недоразвитыми и не приступают к цветению. Листья рассечены на очень узкие доли с большим количеством зубцов, при этом длина черешочка у центральной доли становится минимальным.

У субсенильных особей (s) происходит мацерация корневищ на большую глубину с образованием вегетативных розеток на отдельных парцеллах и представлены системой отмирающих корневищ, с одиночными вегетативными розетками. Листовые пластинки сохраняют видовую специфичность.

Изучено 5 ценопопуляций *P. multifida* и *P. aggr. patens*, расположенных в Акмолинской и Павлодарской областях. Ценопопуляции *P. multifida* и *P. aggr. patens* приурочены к каменистым местообитаниям, некоторым исключением является ЦП-1 (поляна между скалами), где *P. multifida* встречается на суходольном лугу среди степных кустарников.

Изучение систематического и популяционного состава видов рода *Pulsatilla* показало, что здесь имеется несколько трудно различимых рас и гибридов, которые можно условно отнести к *P. aggr. patens*. Необходимо отметить, что все изученные популяции, как правило, полночленные, плотность видов достаточно высокая, что обеспечивает нормальное существование вида в природных условиях. Более того, популяции *P. aggr. patens*, расположенные возле с. Акылбай, несмотря на имеющуюся антропогенную нагрузку, имеют популяции инвазионного характера.

В Красную Книгу Казахстана (2014) в качестве редких растений включены *Pulsatilla patens* (L.) Mill. (II категория. Редкий вид) и *P. flavescens* (Zuccar.) Jus. (III категория. Сокращающийся вид) [16]. Наличие

«чистого» *P. patens* на территории исследований нами не подтверждено. С другой стороны, изменилась номенклатура *P. flavescens*, это название оказалось поздним ононимом и не может быть использовано [17]. Для обозначения желтоцветковых прострелов принято название *P. uralensis* (Zam.) Tzvel. В связи с вышеизложенным мы считаем, что следует провести дополнительные флористические исследования по определению более точной локализации *P. patens* на территории Казахстана, исключением *P. flavescens* из списка редких растений Казахстана, а также включением *P. uralensis* в Красную Книгу Казахстана.

Ключевые слова: *Pulsatilla multifida* Mill., ценопопуляция, Северный Казахстан, возрастные состояния, возрастная структура.

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THE CURRENT STATE OF THE EUROPEAN DARK BEE SUBSPECIES *Apis mellifera mellifera* L. IN THE NORTH RANGE OF THE RUSSIAN FEDERATION

Abstract. The research to determine the factors with a negative impact on the resource status of honey bees in the Russian Federation has been done.

Based on the research results, a simple and affordable rapid test for determining the origin of bees was proposed, based on the study of a complex of morphological and biological characteristics of working bees, such as proboscis length, cubital index, discoid displacement, the shape of the rear border of the wax plate of sternite 5, body color, the character of the honey seal, behavior of bees during the examination of the nest and phototaxis. The test is suitable for detecting bee crossbreeding during their mass selection since the listed morphological and biological traits are the most contrasting and indicative among others.

The indicated morphological and biological characteristics of bees from the Yaroslavl, Vologda, Kostroma regions, Perm Territory were studied.

In the Susaninsky district of the Kostroma region, the bee colonies were identified that correspond to the European dark bees *Apis mellifera mellifera* L. according to the studied traits. From them, breeding material was taken and evaluated for further breeding and the creation of a nursery reproducer.

In conclusion, a landmark is given, a promising direction of work is indicated for the conservation and restoration of the resources of the European dark bees in the current conditions of mass unsystematic crossbreeding in the north of their historical range.

Key words: *Apis mellifera mellifera* L. European dark bees, breeding material selection, morphological and biological traits.

Introduction. Beekeeping in the Russian Federation has transformed from business to a full-fledged agricultural sector. Beekeeping is one of the most important agricultural methods for growing entomophilous cultures [1]. Stocks of nectar in Russia are such that with efficient beekeeping, honey can become a national wealth.

The research by A.I. Skvortsov., V.G. Semenov., V.N. Sattarov., D.A. Baimukanov, D.A. Doshanov, et al. "It has been proved that favorable prerequisites for the development of bee colonies and high honey flow are created when the apiary is surrounded by melliferous lands landscapes: forests, meadows, gardens, fields, and windbreaks with the biodiversity of nectar-bearing flora, i.e. continuous honey flow appears or a flower-nectar conveyor is created... Correctly compiled data of long-term phenological records and a flowering calendar of entomophilous plants guarantee for beekeepers the ability to more

intelligently coordinate their activities in the management of beekeeping and improve honey flow by including newly introduced plants in the flower conveyor that more fill the non-harvesting periods. With confidence, we can hope that, based on an analysis of regular long-term phenological records, each beekeeper can predict honey flow and make an adjustment to the technology of keeping and caring for bee colonies [1].

Honey bees occupy their place in the ecological niche, play an important role, performing specific functions in biocenoses [2-4]. At the same time, the natural balance does not change in any way as it is disturbed during deforestation, overfishing, and gaming animals. On the contrary, bees contribute to increasing yields and improving the quality of seeds and fruits of wild plants, which are food, and, therefore, one of the main conditions for the existence of many animal species [5].

Currently, in the Russian Federation, many geographical forms of honey bees formed during evolution have been crossbred, including European dark bees (*Apis mellifera mellifera* L. 1758), which are very difficult to find preserved. Crossbred bees do not have great economic and, especially, breeding values [6,7].

All geographical species of honey bees must be preserved. Each of them is unique, inimitable, and of exceptional importance as an economic entity, as a link in the ecological chain and as a gene pool in the conservation of biodiversity.

The aim of the research. Analysis of modern honey bees in the regions of Russia by their origin, identification of the European dark bees *Apis mellifera mellifera* L., selection and evaluation of breeding material for further breeding and selection.

The research methods. During expedition trips to Russian regions to find the European dark bees, the apiaries were examined in the Lyubimsky, Poshekhonsky and Nekrasovsky districts of the Yaroslavl region, in the Velikoustyugsky and Totemsky districts of the Vologda region, in the Susaninsky district of the Kostroma region, in the Krasnovishersky district of the Perm Territory.

During the work, the methodology for assessing the classes of honey bee morphotypes according to F. Ruttner was used [7]. The identification was carried out visually using a hand lens; for photo documentation, a Macro lens for LG Ray smartphone was used.

To determine the breed, 30 working bees were taken from the nest of each studied colony.

Samples were examined according to the "Guidelines for the control of purebred honey bees, the determination of pollen productivity and wax content in propolis" [8].

The queen thoroughbredness was evaluated by the quality of their offspring, i.e. by the quality of their daughters - the working bees. Using the proposed rapid test we studied the morphological characteristics of working individuals with temporary glycerin preparations: proboscis length, cubital index, discoidal displacement, the shape of the posterior border of the wax plate of sternite 5. Biological traits: body color of working bees, the nature of the honey seal, the behavior of the bees when examining the nest, phototaxis. The listed morphological characteristics are the most contrasting and indicative among others.

The measurement was conducted using an MBS-9 binocular microscope.

The bee queen was excreted by the Pratt-Doolittle method in queen fewer families-nurseries. Statistical processing of the data obtained during the research was performed with the Statistica 8.0 software package.

The research results. In the course of evolution, a rich variety of geographical forms of honey bees has been formed, each of them is distinguished by its characteristic properties, represents breeding and economic value [9-11].

Bees adapted for the specific conditions of existence and are differentiated into subspecies, which are now often called primitive or native breeds.

Unlike domestic animals, natural selection in honey bees is aimed at improving those traits that are beneficial not only to the bee colony, but also to humans: intensive development, high honey and wax productivity, winter hardiness, disease resistance, etc. Therefore, the concepts of "primitiveness" and "indigenouness" concerning honey bees are hardly applicable. We believe that following the modern taxonomy adopted in zoology, these are geographic subspecies.

In Russian beekeeping, these subspecies traditionally continue to be called breeds. However, for several reasons, most of them were crossbred. In particular, it is very difficult to find the clean, The

European dark bees *Apis mellifera mellifera* L. [11,12]. European dark bees are characterized by high fecundity of queens, good winter hardiness, intensive spring development, resistance to many diseases, effective use of short plentiful northern honey flow, etc. Crossbred bees do not have great economic and, especially, breeding values [13].

Mass unsystematic crossbreeding of honey bees in the USSR, and then in the Russian Federation, was served by several reasons.

Firstly, beekeepers learned to move bee colonies over long distances without causing significant damage to them. Often this has been done and continues to be done unfoundedly.

Secondly, the low level of competence of beekeepers in matters of selection and breeding could become an important reason.

As an example, we cite factual evidence on the distribution of Carpathian laying queens from the Bekansky bee collective farm of the North Ossetian ASSR. Only in 1974, it was delivered: to the Lipetsk region - 1750 queens, to Kirov - 820 queens, to Smolensk - 1200 queens, to Tula - 1740 queens, to Leningrad - 810 queens, to Moscow - 920 queens, to Yaroslavl - 200 queens, to the Bashkir ASSR - 200 queens, to the Tatar ASSR - 155 queens and many other regions and republics of the former USSR [14].

The delivery of southern, in particular, gray mountain Caucasian bees (*Apis mellifera caucasica* L.) into the central and northern regions of the USSR and the Russian Federation had a very deleterious influence on the resources of the European dark bees.

Currently, in Russia, there is a demand for Carpathian bees, but they are practically not supplied from Ukraine. Therefore, Caucasian beekeepers switched to their breeding and massively supply bee packages and laying queens to different regions of Russia.

It should be noted that the reproduction of the Carpathian bees in the North Caucasus occurs in the natural habitat of Caucasian honey bees. Therefore, breeding material that comes from the North Caucasus region is often crossbred [15].

Recently, bee packages from Uzbekistan have been massively imported to Russia. Sellers declare them as *Apis mellifera carnica* L., which also raises reasonable doubts.

In such a way, bees declared by the suppliers as Carpathian (*Apis mellifera carpatica* L.), but being complex interbreeds, continue to be imported into the central and northern regions of Russia.

As a result of many years of massive importation of complex crossbreeds and the ongoing uncontrolled crossbreeding, there has been a decrease in the economic and biological value of bees in a significant part of Russia.

Therefore, for successful breeding of the European dark bees in the central and northern parts of the Russian Federation, it is important to be able to distinguish them, first of all, from the Carpathian ones. Moreover, to start and conduct large-scale breeding work, it is necessary to equip beekeepers practitioners with a simple, affordable, and operational method (rapid test) to establish these differences.

It is also necessary to clearly understand the main criteria by which it is possible to determine the thoroughbredness of the European dark bees. DNA research for the vast majority of beekeepers, both scientists, and practitioners is not available due to its high cost, complexity, and often imperfections in the procedure.

Based on the scientific and theoretical foundations of the morphology of honey bees, they proposed an express method for establishing differences between the European dark and the Carpathian bees. It is based on the use of the four most contrasting and stable morphological traits of working individuals, such as the proboscis length, cubital index, discoid displacement, the shape of the rear border of the wax plate of sternite 5 and four biological features, such as the body color of working bees, the nature of the honey seal, the behavior of the bees upon the nest inspection, phototaxis.

In these two subspecies of honey bees, the listed morphological and biological characters are contrasting and therefore easily distinguishable (table 1).

Biological traits. Body color: European dark bees - dark, almost black without yellowness, Carpathian bees - silver-gray without yellowness; the nature of the honey seal: in European dark bees and Carpathian bees - white, in Caucasian bees - dark; behavior on honeycombs: European dark bees - worry, run around the honeycombs, hanging from them in grapes, Carpathian - behave calmly; phototaxis: in European dark bees - negative (go to the unlit side of the honeycomb), in Carpathian bees - positive (do not respond to light).

Table 1 – The most contrasting traits of working bees for the rapid test when establishing differences between subspecies *Apis mellifera mellifera* L. and *Apis mellifera carpatica* L. (Morphological traits are given according to Gubin V.A., Cherevko Yu.A., 1988)

Morphological traits		
Trait	European dark bees (<i>Apis mellifera mellifera</i> L.)	Carpathian bees (<i>Apis mellifera carpatica</i> L.)
Proboscis length, mm	5.7 – 6.4 M=6.2	6.3 – 7.0 M=6.6
Cubital index	1.6	2.5
Discoid displacement	negative	positive
The shape of the rear border of the wax plate of sternite 5	straight	curved

An analysis of the breeding composition of honey bees in the Yaroslavl region revealed that the bees of all the studied bee colonies were characterized by great morphological diversity. That is, in the 80s of the twentieth century, there were almost no European dark bees left. There was only the probability of finding their individual colonies in remote forest areas in small apiaries [5]. It has been established that after three decades, at the present stage, a similar picture is observed with the species composition of honey bees in the Yaroslavl region. We examined bees in separate apiaries in the Lyubimsky, Poshekhonsky, and Nekrasovsky districts.

The results of the study of the morphological traits of working bees in the Lyubimsky district (the village of Palagino, the village of Pokrov) are shown in table 2.

Table 2 – Morphological traits of bees from the apiary of the Lyubimsky district, (n = 30) (there are 156 bee colonies on the apiary)

No	Proboscis length, mm			Cubital index			The shape of the rear border of the wax plate of sternite 5, %			Discoid displacement, %		
	lim	M±m	Cv,%	lim	M±m	Cv,%	straight	curved	indefinite	+	–	0
1	5.5-6.2	5.9±0.021	2.79	1.4-2.2	1.76±0.046	15.27	75	25	–	–	90	10
2	5.4-6.3	5.9±0.024	2.0	1.6-2.5	1.90±0.041	12.40	97	3	–	16	58	26
3	5.7-6.3	6.0±0.022	2.14	1.5-2.5	2.06±0.052	18.16	80	20	–	15	60	25
4	5.8-6.2	5.9±0.029	2.32	1.4-2.7	1.94±0.034	13.20	96.7	3.3	–	24	46	30
5	5.7-6.3	6.0±0.015	2.29	1.4-2.3	1.90±0.042	17.23	71.5	28.5	–	14	36	50
6	5.6-6.3	6.1±0.027	2.31	1.4-3.1	2.00±0.036	12.18	75	25	–	35	45	20
7	5.7-6.2	6.0±0.018	2.12	1.4-2.3	1.90±0.032	15.30	100	–	–	–	87	13
8	5.8-6.3	5.9±0.027	2.13	1.3-2.8	1.90±0.045	14.50	93	7	–	6	74	20
9	5.3-6.2	6.0±0.022	2.27	1.3-2.7	1.80±0.051	13.67	95	5	–	40	20	40
10	5.7-6.2	5.9±0.024	2.32	1.4-2.4	1.80±0.045	15.42	97	3	–	6	58	36
11	5.8-6.2	6.0±0.026	2.29	1.7-2.6	1.90±0.037	12.89	80	20	–	30	45	25
12	5.9-6.2	5.9±0.023	2.31	1.5-2.5	1.90±0.038	15.70	94	6	–	4	72	17

From the data of table 2, it can be seen that in this apiary, the average value of the proboscis length varied between colonies within 5.9 - 6.1 mm, which corresponds to the value of this indicator of the European dark bees.

The average value of the cubital index ranged between 1.76 - 2.06 between colonies. In the vast majority of bee colonies, the value of this indicator occupied an intermediate position between the European dark and Carpathian bees.

According to the trait of discoidal displacement, they were characterized by the following indicators: a positive displacement was observed in colonies in 0–40% of cases, neutral in 10–50% of cases, negative in 20–90% of cases, i.e. on this basis, they gravitated towards the European dark bees.

By the shape of the rear border of the wax plate of the fifth sternite, the bees of this apiary were approximating to the European dark ones. This indicator had the following values for colonies: the straight shape was noted in 71.5 - 100% of cases, the curved - in 0 - 28.5% of cases, the indefinite one did not occur.

Biological traits: yellowness in the color of tergites of the working bees were present in 78% of colonies. A dark honey seal was found only in 4 colonies, which amounted to 2.6%, in 9 families, there was a mixed seal, which amounted to 5.8%, and 91.6% of colonies had a dry honey seal. Bees of almost all colonies were worried when examining the nest. At the same time, they ran around the honeycombs and “flowed” from them, hanging in grapes and going to the unlit side of the honeycomb.

Thus, the investigated bees of the Lyubimsky district could not be characterized as the European dark by morphological characteristics, although they were inclined towards them according to some indicators.

The studied bees of the Nekrasovsky district cannot be unambiguously attributed to any subspecies by the studied traits, although there is a tendency to deviate them towards the Carpathian bees.

According to the studied morphological traits, the bees of the Poshekhonsky district cannot be attributed to any subspecies, they are crossbreeds of supposedly the European dark and the Carpathian bees.

The research results of bees in the Krasnovishersky district of Perm Territory, Veliky Ustyugsky, and Totemsky districts of the Vologda region also do not allow us to unambiguously attribute them to the European dark ones.

The obtained data may indicate that the bees of all the examined apiaries are complex crossbreeds of unknown generations whose origin is not possible to establish. Breeding work with such material is not effective.

Of the 18 examined bee colonies of the Susaninsky district of the Kostroma region, seven were selected that according to morphological and biological characteristics corresponded to the European dark bees (table 3).

Table 3 – Morphological traits of the bees from Susaninsky district of Kostroma region, (n = 30)

No.	Proboscis length, mm			Cubital index			The shape of the rear border of the wax plate of sternite 5, %			Discoid displacement, %		
	lim	M±m	Cv,%	lim	M±m	Cv,%	straight	curved	indefinite	+	-	0
1	5.5–6.2	5.90±0.038	3.56	1.5–2.3	1.70±0.182	11.76	93	–	7	–	95	5
2	5.5–6.2	5.90±0.029	2.71	1.4–2.2	1.66±0.049	15.34	91	–	9	–	94	6
3	5.7–6.1	5.97±0.024	2.18	1.5–2.5	1.59±0.042	12.78	95	–	5	–	98	2
4	5.7–6.1	5.90±0.026	2.37	1.2–2.2	1.68±0.051	16.47	96	–	4	–	94	6
5	5.6–6.2	5.90±0.029	2.71	1.4–2.3	1.55±0.040	11.58	92	–	8	–	93	7
6	5.9–6.2	6.10±0.020	1.80	1.4–2.3	1.62±0.046	13.89	90	–	10	–	92	8
7	5.9–6.2	6.01±0.022	2.00	1.4–2.7	1.53±0.047	15.29	97	–	3	–	99	1

The data in table 3 show that the average proboscis length varies between colonies from 5.9 to 6.1 mm, which corresponds to the European dark bees. Moreover, this symptom is quite stable, the values of the coefficient of variation for colonies are not high, lie in the range of 1.80-3.56%.

The average values of the cubital index vary between 1.53-1.70, which also corresponds to the value of this trait of the European dark bees. The values of the coefficient of variation of this trait by colony are in the range of 11.58-16.47%.

A positive value of the indicator of discoidal displacement, peculiar to the Carpathian bees, was not found. At the same time, negative discoidal displacement varies between colonies in the range from 92.0% to 99.0% of cases, which corresponds to the European dark bees.

The straight shape of the rear border of the wax plate of the 5th sternite, peculiar to the European dark bees, occurs in 91.0-97.0% of cases. The curved shape of this trait, peculiar to the Carpathian bees, is not noted.

About the studied biological traits, it should be noted that the honey seal on these seven bee colonies is white, the yellowness was absent in the body color of the working bees. When examining the nest, the

bees behaved very aggressively, were worried, “flowed” from the honeycombs, hanging in grapes, tried to leave on the unlit side of the honeycomb.

As a result, according to the studied morphological and biological traits, the bees of seven selected colonies from the Susaninsky district of the Kostroma region corresponded to the European dark bees *Apis mellifera mellifera* L. We began to use their queens as a source of breeding material for further breeding in an experimental apiary and creating a bee nursery-reproducer.

Conclusions. One of the main reasons for the decrease in the economic and biological value of bees in the great part of Russia was their massive uncontrolled crossbreeding. It turned out to be especially harmful in the northern regions of Russia - the historical range of the European dark bees.

In the course of the research, a remarkably high degree of crossbreeding of modern honey bees has been revealed. The studied bees of the Yaroslavl, Vologda regions, and Perm Territory cannot be unambiguously attributed to any subspecies, although some of them have a certain tendency of excursion of some of the studied traits towards the European dark or Carpathian bees. The obtained data indicate that the bees of all the examined apiaries are complex crossbreeds of unknown generations whose origin is not possible to establish.

The proposed complex of morphological and biological traits of the working bees, such as the proboscis length, cubital index, discoidal displacement, the shape of the rear border of the wax plate of sternite 5, the body color of the working bees, the nature of the honey seal, the behavior of bees when nest examining, phototaxis can be a simple and convincing rapid test to establish the bees' crossbreeding during their mass selection.

According to the studied morphological and biological characters, the bees of seven selected colonies from the Susaninsky district of the Kostroma region corresponded to the European dark *Apis mellifera mellifera* L. We started to use their queens as a source of breeding material for further breeding in the experimental apiary and creating the bee nursery-reproducer.

In such a situation of mass unsystematic crossbreeding, it seems appropriate and possible for us to intensively breed thoroughbred European dark bees and create solid arrays of them in vast territories of the northern part of the historical range of the Russian Federation.

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РЕСЕЙ ФЕДЕРАЦИЯСЫНЫҢ СОЛТҮСТІК АЙМАҒЫНДАҒЫ *Apis mellifera mellifera* L. ЕУРОПАЛЫҚ ҚАРА АРАНЫҢ КІШІ ТҮРЛЕРІНІҢ ҚАЗІРГІ ЖАҒДАЙЫ

Аннотация. Зерттеудің мақсаты – Ресей аймақтарындағы заманауи бал араларын олардың шығу тегіне қарай талдау, *Apis mellifera mellifera* L. еуропалық қара араны анықтау, одан әрі өсіру және іріктеу үшін асыл тұқымды материалды іріктеу және бағалау.

Аналықтың асыл тұқымдылығы ұрпақтарының сапасы бойынша, яғни аналығының – жұмысшы аралардың сапасы негізінде бағаланды. Біз ұсынған экспресс-тесттің көмегімен уақытша глицерин препараттарында жұмыс істейтін ағзалардың келесі морфологиялық белгілері зерттелді: бізтұмсық ұзындығы, кубитальды индекс, дискоидальды ығысу, бесінші құрсақ қалқаншаның балауыз айнасының артқы шекарасының пішіні. Биологиялық белгілері: жұмысшы аралардың денесінің түсі, бал кесегінің табиғаты, ұяны қарау кезіндегі аралардың мінез-құлқы, фототаксис. Аталған морфологиялық белгілер басқа белгілермен салыстырғанда айқын және үлгілі болып саналады. Өлшеу МБС-9 бинокулярлық микроскоп арқылы жүргізілді. Аналықтар жатырсыз тұқымдас-тәрбиешілерде Пратта-Дулитль әдісімен өсірілді. Зерттеу барысында алынған деректердің статистикалық өңделу жағдайы Statistica 8.0 бағдарламалық пакетінде сақталып отырды.

Жұмысшы аралардың морфологиялық белгілерін зерттеу нәтижелері бізтұмсықтың орташа ұзындығы тұқымдастар арасында 5,9-6,1 мм аралығында өзгергенін көрсетті, бұл еуропалық қара ара көрсеткішінің

мәніне сәйкес келеді. Кубитал индексінің орташа мәні тұқымдастарда 1,76-2,06 аралығында көрінді. Ара ұясының көпшілігінде бұл көрсеткіш мәні еуропалық кара және карпат аралары арасындағы орынды иеленді. Дискоидальды ығысудың белгісі бойынша аралар келесі көрсеткіш бойынша сипатталды: 0-40% жағдайда тұқымдастар арасындағы оңтайлы ығысу байқалды, 10-50% жағдайда бейтарап, 20-90% жағдайда теріс, яғни осы белгілері бойынша олар еуропалық кара түріне қарай тартыла бастады.

Бесінші құрсақ қалқаншаның балауыз айнасының артқы шекарасы пішіні бойынша омартаның арасы еуропалық кара түрге жақындай түсті. Бұл көрсеткіш олардың тұқымы бойынша келесі мәнге ие болды: тікелей форма 71,5-100% жағдайда, қисық форма – 0-28,5% жағдайда, ал белгісіз форма кездеспеді.

Биологиялық белгілері: жұмысшы ара термитінде сарғыш түс тұқымның 78%-да кездесті. Балдың кара кесегі тек 4 тұқымында табылды, сәйкесінше 2,6% құрады, 9 тұқымында аралас кесек анықталды, бұл 5,8% құрады, тұқымның 91,6%-ында балдың құрғақ кесегі бар болып шықты. Ұяны тексеру кезінде тұқым аралары бірқалыпты жағдайда болмады. Ұяның қараңғы жағына қарай ұша берді. Осылайша Любимский ауданында зерттелген аралардың кейбір көрсеткіштері бойынша бейім келсе де, морфологиялық белгілері бойынша кара түсті еуропалық деп сипаттауға болмайды.

Алынған мәліметтер барлық зерттелген омарталардың арасы белгісіз тұқымның күрделі буданы екендігін көрсетті, сол себептен олардың шығу тегін анықтау мүмкін емес. Мұндай материалмен тұқымдық жұмыстарды жүргізу де тиімсіз.

Ресей аумағының едәуір бөлігіндегі араның экономикалық және биологиялық құндылығының төмендеуінің негізгі себебінің бірі – олардың жаппай бақылаусыз будандастырылуы. Әсіресе, еуропалық кара араның тарихи аймағы – Ресейдің солтүстігінде зиынды болды. Жаппай жүйесіз будандастырудың мұндай жағдайында асылтұқымды еуропалық кара араны қарқынды өсіріп, Ресей Федерациясының тарихи солтүстік аймақтарында араның үздіксіз ауқымын қалыптастырған жөн деп санаймыз.

Түйін сөздер: *Apis mellifera mellifera* L. еуропалық кара түсті ара, асылтұқымды материал таңдау, морфологиялық және биологиялық белгілер.

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СОВРЕМЕННОЕ СОСТОЯНИЕ ПОДВИДА ТЕМНЫХ ЕВРОПЕЙСКИХ ПЧЕЛ *Apis mellifera mellifera* L. НА СЕВЕРЕ ИХ АРЕАЛА В РОССИЙСКОЙ ФЕДЕРАЦИИ

Аннотация. Цель исследований – анализ современных медоносных пчел в регионах России по их происхождению, выявление темных европейских пчел *Apis mellifera mellifera* L., отбор и оценка племенного материала для дальнейшего разведения и селекции.

Чистопородность маток оценивали по качеству их потомства, т.е. по качеству их дочерей – рабочих пчел. С помощью предложенного нами экспресс-теста изучались морфологические признаки рабочих особей на временных глицериновых препаратах: длина хоботка, кубитальный индекс, дискоидальное смещение, форма задней границы воскового зеркала пятого стернита. Биологические признаки: окраска тела рабочих пчел, характер печатки меда, поведение пчел при осмотре гнезда, фототаксис. Перечисленные морфологические признаки наиболее контрастны и показательны среди прочих. Измерение проводили с помощью бинокулярного микроскопа МБС-9. Матки выводились способом Пратта-Дулитля в безматочных семьях-воспитательницах. Статистическая обработка полученных в ходе исследований данных – в программном пакете Statistica 8.0.

Результаты изучения морфологических признаков рабочих пчел показали, что среднее значение длины хоботка варьировало по семьям в пределах 5,9 - 6,1 мм, что соответствует значению этого показателя темных европейских пчел. По признаку дискоидального смещения пчелы характеризовались следующими показателями: положительное смещение наблюдалось по семьям в 0 - 40% случаев, нейтральное - в 10 - 50% случаев, отрицательное - в 20 - 90% случаев, т.е. по данному признаку они тяготели к темным европейским.

По форме задней границы воскового зеркала пятого стернита пчелы этой пасаки приближались к темным европейским. Этот показатель у них имел по семьям следующие значения: прямая форма отмечалась в 71,5 - 100% случаев, выгнутая - в 0 - 28,5% случаев, неопределенная – не встречалась.

Биологические признаки: желтизна в окраске тергитов рабочих пчёл присутствовала в 78% семей. Темная печатка меда была обнаружена лишь в 4-х семьях, что составило 2,6%, в 9-ти семьях была смешанная печатка, что составило 5,8%, у 91,6% семей была сухая печатка меда. Пчелы практически всех семей беспокоились при осмотре гнезда. Они при этом бегали по сотам и «стекали» с них, повисая гроздьями и уходя на неосвещенную сторону сота. Таким образом, исследованные пчелы Любимского района по морфологическим признакам не могли быть характеризованы как темные европейские, хотя по некоторым показателям склонялись к ним.

Полученные данные могут говорить о том, что пчелы всех обследованных пасек представляют собой сложные помеси неизвестных поколений, происхождение которых установить не представляется возможным. Вести племенную работу с таким материалом неэффективно.

Одной из основных причин снижения хозяйственной и биологической ценности пчел на значительной части территории России послужила их массовая неконтролируемая метизация. Особенно пагубной она оказалась в северных регионах России – историческом ареале темных европейских пчел. В такой ситуации массовой бессистемной метизации нам представляется целесообразным и возможным интенсивное разведение чистопородных темных европейских пчел и создание сплошных их массивов на обширных территориях северной части исторического ареала РФ.

Ключевые слова: темные европейские пчелы *Apis mellifera mellifera* L., отбор племенного материала, морфологические и биологические признаки.

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A RETROSPECTIVE ANALYSIS OF THE PREVALENCE OF ECHINOCOCCOSIS IN THE REPUBLIC OF KAZAKHSTAN

Abstract. Echinococcosis is a zoonotic helminthiasis of humans and animals caused by *Echinococcus granulosus* tapeworm. Echinococcosis is often expensive and complicated to treat and may require extensive surgery or prolonged drug therapy. In addition, echinococcosis causes serious annual livestock production losses. More than 1 million people are affected with echinococcosis at any one time. Kazakhstan is one of the countries with adverse epidemiological situation for echinococcosis. The aim of the study is a retrospective investigation of changes in the incidence of cystic echinococcosis in the Republic of Kazakhstan. Scientific articles on prevalence and data from scientific reports were analyzed. Current situation has changed and remains complicated. Echinococcosis is present in all regions of the country; however, the most endemic area is the south of Kazakhstan, which is a large livestock husbandry center. The highest rates are observed in South Kazakhstan (Turkestan), Zhambyl, Almaty regions. The least prevalence of echinococcosis is in Pavlodar, Kostanai region and Nur-Sultan city. In general, from 1984 to 2016 the incidence rate in the country has grown by more than 5 times. Since 2007, there has been a gradual decrease in the number of newly registered cases. However, in endemic areas of the south, rates remain high. Existing accounting systems for patients with echinococcosis and statistical data cannot fully reflect the real number of people infected with echinococcosis, since only surgical cases are taken into account. Monitoring of the natural foci of Echinococcosis required for taking coordinated actions to combat disease. Cooperation between medical and veterinary specialists is necessary in order to get a full extent of the situation with zoonotic helminthiasis.

Key words: Zoonotic helminthiasis, echinococcosis, monitoring, natural foci, parasite, carrier, main host, intermediate host, epizootic chain, epidemic situation.

Introduction. The reason for the research is a difficult epizootic situation on natural focal zoonotic helminthiasis in Kazakhstan, in particular on echinococcosis, and the need for modern methods of analysis natural foci of helminthiasis using information and communication technologies in accordance with the recommendations of international organizations (OIE, FAO, WHO) [1].

Zoonotic helminthiasis are common diseases for humans and animals that are caused by the imaginal and larval stages of helminths: echinococcosis, opisthorchiasis, teniosis, teniarinhosis, diphyllbothriasis, dipylidiosis, cysticercosis, cenurosis, alveococcosis, trichinosis. The republic has a challenging epizootic-epidemiological situation regarding zoonotic helminthiasis. Over 15 years, 3794 cases of human echinococcosis have been registered, of which 78.8% are in the south, up to 11.3% of people have cerebral echinococcosis [2-4].

Due to the epidemiological situation in the country, parasitoses creates a threat for healthy lifestyle of the population. In 2011, 20,489 cases of parasitoses were recorded, the incidence rate was 124.2 per 100 thousand people [5].

According to WHO, one in four (more than 1.4 billion people) of world's population is infected with parasites each year. Nematodoses are the most common: ascariasis affects 1 billion people, ankylostomatosis - 900 million, trichocephalosis - 600 million, enterobiosis - 350 million, strongyloidosis - 90 million, filariasis - 80 million [6].

On OIE classification Echinococcosis is listed among the most distributed diseases and in many countries is included in national programs to eliminate of diseases [7]. The annual cost of treatment of patients and losses in livestock farming is estimated at \$ 3 billion [8]. Kazakhstan is endemic on echinococcosis [9].

In Kazakhstan, helminthiases have their own epizootological features, due to specific climatic and socio-economic conditions [10]. Almost the entire territory is favorable for the mass distribution of helminths, including those confined to natural foci. On the south part of the country lots of natural foci of parasitic diseases exist [11]. Natural focal diseases are diseases associated with a complex of natural conditions. They exist in certain biogeocenoses independently of humans, and trophic connections are important for their maintenance. Echinococcosis is a parasitic disease caused by tapeworm larvae *Echinococcus granulosus*. The final hosts are carnivores - dogs, wolves, foxes, etc., in the small intestine of which the sexually mature form of the helminth *Echinococcus granulosus* parasitizes. Ruminants, especially sheep, are intermediate hosts and play a crucial role in the epidemiology and spread of cystic echinococcosis [12]. For this reason, echinococcosis is most distributed in regions with developed rural livestock husbandry. Human acts as an accidental host. In intermediate hosts, the parasite develops in the larval stage, mainly forming cysts in the liver.

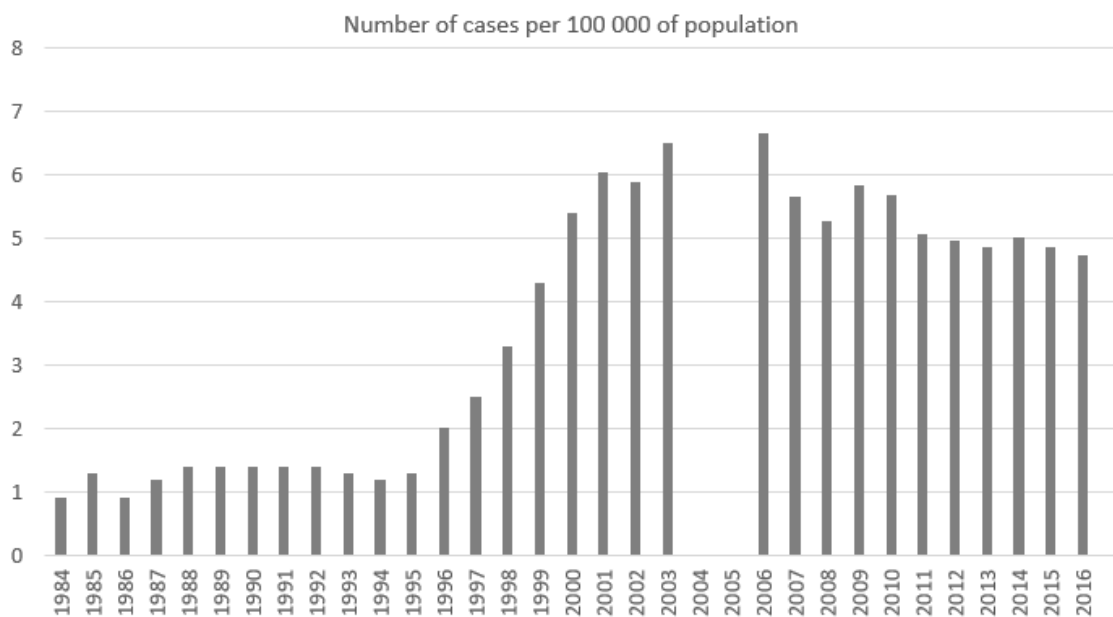
There are examples of successful control programs in some countries. In Iceland, New Zealand, Tasmania, Falkland Islands, and Cyprus cystic echinococcosis was eliminated [13]. Today, Kazakhstan is one of the countries endemic for echinococcosis. The aim of this study is a retrospective study of changes in the incidence of cystic echinococcosis in the Republic of Kazakhstan.

Materials and methods. The incidence of zoonotic helminthiasis among the population was monitored on the basis of statistics from the Parasitology Department of the State Scientific-Practical Center “Sanitary Epidemiological Expertise and Monitoring SPC” of the Ministry of Health of the Republic of Kazakhstan, Almaty for 3-4 years (2013-2016) and for 5 or 8 months of 2015 and 2016 and scientific articles for 1984-2016 (available materials).

The data of reports on research work under the project of the Ministry of Education and Science of the Republic of Kazakhstan No. 1962 / GF4-15-OT “Epizootological and epidemiological monitoring of natural focal zoonotic helminthiases in Kazakhstan and the development of comprehensive control measures using new technologies” for 2015-2017 were used.

The data of scientific reports and scientific articles on the prevalence of cystic echinococcosis in the Republic of Kazakhstan at different time periods were analyzed.

Results. The situation on parasitic diseases has changed in recent times and remains difficult. Echinococcosis is found in all regions of the country, however, the most endemic area is the south of Kazakhstan, which is the largest pasture livestock farming area. Between 1984 and 2016 the incidence rate increased by more than 5 times (figure).



Mean annual incidence rates of echinococcosis in Kazakhstan (1984-2016)

The graph 1 shows that in the period from 1984 to 1990 the annual average incidence of cystic echinococcosis ranged from 0.9 to 1.4 cases per 100,000 population. About 100-200 cases a year were reported throughout the country. Since 1996, there has been a sharp increase in the number of cases. In 2003 and 2006 the incidence rate reached its maximum, 6.4 and 6.7 per 100,000 population, respectively. It can be suggested that in 2004-2005 years the incidence rate continued to growth but there is no available data sources on this period. The average incidence of echinococcosis in Kazakhstan in 2006-2009, according to the Republican Sanitary and Epidemiological Service, was 5.1. Since 2007, there has been a general downward trend in the number of reported cases - 5.6 in 2007 and 4.7 in 2016.

A sharp increase of the incidence rate in the late 1990s was associated with a deterioration in the socio-economic conditions of the population and veterinary and sanitary surveillance due to the collapse of the USSR [14]. In part, it can be explained by the improvement of population diagnostic methods in recent years. The 30- to 39-year age-group has the highest overall incidence rate [15]. In addition, the incidence rate is higher among women because they are usually more involved in housekeeping activities with closer contact with domestic animals [16]

A comparative analysis of the incidence of echinococcosis of the population was carried out for the same period for two consecutive years: for 8 months (January-August) of 2015 and 2016. The results are presented in table 1.

Table 1 – Comparative data on the incidence of echinococcosis in Kazakhstan for 8 months (January-August) of 2015 and 2016 year*

Region	2015		2016		2016 to 2015 (+/- cases)
	absolute	per 100,000	absolute	per 100,000	
Akmola	16	2,17	15	2,03	-1
Aktobe	22	2,70	18	2,17	-4
Almaty	107	5,61	113	5,84	+6
Atyrau	10	1,74	6	1,02	-4
East Kazakhstan	22	1,58	25	1,79	+3
Zhambyl	56	5,13	67	6,06	+11
West Kazakhstan	7	1,12	14	2,21	+7
Karagandy	40	2,91	30	2,17	-10
Kostanay	9	1,02	5	0,57	-4
Kyzylorda	21	2,81	17	2,24	-4
Mangystau	7	1,17	15	2,43	+8
Pavlodar	0	0,00	2	0,26	+2
North Kazakhstan	3	0,52	9	1,58	+ 6
South Kazakhstan (Turkistan)	210	7,61	211	7,50	+1
Almaty city	24	1,48	29	1,73	+5
Nur Sultan city	1	0,12	1	0,12	0
Whole country	555	3,21	577	3,29	+2,5%

* Note: Report data on the project of the Ministry of Education and Science of the Republic of Kazakhstan No. 1962 / GF4-15-OT “Epizootological and epidemiological monitoring of natural focal zoonotic helminthiases in Kazakhstan and the development of comprehensive control measures using new technologies” for 2015-2017.

As can be seen from the table 1, in some regions there was an increase in the number of people with echinococcosis over the 8 months of 2016, compared with the same period of 2015. So, the largest increase was reported in Zhambyl region, it is + 18.2%; an increase of +8 cases was reported in the Mangystau region; an increase of +7 cases in East Kazakhstan region; +6 cases in Almaty region and North Kazakhstan region. In Karaganda region, on the contrary, was noted a decrease in the incidence rate in 2016 compared with 2015 by -10 cases. A decrease of -4 cases was noted in Aktobe, Atyrau, Kostanai, Kyzylorda regions. The most endemic region is the South Kazakhstan (now Turkistan), where for

8 months in 2016 211 cases of echinococcosis were recorded. Zhambyl oblast is on the second place in the incidence rate, where 56 cases of echinococcosis were reported in 2015, and 67 cases in 2016, i.e. there is a tendency to increase. In Almaty region there is also relatively high incidence rate of echinococcosis - in 2015/2016 107/113 cases respectively. In Almaty city in 2015/2016 there were 24/29 cases respectively. The lowest incidence of 1-2 cases was reported in Pavlodar region and in Nur-Sultan city.

From table 2 on the incidence for 5 months (January-May) of 2015 it can be seen that 65 cases of echinococcosis were diagnosed, including 42 (64.6%) among rural residents who have closer contact with dogs, which are the main carriers of echinococcosis.

14 reported cases (21.5%) were among children under 14 years age group and 5 cases (7.7%) belonged to adolescents 15-17 years old age group.

Infected children are mostly from rural contingent. 12 cases (85.7%) out of 14 infected from children age group and 3 cases (60.0% of the total number of cases) adolescents aged 15-17 years are rural residents.

Table 2 – Incidence rate of rural residents with echinococcosis for 5 months of 2015*

	Whole population					Rural population				
	total	Children under 14 years		Adolescents 15-17 years		total	Children under 14 years		Adolescents 15-17 years	
		Abs.	%	Abs..	%		Abs..	%	Abs..	%
Akmola	1	0	0,0	0	0,0	1	0	0,0	0	0,0
Almaty	1	0	0,0	0	0,0	0	0	0,0	0	0,0
Atyrau	11	2	1,8	0	0,0	9	2	22,2	0	0,0
Aktobe	1	0	0,0	0	0,0	0	0	0,0	0	0,0
East Kazakhstan	3	1	33,3	0	0,0	2	1	50,0	0	0,0
Zhambyl	6	1	16,7	1	16,7	3	1	33,3	1	33,3
West Kazakhstan	0	0	0,0	0	0,0	0	0	0,0	0	0,0
Karagandy	2	2	100,0	0	0,0	1	1	100,0	0	0,0
Kostanay	0	0	0,0	0	0,0	0	0	0,0	0	0,0
Kyzylorda	5	1	20,0	1	20,0	5	1	20,0	1	20,0
Mangystau	1	1	100,0	0	0,0	0	0	0,0	0	0,0
Pavlodar	0	0	0,0	0	0,0	0	0	0,0	0	0,0
North Kazakhstan	0	0	0,0	0	0,0	0	0	0,0	0	0,0
South Kazakhstan (Turkistan)	28	6	21,4	3	10,7	21	6	28,6	1	4,8
Almaty city	6	0	0,0	0	0,0	0	0	0,0	0	0,0
Nur Sultan city	0	0	0,0	0	0,0	0	0	0,0	0	0,0
Whole country	65	14	21,5	5	7,7	42	12	28,6	3	7,2

* Note: Report data on the project of the Ministry of Education and Science of the Republic of Kazakhstan No. 1962 / GF4-15-OT “Epizootological and epidemiological monitoring of natural focal zoonotic helminthiases in Kazakhstan and the development of comprehensive control measures using new technologies” for 2015-2017.

The most adverse on echinococcosis is the South Kazakhstan region, where 28 patients were registered, which is 43.1% of the total number of cases in the country. 50.0% of all cases from rural population are from South Kazakhstan region - 21 people out of 42 registered. Incidence rates for children are also significant: 6 (21.4%) and 3 (10.7%) of the total number of cases and 6 (28.6%) and 1 (4.8%) of the rural population. There is the evidence that in children under 14 years age group incidence rate is the highest.

Thus, an analysis of the epidemiological situation on helminthiases in recent years shows a significant incidence of zoonotic helminthiases in population, especially in regions where are located stationary natural foci of highly dangerous zoonotic helminthiases, such as echinococcosis. Therefore, a knowledge of the ways of formation of natural foci of zoonotic helminthiases, knowledge of its

components, and knowledge of the main reservoirs of helminths in nature can help in the regionalization of natural foci in the country.

An important factor influencing the epizootic situation of zoonotic helminthiases are the epidemiologically significant regions, which require constant monitoring due to the fact that worsening of the epizootological situation inside them can lead to the spread of diseases with significant consequences.

Identification of regions should be carried out taking into account nosologic units and the main mechanisms of transmission of pathogens.

Therefore, ongoing monitoring and analysis of the parasitic morbidity of the population in the context of nosologies is necessary as well as in the age aspect, to highlight people in the "risk zone" and among a different contingent of the population (children, military population, students, tourists, specialists in the field of livestock and veterinary medicine, workers, elderly, etc.)

Conclusion. Summarizing obtained data, we can conclude that a significant infection rate of the population with echinococcosis takes place in Kazakhstan. Echinococcosis is present in all regions of the country; however, the most endemic area is the south of Kazakhstan, which is a large livestock farming center. The highest rates are observed in South Kazakhstan (Turkestan), Zhambyl, Almaty regions. The least prevalence of echinococcosis is in Pavlodar, Kostanai region and in the city of Nur-Sultan. In general, from 1984 to 2016 the incidence rate in the republic has grown by more than 5 times. Since 2007, there has been a gradual decrease in the number of newly registered cases. However, in endemic areas of the south, rates remain high. A comparative analysis of the incidence of echinococcosis revealed a high incidence in all segments of the population, but especially in rural residents – 64.6% of the studied. Children under 14 years old amounted to – 21.5% and adolescents 15-17 years old – 7.7% of the number of cases. Monitoring of cystic echinococcosis is necessary, especially in the south, for coordinated disease control measures. The existing system of registration of patients with echinococcosis and statistical data do not fully reflect the real number of people infected with echinococcosis, since only surgical cases are taken into account. When monitoring parasitic diseases cooperation between specialists in the medical and veterinary sphere is necessary in order to get a full extent of the situation with zoonotic helminthiases including cystic echinococcosis.

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ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ АЙМАҒЫНДА ЭХИНОКОККОЗДЫҢ ТАРАЛУЫН РЕТРОСПЕКТИВТІ ТАЛДАУ

Аннотация. Эхинококкоз – *Echinococcus granulosus* баулы таспа құрты қоздыратын адам мен жануарлардың зоонозды гельминтозы. Нақты иесі – ит, қасқыр, түлкі және тағы басқа етқоректілердің ащы ішегінде *Echinococcus granulosus* таспа құрт жынысының жетілген (ересек) сатысы тіршілік етеді. Күйіс қайыратын жануарлар, әсіресе қойлар аралық иесі болып саналады және олар муковиналық эхинококкоздың эпидемиологиясы мен таралуында негізгі рөл атқарады. Сол себепті малшаруашылығы жақсы дамыған аймақтарда эхинококкоз кеңінен таралған. Адам кездейсоқ иесі ретінде әрекет етеді. Аралық ие ағзасында паразит көбінесе бауырда киста түзіп, ларвалды сатыға дейін дамиды.

Эхинококкозды емдеу қымбат және күрделі, көбінесе кең ауқымды хирургиялық ота жасауға немесе ұзаққа созылатын дәрілік емдек терапияны талап етеді. Бұдан да басқа, эхинококкоз жыл сайын малшаруашылығына қыруар шығын келтіреді. АҚШ-та науқастарды емдеуге және малшаруашылығындағы шығынның жыл сайынғы құны 3 миллиард долларға жеткен. Әлемде кез-келген уақытта 1 миллионнан астам адам эхинококкозға шалдығады. Қазақстан да эхинококкозбен ауыратын елдер қатарына кіреді. Зерттеудің мақсаты – Қазақстан Республикасының аймағында эхинококкоз цистасымен зақымдалу деңгейінің өзгеруін ретроспективті анықтау. Таралуы жайында ғылыми мақалаларға, сонымен қатар келтірілген ғылыми есептерге талдаулар жасалды. Қазіргі кезде елімізде паразитарлы ауру жағдайы өзгерді әрі күрделі күйінде қалып отыр. Эхинококкоз республикамыздың барлық облыстарында кездеседі, соның ішінде Оңтүстік Қазақстан өте эндемиялық аймақ болып есептеледі, өйткені малшаруашылығының ірі орталығы саналады. Ең жоғарғы

көрсеткіш Оңтүстік Қазақстанда (қазіргі Түркістан), Жамбыл, Алматы облыстарында. Эхинококкоздың ең аз таралған аймақтары – Павлодар, Қостанай облыстары және Нұр-Сұлтан қаласы.

Кейбір облыстарда эхинококкозбен ауырған адамдар саны 2015 жылмен салыстырғанда 2016 жылдың 8 айдағы көрсеткіші едеуір артқан. Сонымен, ең көп көрсеткіш Жамбыл облысында байқалды, онда +11, Маңғыстау облысында +8-ге өскенін байқауға болады; Батыс Қазақстан облысында +7, Алматы және Солтүстік Қазақстан облыстарында +6 жағдайға артқан. Ал Қарағанды облысында, керісінше 2015 жылмен салыстырғанда 2016 жылы эхинококкозбен ауырған адамдар саны 10, Ақтөбе, Атырау, Қостанай, Қызылорда облыстарында 4 жағдайға азайған. Ең қолайсыз Оңтүстік Қазақстан (қазіргі Түркістан) облысы болып отыр, 2016 жылдың 8 айында 211 эхинококкоз жағдайы тіркелді. Эхинококкоз ауруына шалдыққан адам саны бойынша Жамбыл облысы екінші орында тұр, 2015 жылы 56 эхинококкоз жағдайы тіркеліп, 2016 жылы 67 жағдайға өскен. Алматы облысында да тұрғындардың эхинококкозбен ауыру санының жоғарғы көрсеткішін байқауға болады, 2015-2016 жж. 107/113 жағдай тіркелген. Мұндай ірі мегаполисті Алматыда 2015-2016 жж. 24/29 жағдайы тіркелген. Зарарланғандардың төменгі көрсеткіші 1-2 жағдай бойынша Павлодар облысы мен Нұр-сұлтан қаласында байқалды. Адамдардың зоонозды гельминтозбен ауру жағдайына талдау жасай отырып, 2015 жылдың 5 айында (қаңтар-мамыр) республика бойынша эхинококкоз диагнозы 65 адамға қойылған, оның ішінде ауыл тұрғындарының эхинококкоздың басты таратушысы – итке жақындағандары да кездеседі, 42 адам тіркеліп, 64,6%-ға жетті. 14 жасқа дейінгі балалар арасында 14 адам тіркеліп (21,5%) және 15-17 жастағы жасөспірімдердің ішінде 5 адамнан анықталып, 7,7%-ды көрсетті. Эхинококкозбен ауырған балалардың көбісі ауылды жерден шыққан.

Жалпы 1984-2016 жылдар аралығында Республика аймағында ауру 5 есеге өскен. 2007 жылдан бастап біртіндеп тіркелген жағдай саны азайған. Алайда Оңтүстіктің эндемиялық облыстарында көрсеткіш әлі де жоғары. Эхинококкозбен ауыратын науқастарды тіркеудің қолданыстағы жүйесі және статистикалық мәліметтер эхинококкозды жұқтырған адамдардың нақты санын толық көрсетпейді, өйткені тек хирургиялық жағдайлар ғана ескеріледі. Эхинококкоздың табиғи ошағына мониторинг жасау керек, әсіресе, оңтүстік аймақтарда, ауруға қарсы күресу үшін шаралар қабылдау қажет. Паразитарлық ауруларға мониторинг жүргізу барысында зоонозды гельминтоз жағдайы туралы мәлімет алу үшін медициналық және ветеринарлық мамандар бірлесіп әрекет етуі тиіс.

Түйін сөздер: зоонозды гельминтоз, эхинококкоз, мониторинг, табиғи-ошақ, қоздырғыш, тасымалдаушы, дефинитивті (ақтық) ие, аралық ие, эпизоотиялық тізбек, эпидемиялық жағдай.

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РЕТРОСПЕКТИВНЫЙ АНАЛИЗ РАСПРОСТРАНЕННОСТИ ЭХИНОКОККОЗА НА ТЕРРИТОРИИ РЕСПУБЛИКИ КАЗАХСТАН

Аннотация. Эхинококкоз – зоонозный гельминтоз человека и животных, вызываемый ленточными червями *Echinococcus granulosus*. Окончательными хозяевами являются плотоядные – собаки, волки, лисы и др., в тонком кишечнике которых паразитирует половозрелая форма гельминта *Echinococcus granulosus*. Жвачные, в особенности овцы, являются промежуточными хозяевами и играют принципиальную роль в эпидемиологии и распространении цистного эхинококкоза. По этой причине эхинококкоз наиболее распространен в регионах с развитым сельским животноводством. Человек выступает случайным хозяином. В организме промежуточных хозяев паразит развивается в ларвальную стадию, преимущественно формируя кисты в печени.

Лечение эхинококкоза часто бывает дорогим и сложным и может требовать обширных хирургических вмешательств или длительной лекарственной терапии. Кроме того, ежегодно эхинококкоз наносит серьезный ущерб животноводству. Ежегодные затраты на лечение пациентов и убытки в животноводстве оцениваются в 3 миллиарда долларов США. На каждый конкретный момент времени в мире эхинококкозом поражено более 1 миллиона человек. Казахстан входит в число стран неблагополучных по эхинококкозу.

Целью данного исследования является ретроспективное изучение изменения уровня заболеваемости цистным эхинококкозом на территории Республики Казахстан. Были проанализированы научные статьи по распространенности, а также данные научных отчетов. Ситуация по паразитарным заболеваниям в стране в настоящее время изменилась и остается сложной.

Эхинококкоз встречается во всех областях республики, однако наиболее эндемичным регионом является юг Казахстана, который является крупным животноводческим центром. Самые высокие показатели наблюдаются в Южно-Казахстанской (ныне Туркестанской), Жамбылской, Алматинской областях. Наименее всего эхинококкоз распространен в Павлодарской, Костанайской областях и в г.Нур-Султан. За 8 месяцев 2016 г. по сравнению с таким же периодом 2015 г. в некоторых областях имело место увеличение количества заболевших эхинококкозом людей. Так, наибольший показатель увеличения отмечен в Жамбылской области, он равен +11 случаев; увеличение на +8 случаев отмечено в Мангыстауской области; увеличение на +7 случаев – в ЗКО; на +6 случаев – в Алматинской области и СКО. В Карагандинской области, наоборот отмечено уменьшение заболеваемости в 2016 г. по сравнению с 2015 г. на 10 случаев. Снижение на 4 случая отмечено в Актюбинской, Атырауской, Костанайской, Кызылординской областях. Самой неблагополучной является Южно-Казахстанская (ныне Туркестанская) область, где за 8 месяцев в 2016 г. зафиксировано 211 случаев эхинококкоза. Жамбылская область находится на втором месте по заболеваемости, где в 2015 г. отмечено 56 случаев эхинококкоза, а в 2016 г. - 67 случаев, т.е. наблюдается тенденция к увеличению. Алматинская область также отмечена довольно высоким поражением населения эхинококкозом, за 2015/2016 гг. она составила 107/113 случая. В таком крупном мегаполисе, как Алматы в 2015/2016 гг. – 24/29 случаев, соответственно. Самая низкая заболеваемость в 1-2 случаев отмечена в Павлодарской области и в г. Нур-Султан. Анализируя заболеваемость зоонозными гельминтозами за 5 месяцев (январь-май) 2015 года, установлено, что всего эхинококкоз по республике диагностирован у 65 человек, в том числе у сельских жителей, имеющих более тесный контакт с основными разносчиками эхинококкоза – собаками, заражено 42 человека, что составило 64,6%. Из числа заболевших дети до 14 лет составили 14 человек (21,5%) и подростки 15-17 лет – 5 (7,7%). Из заболевших детей основная доля также приходится на сельский контингент.

В целом, за период с 1984 по 2016 гг. заболеваемость по республике выросла более чем в 5 раз. С 2007 г. наблюдается постепенное снижение числа вновь зарегистрированных случаев. Однако в эндемичных областях юга показатели продолжают оставаться высокими. Существующая система учета больных эхинококкозом и статистические данные не вполне отражают реальное число людей, зараженных эхинококкозом, поскольку учитываются только хирургические случаи. Мониторинг за природными очагами эхинококкоза необходим, особенно на юге, для принятия скоординированных мер по борьбе с болезнью. При проведении мониторинга паразитарных болезней, для получения полной картины по ситуации с зоонозными гельминтозами необходимо совместное сотрудничество специалистов медицинской и ветеринарной сферы.

Ключевые слова: зоонозный гельминтоз, эхинококкоз, мониторинг, природный очаг, возбудитель, переносчик, дефинитивный хозяин, промежуточный хозяин, эпизоотическая цепь, эпидемическая обстановка.

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OPTIMIZATION OF CULTIVATION CONDITION OF SUBTYPE H5 FLU VIRUS

Abstract. This study looks into optimal conditions for cultivating the recombinant strains of subtype H5 influenza virus. The study results in establishing optimal conditions (inoculation dose, incubation temperature, incubation time, and chicken embryos' age) for growing the influenza virus.

This study establishes optimum conditions for cultivating the A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A and A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A subtype H5 influenza virus recombinant strains in embryonated chicken eggs.

Data on culturing influenza virus recombinant strains presented herein indicates that they can be used in developing subtype H5 highly-pathogenic avian influenza vaccines. The results of this research will serve as a basis for developing a new inactivated emulgated vaccine following the process previously used by RIBSP to design its commercial vaccine.

These optimum conditions are an infective dose of 10000 EID₅₀/0.2 cm³, an incubation temperature of 36±0.5°C, an embryo age of 10 days for cultivating the recombinant strain A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A. Using these culturing conditions allows a stable production of virus-containing materials with an infectivity level of not less than 8.45±0.24 log EID₅₀/cm³, which is fully consistent with requirements for producing inactivated vaccines for avian influenza. And optimal conditions for growing recombinant strain A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A in 10 days embryonated chicken eggs with the infective dose 100000 EID₅₀ in the incubation temperature 35°C. These optimum conditions are helping culturing a stable production of virus-containing materials with an infectivity level of not less than 8.74±0.06 log EID₅₀/cm³, which is fully consistent with requirements for producing inactivated vaccines for recombinant strain A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A.

An optimum incubation time of 48 hours, and relative air humidity of 55±5% for cultivating both recombinant strains.

Key words: influenza virus, recombinant strain, cultivation.

Introduction. The highly-pathogenic avian influenza (HPAI) is an extremely contagious pantropic disease affecting various species of poultry and wild birds that can take the form of epizootics and inflict major harm on poultry farming and trade [1]. To date, HPAI outbreaks caused by H5N1, H5N2, H5N6, H5N8, H9N2, H7N9 and other subtypes continue to occur in different regions of the world. A disease caused simultaneously by different viral subtypes is characteristic for recent avian influenza cases around the world [2-4]. Therefore, the strain composition of inactivated vaccines developed by various countries in early 2000s is considered lacking in relevance in terms of clade features compared with the epizootic strains of avian influenza virus of various pathogenicity levels circulating in the environment [5,6]. Thus,

it is important to update the strain composition of existing commercial avian influenza vaccines as part of measures to control this dangerous infectious disease. Major WHO service laboratories have started the production of recombinant strains to be used in manufacturing vaccines to prevent avian influenza.

In 2007, the Research Institute of Biological Safety Problems of the Science Committee under the Ministry of Education and Science of Kazakhstan (RIBSP) developed a technology for producing inactivated emulgated vaccine for clade 2.2, subtype H5 avian influenza. The Institute has an established production of inactivated emulgated vaccines for A/H5N1 avian influenza virus that is used for the specific prevention of subtype H5 avian influenza [7,8].

However, addressing only one clade and subtype of the influenza virus, as it is done at present, is not sufficient for the specific prevention and control of the highly-pathogenic avian influenza in Kazakhstan, given its vast territory. Therefore, like many other vaccine manufacturers throughout the world, we performed studies to establish optimal culturing properties of a range of recombinant viruses produced in service laboratories.

Materials and Methods. Our experiments used recombinant strains:

- A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A;
- A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A.

Virus Cultivation

We used standard methodology to inoculate 10-, 11- and 12-day old chicken embryos [9]. We cultivated the recombinant strains in accordance with their data sheet information and RIBSP's existing technical guidance for inactivated emulgated AI vaccine. We incubated inoculated embryos for 48 and 72 hours at different temperatures ($35\pm 0.5^{\circ}\text{C}$, $36\pm 0.5^{\circ}\text{C}$ and $37\pm 0.5^{\circ}\text{C}$).

Assessing Viruses' Infectious Activity

We used common methodology in assessing the viruses' infectious activity. We calculated titration results based on L. Reed & H. Muench method and expressed them in decimal logarithms $\text{EID}_{50}/\text{cm}^3$ [10].

Statistic Processing

In calculating the average value of studied parameters, we considered $P < 0.05$ as significant.

Study Results. At the initial phase of the study we inoculated 10-days' old embryos with 0.2 ml of 10^{-4} viral dilution and incubated them for 48 hours at $36\pm 0.5^{\circ}\text{C}$ and a relative air humidity of $55\pm 5\%$. We collected virus-containing allantoic fluid (VAF) once inoculated embryos had cooled and assessed their infective and hemagglutination activity and sterility. The study results are shown in table 1.

Table 1 – Control of the recombinant strains subtype H5 influenza virus strains of for consistency with its data sheet information

Strain Name	Hemagglutination activity	Infective Activity, ($\log_{10}\text{EID}_{50}$)	Sterility
A/Sichuan/26221	1:128	8.45 ± 0.14	Sterile
A/gyrfalcon/Washington/41088-6	1:1024	$8,74 \pm 0,06$	Sterile

As seen in table 1, the recombinant strains are consistent with its data sheet on all characteristics controlled.

The recombinant strains insert did not specify the age of chicken embryos for virus cultivation; and we had to assess the optimal age for virus cultivation at RIBSP. To do that, we tested chicken embryos that were 10, 11 and 12 days old. We incubated virus-inoculated embryos at various temperatures ($35\pm 0.5^{\circ}\text{C}$, $36\pm 0.5^{\circ}\text{C}$ and $37\pm 0.5^{\circ}\text{C}$). We did this at a relative air humidity of $55 \pm 5\%$ (figure, tables 2 and 3).

Table 2 – Quantity build-up of the A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A strain depending on chicken embryo age and incubation temperature

Embryo age	$35\pm 0.5^{\circ}\text{C}$		$36\pm 0.5^{\circ}\text{C}$		$37\pm 0.5^{\circ}\text{C}$	
	Titer in hemagglutination test	Infective activity, $\log \text{EID}_{50} / \text{cm}^3$	Titer in hemagglutination test	Infective activity, $\log \text{EID}_{50} / \text{cm}^3$	Titer in hemagglutination test	Infective activity, $\log \text{EID}_{50} / \text{cm}^3$
10	1:128	7.81 ± 0.06	1:512	8.12 ± 0.22	1:256	8.61 ± 0.07
11	1:256	7.95 ± 0.15	1:256	8.87 ± 0.15	1:256	8.53 ± 0.07
12	1:256	7.78 ± 0.07	1:256	7.87 ± 0.15	1:128	9.12 ± 0.15

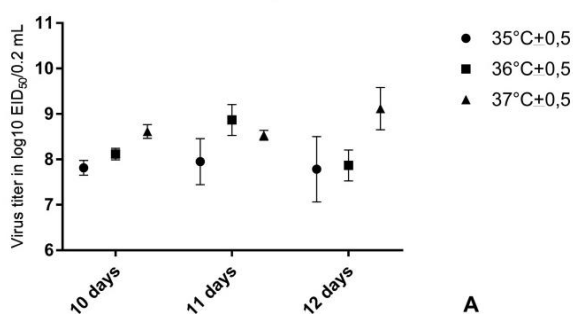
As seen from table 2, the virus is well-adapted to the embryos, and the inoculated embryos do not die at incubation. The highest viral quantities are produced by incubating 10-day-old embryos at $36\pm 0.5^{\circ}\text{C}$.

Table 3 – Quantity build-up of the A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A strain depending on chicken embryo age and incubation temperature

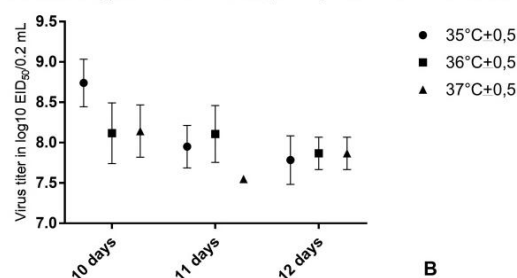
Embryo age	$35\pm 0.5^{\circ}\text{C}$		$36\pm 0.5^{\circ}\text{C}$		$37\pm 0.5^{\circ}\text{C}$	
	Titer in hemagglutination test	Infective activity, $\log \text{EID}_{50} / \text{cm}^3$	Titer in hemagglutination test	Infective activity, $\log \text{EID}_{50} / \text{cm}^3$	Titer in hemagglutination test	Infective activity, $\log \text{EID}_{50} / \text{cm}^3$
10	1:1024	$8.74 \pm 0,06$	1:128	$8.12 \pm 0,22$	1:128	$8.14 \pm 0,07$
11	1:128	$7.95 \pm 0,15$	1:256	$8.11 \pm 0,11$	1:64	$7.55 \pm 0,07$
12	1:256	$7.78 \pm 0,07$	1:128	$7.87 \pm 0,15$	1:32	$7.87 \pm 0,15$

As seen from table 3, the highest viral quantities are produced by incubating 10-day-old embryos at $34\pm 0.5^{\circ}\text{C}$.

A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A



A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A



Growth characteristics of recombinant strains in eggs (A, B).

Infectious titers were measured as $\text{EID}_{50}/\text{ml}$ (50% egg infectious dose per milliliter)

Data from figure shows that the various incubation temperatures selected did not have any notable effect on the viruses' accumulation rate or the recombinant strains' infective activity. We observed virtually no death of infected embryos during incubation. The higher virus accumulation rates occurred at the incubation temperature of $36^{\circ}\text{C}\pm 0.5$ in 10-day old embryos, as a result, we chose the incubation temperature of $35^{\circ}\text{C}\pm 0.5$ because A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A had a high hemagglutination activity of 1:512 and an infectious activity of $8.12 \pm 0.22 \log_{10} \text{EID}_{50}/0.2 \text{ ml}$ at this incubation temperature. The hemagglutination activity of A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A at $35^{\circ}\text{C}\pm 0.5$ totaled 1:1024 while its infectious activity was at $8.74 \pm 0,06 \log_{10} \text{EID}_{50}/0.2 \text{ ml}$.

Then we performed an experiment to assess the optimal incubation time for inoculated embryos. We incubated inoculated embryos for 48 and 72 hours. During the incubation, we used a relative air humidity of $55 \pm 5\%$.

Further on, we assessed the quantities of viral build-up depending on the infective dose, the aim being to increase the virus's infectivity. We performed our experiments at standard culturing conditions: a temperature of $36\pm 0.5^{\circ}\text{C}$ for recombinant strain A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A and $35\pm 0.5^{\circ}\text{C}$ for recombinant strain A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A, relative air humidity of $55\pm 5\%$, with chicken embryos 10 days old. We introduced the virus into embryos' allantoic cavity in doses of 10 to 1000000 EID_{50} . As we incubated the inoculated embryos, we performed their ovoscopy every 3 hours. We recorded times of embryos' death. We assessed the quantities of viral build-up based on the infective and hemagglutinative activity. The results are shown in tables 4 and 5.

Table 4 – Build-up quantities of the A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A recombinant strain depending on the infective dose ($X \pm m$), n=3)

Infective dose, EID ₅₀	Number of dead / total chicken embryos in experiment	Activity	
		Hemagglutinative	Infective, log ₁₀ EID ₅₀ /ml
~10	0/30	1:64	8.45 ± 0.14
~100	0/30	1:128	8.70 ± 0.08
~1000	2/30	1:128	8.70 ± 0.17
~10000	0/30	1:128	8.45 ± 0.24
~100000	2/30	1:128	8.20 ± 0.2
~1000000	1/30	1:256	7.46 ± 0.12

As shown in table 4, almost no embryos died during incubation. The highest viral build-up is seen in embryos inoculated in doses from 1000 to 10000 EID₅₀. Viral hemagglutinative activity was stable, although much higher in the VAF taken from embryos inoculated with a dose of 1000000 EID₅₀.

Table 5 – Build-up quantities of the A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A recombinant strain depending on the infective dose ($X \pm m$), n=3)

Infective dose, EID ₅₀	Number of dead / total chicken embryos in experiment	Activity	
		Hemagglutinative	Infective, log ₁₀ EID ₅₀ /ml
~10	0/30	1:32	6.45 ± 0.14
~100	0/30	1:64	7.70 ± 0.08
~1000	2/30	1:128	7.70 ± 0.17
~10000	0/30	1:256	8.17 ± 0.11
~100000	2/30	1:512	8.74 ± 0.06
~1000000	1/30	1:512	7.46 ± 0.12

As shown in table 5, almost no embryos died during incubation. The highest viral build-up is seen in embryos inoculated in doses 100000 EID₅₀. Viral hemagglutinative activity was stable 1:512.

Thus, we determined that the optimal infective doses of the A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A influenza recombinant strain for chicken embryos range from 1000 to 10000 EID₅₀; these dosages enable the development of a virus-containing material with a high infective and hemagglutinative activity. And optimal infective doses of the A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A influenza recombinant strain for chicken embryos range 100000 EID₅₀; these dosages enable the development of a virus-containing material with a high infective and hemagglutinative activity.

Discussion and Conclusion. Our study establishes optimum conditions for cultivating the A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A and A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A subtype H5 influenza virus recombinant strains in embryonated chicken eggs. Data on culturing influenza virus recombinant strains presented herein indicates that they can be used in developing subtype H5 highly-pathogenic avian influenza vaccines. The results of this research will serve as a basis for developing a new inactivated emulgated vaccine following the process previously used by RIBSP to design its commercial vaccine.

These optimum conditions are: an infective dose of 10000 EID₅₀/0.2 cm³, an incubation temperature of 36±0.5°C, an embryo age of 10 days, an incubation time of 48 hours and a relative air humidity of 55±5% for cultivating the recombinant strain A/Sichuan/26221/2014(H5N6)-PR8-IDCDC-RG42A. Using these culturing conditions allows a stable production of virus-containing materials with an infectivity level of not less than 8.45±0.24 log EID₅₀/cm³, which is fully consistent with requirements for producing inactivated vaccines for avian influenza.

We identified the following optimal conditions for growing A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A recombinant strain in embryonated chicken eggs: the infective dose

100000 EID₅₀; the embryo age 10 days; the incubation temperature 35⁰C, and incubation time 48 hours. These optimum conditions are helping culturing a stable production of virus-containing materials with an infectivity level of not less than 8.74±0.06 log EID₅₀/cm³, which is fully consistent with requirements for producing inactivated vaccines for recombinant strain A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A.

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ҚҰС ТҰМАУЫНЫҢ Н5 СУБТИПН ӨСІРУ ЖАҒДАЙЫН ОҢТАЙЛАНДЫРУ

Аннотация. Мақалада Н5 субтипті тұмау вирусының А/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A және А/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A рекомбинантты штамм өсірудің оңтайлы параметрлері ұсынылған. Нәтижесінде тұмау вирусын өсірудің оңтайлы параметрлері (жұқтыру мөлшері, инкубация температурасы, инкубация мерзімі және тауық эмбриондарының жасы) анықталған.

Зерттеудің бастапқы кезеңінде, штамм паспортына сәйкес 10 тәуліктік эмбриондарға 0,2 мл көлемде 10⁻⁴ есе сұйылтылған вирус жұқтырылып, 48 сағат бойы түрлі температурада және ауаның салыстырмалы ылғалдылығы 55±5% инкубацияланды. Вирусқұрамды аллантоис сұйықтығын (ВАС) жинау инфекция жұқтырылған эмбриондар салқындағаннан кейін жүргізілді және олардың инфекциялық және гемагглютиндеуші белсенділігі, сондай-ақ ВАС зарарсыздығы анықталды.

Осылайша А/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A және А/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A рекомбинантты штамм көрсеткіштері бойынша паспортта көрсетілген деректермен сәйкес келеді.

Рекомбинантты штамм алуда ілеспе құжатта вирус өсіру үшін тауық эмбриондарының жасы көрсетілмеген және БҚПФЗИ жағдайында эмбриондардың рекомбинантты штамм өсірудің оңтайлы жасын анықтау қажеттігі шықты. Осы мақсатта 10, 11 және 12 тәуліктік ТЭ сынақтан өткізілді. Инфекцияланған эмбриондар түрлі температура режимінде (35, 36 және 37±0,50 С) инкубацияланды. Ауаның салыстырмалы ылғалдылығы 55 ± 5 % құрады.

Зерттеу нәтижелері бойынша вирус эмбриондарға бейімделіп, инфекция жұқтырылған эмбриондар алдыңғы тәжірибедегідей инкубациялау кезінде эмбриондар өлімі тіркелмеді. Вирустың жиналу деңгейінің жоғары көрсеткіші жұқтырылған эмбриондарды 35±0,5⁰C және 36±0,5⁰C температурада инкубациялау кезінде 10 тәуліктік тауық эмбрионында байқалды және зиянсыз.

Мұнан кейін инфекция жұқтырылған эмбриондарды инкубациялаудың оңтайлы мерзімін анықтау бойынша зерттеулер жүргізілді. Зарарланған эмбриондар 48 және 72 сағат бойы инкубациялауға салынды. Ауаның салыстырмалы оңтайлы ылғалдылығы 55±5% құрады. Инкубациялау нәтижесінде гемагглютиндеуші белсенділігі 1:128 А/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A рекомбинантты штамынан вирусқұрамды материалдар алынды. Осы себептен одан әрі зерттеу үшін тұмау вирусын 36⁰C+0,5 кезінде 48 сағат бойы инкубациялау мерзімі пайдаланылды. Ал А/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A рекомбинантты штамм үшін оптималды инкубациялау мерзімі 48 сағат оңтайлы 35⁰C+0,5 температура режимінде гемагглютиндеуші белсенділігі 1:1024 вирусқұрамды материал алынды.

Вирустың инфекциялық белсенділігін арттыру мақсатында кейінгі тәжірибеде вирустың жұқтырушы дозаға байланысты жиналу деңгейі анықталды. Зерттеулер жалпы қабылданған өсіру параметрлерін пайдалану арқылы жүргізілді, яғни температура 36±0,50⁰C, ауаның салыстырмалы ылғалдылығы 55±5%, тауық эмбрионының (ТЭ) жасы 10 тәулік екені анықталды. Эмбриондар аллантоис қуысына 10-нан 100000 ЭИД₅₀-ге дейінгі мөлшерде жұқтырылды. Инфекция жұқтырылған эмбриондарды инкубациялау барысында әрбір 3 сағат сайын овоскоптау жүргізілді, сонымен қатар эмбриондардың өлу уақыты тіркелді. Жоғары инфекциялық және гемагглютиндеуші белсенділігі бар жоғары белсенді вирусқұрамды материалды көбейтуге мүмкіндік беретін 1000-нан 10000 ЭИД₅₀-ге дейінгі дозасы тұмау вирусының А/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A ТЭ үшін тиімді жұқтырғыш дозасы болып саналады. А/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A рекомбинантты штамм үшін ТЭ жұқтыру дозасы 100000 EID₅₀ болып анықталды, сонымен қатар аталмыш доза жоғары инфекциялық және гемагглютиндігі белсенді вирусқұрамды материал алуға болатындығы дәлелденді.

Түйін сөздер: тұмау вирусы, рекомбинанттық штамм, өсіру.

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ОПТИМИЗАЦИЯ УСЛОВИЙ КУЛЬТИВИРОВАНИЯ ВИРУСОВ ГРИППА СУБТИПА H5

Аннотация. В данной работе представлены оптимальные параметры культивирования рекомбинантных штаммов A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A и A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A вируса гриппа субтипа H5. В результате чего установлены оптимальные параметры культивирования (доза заражения, температура инкубации, срок инкубации и возраст куриных эмбрионов) вируса гриппа. На начальном этапе исследований, согласно паспортных данных штаммов, куриные эмбрионы (КЭ) 10 сут возраста были заражены вирусом в разведении 10^{-4} в объеме 0,2 мл и инкубированы при различных температурах и относительной влажности воздуха $55 \pm 5\%$ на протяжении 48 часов. Сбор вирусосодержащей аллантоисной жидкости (ВАЖ) проводили после охлаждения инфицированных эмбрионов и определяли их инфекционную и гемагглютинирующую активность, а также стерильность ВАЖ.

Таким образом, рекомбинантные штаммы A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A и A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A по всем показателям соответствует паспортным данным.

При получении рекомбинантных штаммов в сопроводительном документе не были указаны возраст КЭ для культивирования вируса и необходимо было определить оптимальный возраст эмбрионов в условиях НИИПББ. Для этого были апробированы КЭ 10, 11 и 12 сут. возрастов. Инфицированные эмбрионы инкубировали при различных температурных режимах (35, 36 и $37 \pm 0,5^\circ\text{C}$). Относительная влажность воздуха составляла $55 \pm 5\%$.

Согласно результатам исследования вирус адаптирован к КЭ, инфицированные эмбрионы не погибают при инкубировании как в предыдущем опыте. Более высокие показатели накопляемости вируса отмечаются при температуре инкубирования инфицированных эмбрионов $36 \pm 0,5^\circ\text{C}$ и $35 \pm 0,5^\circ\text{C}$ на 10 сут. КЭ и являются безвредными.

Далее были проведены исследования по определению оптимальных сроков инкубирования инфицированных КЭ. Зараженные КЭ были заложены для инкубирования на протяжении 48 и 72 часов. Относительная влажность воздуха составляла $55 \pm 5\%$. В результате инкубирования получены вирусосодержащие материалы с одинаковой гемагглютинирующей активностью (1:128). Поэтому для дальнейшего исследования использованы сроки инкубирования вирусов гриппа в течение 48 часов при $36^\circ\text{C} + 0,5$ для рекомбинантного штамма A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A. А для рекомбинантного штамма A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A оптимальные сроки инкубирования 48 часов, температура инкубирования была $35^\circ\text{C} + 0,5$, при этом гемагглютинирующая активность составила 1:1024.

С целью повышения инфекционной активности вируса определяли уровень накопления вируса в зависимости от заражающей дозы. Исследования проводили с использованием общепринятых параметров культивирования – температура $36 \pm 0,5^\circ\text{C}$, относительная влажность воздуха $55 \pm 5\%$, возраст КЭ 10 суток. КЭ инфицировали в аллантоисную полость в дозах от 10 до 1000000 ЭИД₅₀. В процессе инкубирования инфицированным КЭ через каждые 3 часа проводили овоскопирование. Регистрировали время гибели КЭ. Таким образом, оптимальной заражающей дозой рекомбинантного штамма A/Sichuan/26221/2014 (H5N6)-PR8-IDCDC-RG42A вируса гриппа для КЭ является доза от 1000 до 10000 ЭИД₅₀, а также оптимальная заражающая доза для КЭ является доза 100000 ЭИД₅₀ позволяющая наработать высокоактивный вирусосодержащий материал с высокой инфекционной и гемагглютинирующей активностью. Для получения оптимальной инфекционной дозы рекомбинантного штамма гриппа A/gyrfalcon/Washington/41088-6/2014(H5N8)-PR8-IDCDC-RG43A для КЭ составляют доза заражения 100000 ЭИД₅₀; Эти дозировки позволяют создать вирусосодержащий материал с высокой инфекционной и гемагглютинирующей активностью.

Ключевые слова: вирус гриппа, рекомбинантный штамм, культивирование.

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EPIDEMIOLOGY, RISK FACTORS AND PATHOMORPHOLOGICAL FEATURES OF MAMMARY TUMORS IN CATS

Abstract. Mammary tumors (MT) are the 3rd most common neoplasm in cats. The incidence rate is significantly influenced by gender, age, breed, ovarian status, and the use of progestin-based contraceptives.

MTs are a group of neoplasms that is heterogeneous in terms of tissue belonging, histological structure, and biological behavior. Malignant tumors are most frequent and compile from 80% to 96% of all tumors and tumor-like mammary lesions. Mammary cancer (MC) prevails, accounting for 91.4% of all cases of malignant tumors. Invasive breast cancer is much more common than carcinoma in situ. Among histological types of breast cancer, cribriform, solid, and tubulopapillary carcinomas predominate; mucous, tubular, and papillary carcinomas are less common.

Key words: cats, mammary gland, pathology, mammary tumors (MT), breast tumors (BT), mammary cancer (MC), epidemiology, risk factors for development, pathomorphology.

Introduction. Mammary tumors (MTs) are the 3rd most common oncological pathology in cats [1-8]. Only skin and hematopoietic tissue tumors are recorded more often than MTs in cats [1,5-8]. In the overall structure of oncological morbidity of cats (without sex accounting), the share of this pathology reaches 8.2-17% [4,7,9-11].

Methods of the research. This paper presents a review of domestic and foreign literature. There were studied and analyzed scientific materials on the incidence and risk factors for the development of mammary tumors in cats. The WHO histological classification of feline mammary tumors and dysplasias was considered. The MT structure, the incidence rate, and features of the biological behavior of tumor and tumor-like lesions in cats were described and analyzed.

Research results. The disease occurs mainly in middle-aged and older cats [7,9]. The average age of sick cat at diagnosis is 10...12 years. [3,12-16]; the median of age -10.3-12 years [3,13,17].

Females are more predisposed to disease than males. The specific gravity of MT in the structure of cancer incidence in females is 23 times higher (25.3% versus 1.1%) than in males [18].

Breed predisposition is one of the important risk factors for MT development. In Siamese cats, MTs are found much more often [9, 19] and at an earlier age than in females of other breeds [19]. In the study carried out in Japan, a breed predisposition to the MT development was also found in Japanese cats [20], in Switzerland - in Oriental Shorthair, Somali and Abyssinian cat breeds. [9].

There is convincing evidence that early ovariohysterectomy (at the age of 2 years or less) significantly reduces the risk of developing mammary tumors [8]. The severity of the projective effect of ovariohysterectomy directly depends on the terms of its implementation. When cats are sterilized before the first estrus, the risk of the MT developing is reduced by 91%, before the second estrus - by 86%, and the third - only by 11% [8].

It has been proven that the risk of MT development in intact cats increases 3.4 times if they use contraceptives based on synthetic progestogens for a long time and in high doses. [21].

Feline mammary tumors represent a group of neoplasms that is heterogeneous in terms of tissue belonging, histological structure, and biological behavior. According to the WHO classification 1999, benign, malignant, unclassified tumors, and tumor-like lesions of the mammary glands are distinguished (table).

WHO histological classification of tumors and tumor-like lesions of the feline mammary glands [6,11,22]

Classification group	Histotype
Tumor-like lesions (mammary hyperplasia/dysplasia)	Ductal hyperplasia Lobular hyperplasia (epithelial hyperplasia, adenosis, and fibroadenomatous changes) Cysts Ductular ectasia Focal fibrosis (fibrosclerosis)
Benign tumor	Adenoma (simple or complex) Fibroadenoma (low or high cellularity) Benign mixed tumor Duct papilloma
Malignant tumors	Non-infiltrating carcinoma (in situ) Tubulopapillary carcinoma Solid carcinoma Cribriform carcinoma Squamous cell carcinoma Mucinous carcinoma Carcinosarcoma Carcinoma or sarcoma in a benign tumor
Unclassified tumors	

Malignant tumors are most common and compile from 80 to 96% of all tumors and tumor-like lesions of the mammary glands [1,2,23]. Carcinomas prevail accounting for 91.4% of all cases of malignant tumors [9]. Among the histological types of carcinomas, cribriform (46.6%), solid (17.2%), tubulopapillary (11.4%), mucinous (9.4%), tubular (7.1%) and papillary (5.6 %) and carcinoma in situ (13.9%) [3].

Sarcomas and carcinosarcomas occur sporadically. Very occasionally cats are diagnosed with unclassified malignant tumors, as well as malignant tumors that are not included in the WHO histological classification: inflammatory carcinoma [24], lipid-rich carcinoma [25], complex adenocarcinoma [26], etc. Almost all malignant epithelial tumors of mammary glands (except carcinoma in situ) are highly invasive and have the potency of metastasis. The metastasis rate exceeds 80% [4]. Metastasis can occur both by lymphogenous and hematogenous pathways. The favorite localization of metastases is regional lymph nodes (83%), lungs (76%), pleura (40%), adrenal glands (19%), liver (18%), spleen (10%), kidneys (9%), ovaries and uterus (10%) [17]. Metastases in malignant tumors of the mammary gland can also affect other organs and systems of the body: brain, bone tissue, contralateral, and sternal lymph nodes [1].

Benign tumors account for up to 10-14% of all tumor and tumor-like lesions of the mammary gland [1]. They are represented mainly by adenomas and fibroadenomas. Other types of benign tumors (duct papilloma and mixed benign tumors) are found rare.

Tumor-like lesions of the mammary gland include: ductal hyperplasia, fibroadenomatous, or lobular hyperplasia, cysts, ductular ectasia, and focal fibrosis [2]. Among tumor-like lesions, fibromatous hyperplasia of the mammary gland is most common - a dyshormonal disease characterized by excessive proliferation of its cellular components. Clinically, the disease is manifested by hypermastia - excessive compaction and an increase in the size of one, several, or all of the mammary glands. In the etiopathogenesis of the disease, progesterone plays a leading role. At the same time, the key role in its

development belongs not to the absolute value of the hormone in the blood, but to the state of progesterone receptors in the mammary tissues, which predetermine the sensitivity (hypersensitivity) of the mammary gland to endogenous and exogenous hormonal influences [27,28].

Cats have four pairs of mammary glands and nipples, which are arranged in two parallel rows from the ventral breast wall to the groin. The right and left rows of the mammary glands are quite clearly separated from one another. According to the location, front (T1 or M1) and posterior thoracic (T2 or M2), front (A1 or M3) and posterior abdominal (A2 or M4) mammary glands are distinguished. The blood supply to thoracic mammary glands is provided by the lateral thoracic arteries, intercostal arteries and intrathoracic arteries; the cephalic superficial epigastric arteries supplies blood to the abdominal mammary glands. There are venous connections between the mammary glands of the right and left rows, which predisposes to hematogenous spread of the neoplastic process from one row to another and/or to the contralateral lymph node [23].

The localization of malignant tumor is an important prognostic factor for the state of regional lymph nodes. The outflow of lymph from the mammary glands occurs in the axillary lymph nodes, from the front and posterior abdominal mammary glands - to the superficial inguinal lymph nodes. There are no lymphatic anastomoses between the mammary glands of the right and left rows [29]. The neoplastic process in malignant tumors can only spread to nearby (sentinel) lymph nodes from the side of the lesion.

Tumor lesions of the mammary glands can be solitary, single, and multiple, according to localization - one- and two-sided. Multiple tumor lesions are common (40.8-80%), but they are rarely bilateral [3]. Abdominal mammary glands are more commonly affected than thoracic ones [13].

According to the degree of spread of the neoplastic process and the possibility of radical surgical removal of the tumor (within healthy tissues), there are localized or primary resectable, locally advanced or primary inoperable, and metastatic forms of MT. The main manifestations of the localized form are the presence of a visualized and/or palpable tumor in the mammary gland; the tumor does not go beyond the affected mammary gland, is mobile, the skin and underlying tissues do not grow. The characteristic symptoms of a locally advanced form of the disease are: a) the multicentric nature of tumor growth; b) the spread of the neoplastic process to the surrounding tissues, fixation of the neoplasm to the abdominal or chest wall; c) necrosis, manifestation, and disintegration of the tumor; d) the development of inflammatory processes in the affected breast and subcutaneous tissue; e) abnormal discharge from the nipple (bloody milk), its swelling and deformation.

The clinical manifestations of the metastatic form of mammary tumors are variable and depend on the localization of the foci of metastatic lesions and the extent of the neoplastic process. Common symptoms include decreased or no appetite, weakness, progressive weight loss, and cachexia (wasting the body). Specific symptoms of carcinoid (carcinomatous) metastatic lesions of the lungs and pleura in invasive mammary cancer are cough, shortness of breath, poor exercise tolerance, metastatic pleurisy, or accumulation of malignant pleural effusion [10, 30]. Metastases in the liver often lead to jaundice, in bone tissue - to pain, impaired range of motion, pathological fractures. A distinctive feature of inflammatory carcinoma is hypermastia, acute erythema, local pain, and hyperthermia in the area of the affected mammary gland and regional lymph node [31].

Conclusion. MTs are a fairly advanced oncopathology in cats. They are a heterogeneous group of neoplasms in terms of tissue belonging, histological structure, and biological behavior. Malignant tumors are most spread and compile from 80 to 96% of all tumors and tumor-like lesions of the mammary glands. Mammary cancer (MC) prevails, accounting for 91.4% of all cases of malignant tumors. Invasive mammary cancer is much more common than carcinoma in situ. Among histological types of mammary cancer, cribriform, solid, and tubulopapillary carcinomas predominate; mucous, tubular, and papillary carcinomas are less common.

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МЫСЫҚ СҮТ БЕЗІ ІСІГІНІҢ ЭПИДЕМИОЛОГИЯСЫ, ДАМУДАҒЫ ҚАУІП ФАКТОРЫ ЖӘНЕ ПАТОМОРФОЛОГИЯЛЫҚ ЕРЕКШЕЛІКТЕРІ

Аннотация. Сүт безі ісігі (СБІ) – мысықта ең жиі кездесетін үшінші онкологиялық патология. СБІ қарағанда, мысықта тек тері және гемопозддік тін ісігі тіркеледі. Мысықтың онкологиялық ауру құрылымында (жынысын есепке алмағанда) аталған патологияның үлес салмағы 8,2-17%-ға жетеді. Жұмыста отандық және шетелдік әдебиеттерге шолу жасалған. Мысықтағы сүт безі ісігінің таралу жиілігі мен дамуына кедергі келтіретін қауіп факторлары бойынша ғылыми материалдар зерттелді және талданды. Мысық сүт безі ісігіне қатысты ДДҰ гистологиялық жіктелімі қарастырылды. Мысықта кездесетін ісік тәрізді зақымданудың биологиялық құлық ерекшеліктері мен кездесу жиілігі, СБІ құрылымы сипатталды және талданды.

Қатерлі ісіктер жиі кездеседі және көптеген ісік түрлері мен сүт безінің ісік тәріздес зақымдануының 80-96% құрайды. Карциномалар жиі кездеседі, қатерлі ісіктің 91,4% осыған кіреді. Карциноманың гистологиялық нұсқасының арасында крибриформды (46,6%), қатты (17,2%), тубулопапиллярлы (11,4%), муциозды (9,4%), тубулярлы (7,1%), папиллярлық (5,6%) және карцинома in situ (13,9%) басым.

Қатерсіз ісік сүт безінің барлық ісік және ісік тәрізді зақымдану жағдайының 10-14% құрайды. Олар негізінен аденома мен фибroadеномдар арқылы ұсынылған. Қатерсіз ісіктің басқа нұсқалары (ағын папиллома және аралас қатерсіз ісік) сирек кездеседі.

Сүт безі ісігінің зақымдануы жеке, жалғыз және көптік болуы мүмкін, орналасуы бойынша бір және екіжақты келеді. Көптік ісік зақымдануы жиі кездеседі (40,8-80%), бірақ олар сирек кезде ғана екіжақты болады. Абдоминальды сүт қағазқапшығы желін қаптамаға қарағанда жиі зақымданады.

Ісік үдерісінің таралу дәрежесі және ісікті радикалды хирургиялық алып тастау мүмкіндігі бойынша (сау тін шегінде) ошақталған немесе бастапқы-операбельді, жергілікті-таралған немесе бастапқы-операбельді емес және СБІ метастатикалық түрлерін ажыратады. Ошақталған түрдің негізгі көріністері: сүт безінде көрнекіленген және/немесе пальпацияланатын ісіктің болуы; ісік зақымданған сүт безінің шегінен шықпайды, қозғалады, тері мен тінге өспейді. Аурудың жергілікті таралған түріне тән белгілер: а) ісік өсімінің мультицентрикалық сипаты; б) ісік үдерісінің қоршаған тінге таралуы, ісіктің құрсақ немесе кеуде қабырғасына бекітілуі; в) ісіктің өліеттенуі, білінуі және ыдырауы; г) зақымдалған сүт безінде және теріасты жасушасында қабыну үдерісінің дамуы; д) емізіктен қалыптан тыс бөлініс (қанды сүт), ісіну және түрінің өзгеруі.

СБІ метастатикалық түрінің клиникалық көрінісі түрленгіш болып келеді және метастатикалық зақымдану ошағының орналасуына, ісік үдерісінің таралуына байланысты. Жалпы белгілері ретінде тәбеттің төмендеуі немесе болмауы, әлсіздік, үдемелі салмақ жоғалту және азып ауруды (ағзаның жалпы сарқылуы) атаймыз. Сүт безі обырының ішке ене өсетін түрінде өкпенің және өкпеқаптың метастатикалық зақымдануының карциноидты (карциноматозды) симптомдары: жөтел, енгігу, физикалық жүктемелердің нашар төзімділігі, метастатикалық плеврит немесе қатерлі өкпеқапты шығудың жиналуы. Бауырдағы метастазалар сарғаюға, сүйек тінінде ауырсынуға, қозғалыс көлемінің бұзылуына, патологиялық сыныққа әкеледі. Қабыну карциномасының ерекшелігіне зақымдалған сүт безі мен аймақтық лимфа түйіні аймағындағы гипермастия, жедел эритема, жергілікті ауырсыну және гипертермия жатады.

Түйін сөздер: мысық, сүт безі, патология, сүт безі ісігі (СБІ), сүт безінің обыры (ТМЖ), эпидемиология, дамудың қауіп факторлары, патоморфология

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ЭПИДЕМИОЛОГИЯ, ФАКТОРЫ РИСКА РАЗВИТИЯ И ПАТОМОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ОПУХОЛЕЙ МОЛОЧНОЙ ЖЕЛЕЗЫ У КОШЕК

Аннотация. Опухоли молочной железы (ОМЖ) являются 3-ей, наиболее часто встречаемой онкологической патологией кошек. Чаще чем ОМЖ у кошек регистрируют только опухоли кожи и гемопоэтической ткани. В общей структуре онкологической заболеваемости кошек (без учета пола) удельный вес данной патологии достигает 8,2-17%. В работе представлен обзор отечественной и зарубежной литературы. Изучены и проанализированы научные материалы по частоте распространения и факторам риска развития опухолей молочной железы у кошек. Рассмотрена гистологическая классификация ВОЗ опухолей молочной железы у кошек. Описаны и проанализированы структура ОМЖ, частота встречаемости и особенности биологического поведения опухолевых и опухолеподобных поражений у кошек.

Злокачественные опухоли встречаются наиболее часто и составляют от 80 до 96 % всех опухолей и опухолеподобных поражений молочной железы. Преобладают карциномы, на долю которых приходится 91,4% всех случаев злокачественных опухолей. Среди гистологических вариантов карцином преобладают крибриформная (46,6%), солидная (17,2%), тубулопапиллярная (11,4%), муциозная (9,4%), тубулярная (7,1%) и папиллярная (5,6%) и карцинома *in situ* (13,9%).

Доброкачественные опухоли составляют до 10-14% всех опухолевых и опухолеподобных поражений молочной железы. Они представлены в основном аденомами и фиброаденомами. Другие варианты доброкачественных опухолей (потоковая папиллома и смешанные доброкачественные опухоли) выявляются редко.

Опухолевые поражения молочных желез могут быть солитарными, единичными и множественными, по локализации - одно- и двусторонними. Множественные опухолевые поражения встречаются часто (40,8-80%), но они редко бывают двусторонними. Абдоминальные молочные пакеты поражаются чаще, чем грудные.

По степени распространения опухолевого процесса и возможности радикального хирургического удаления опухоли (в пределах здоровых тканей) различают локализованную, или первично-операбельную, местнораспространенную, или первично-неоперабельную, и метастатическую формы ОМЖ. Основными проявлениями локализованной формы являются: наличие визуализируемой и/или пальпируемой опухоли в молочной железе; опухоль не выходит за пределы пораженной молочной железы, подвижна, не прорастает кожу и подлежащие ткани. Характерными симптомами местнораспространенной формы болезни служат: а) мультицентрический характер роста опухоли; б) распространение опухолевого процесса на окружающие ткани, фиксация новообразования к брюшной или грудной стенке; в) некроз, изъязвление и распад опухоли; г) развитие воспалительных процессов в пораженной молочной железе и подкожной клетчатке; д) аномальные выделения из соска (кровавое молоко), его отек и деформация.

Клинические проявления метастатической формы ОМЖ варьируемы и зависят от локализации очагов метастатического поражения и распространенности опухолевого процесса. Общими симптомами могут служить снижение или отсутствие аппетита, слабость, прогрессивная потеря веса и кахексия (общее истощение организма). Специфическими симптомами карциноидного (карциноматозного) метастатического поражения легких и плевры при инвазивной форме рака молочной железы является кашель, одышка, плохая переносимость физических нагрузок, метастатический плеврит или накопление злокачественного плеврального выпота. Метастазы в печени часто приводят к возникновению желтухи, в костной ткани – к боли, нарушению объема движения, патологическим переломам. Отличительной особенностью воспалительной карциномы является гипермастия, острая эритема, локальная боль и гипертермия в области пораженной молочной железы и регионального лимфоузла.

Ключевые слова: кошки, молочные железы, патология, опухоли молочных желез (ОМЖ), рак молочной железы (РМЖ), эпидемиология, факторы риска развития, патоморфология.

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ADAPTOGENESIS AND BIOLOGICAL POTENTIAL OF CATTLE ON COMMERCIAL DAIRY FARM

Abstract. The possibility of activating adaptive processes and organism resistance of cattle on commercial dairy farms under the influence of biological stimulants (polystim and PV-1) is proved.

Biostimulants reduced the risk of gynecological disorders in cows: they reduced the retention time of placenta and subinvolution of uterus, reduced the endometritis and mastitis occurrence; increased reproductive function: shortened the time of the first estrus coming, increased the fertility, reduced the conception rate and duration of the service period, and improved the physicochemical composition of colostrum.

The used biostimulants contributed to the increase in live weight of calves while increasing the relatively high level of assimilative processes associated with the fact that their forage energy was mainly spent on increasing body weight. At the same time, in calves not injected with biological preparations, it was mainly spent on providing homeothermia (i.e., maintaining constant body temperature), which was especially evident at low external temperatures.

In calves raised in the conditions of intensive technology in winter, after the administration of dostim and polystim, the following indicators were significantly higher: the phagocytic activity of leukocytes by 5.4% - 6.4%, the lysozyme activity of plasma - by 3.0% - 6.2%, the blood serum bactericidal activity - by 7.1% - 9.5% and the content of immunoglobulins - by 2.5 mg/ml - 3.1 mg/ml.

With the adaptive technology, the data of these indicators were higher: in winter period - by 5.2 - 6.4%, 3.1 - 6.2%, 6.0 - 8.7% and 4.7 - 5.7 mg/ml; and in spring-summer period - by 0.2 - 0.6%, 4.6 - 5.7%, 4.9 - 7.2% and 3.4 - 4.8 mg/ml ($P < 0.05-0.001$), respectively.

Key words: biological stimulants, adaptive processes, physiological state, gynecological status, calves, nonspecific resistance.

Introduction. Currently, the main producers of animal products are agricultural enterprises with traditional and intensive technologies [1,2].

The importance of intensive technologies in the production of animal products during the agrarian transformations has lowered for many reasons. However, such technologies make it possible to more fully realize the achievements of science and practice, make more efficient use of capital investments, mechanical and automation means, the growth possibility for labor productivity, increasing the total volume and reducing the production prime-cost, and increasing the profitability of production [3-5].

As a result of a mismatch between the biological nature of the living organism, its physiological capabilities, and the environment, animals experience stress reactions that can significantly reduce their adaptive processes and nonspecific resistance, as well as productivity that can lead to withdrawal,

especially of young stock. Therefore, the need to improve such technologies for the production of animal products, taking into account the desirable interaction of animals and their habitat, is obvious [6].

Science and practicum have proved the environmental feasibility and economic efficiency of adaptive technology, by which it is envisaged to raise calves in unheated rooms, i.e. in individual pens and pavilions in the open [7,8].

With this technology, and even more with the use of adaptogens, the nonspecific resistance of young animals and their safety are increased. In this regard, it is advisable to more actively replace the existing concept of animal husbandry with a new one, which would take into account the advantages of adaptive technology. However, under extreme conditions of adaptive technology, stress reactions appear in the animal organism and metabolic stress associated with homeostasis increases, it negatively affects the implementation of the adaptive capabilities of a living organism [9].

Nowadays, the lack of a scientifically grounded system of measures that allows activating adaptive processes and the resistance of animals to extreme keeping conditions inhibits the large-scale implementation of adaptive technology.

One of the ways to increase adaptive processes and animal resistance to low and high temperatures is the application of biological stimulants capable to activate the functions of several organs and systems. The use of appropriate drugs in the "mother - fetus - newborn" system allows for a long time to maintain the constancy of the internal environment of the body in the process of raising young cattle in extreme conditions and to increase resistance to technogenic and environmental factors [10].

The aim of this work is the activation of the adaptive processes and biological potential of cattle in milk production enterprises.

Materials and methods. The experimental work was carried out by Hamburg LLP of the Zhualinsky district of the Zhambyl region. The objects of the research were 400 cows of the black-and-white breed and 120 calves born from these cows. In the experiments, the calves were used from the 1st birthday. The observation period lasted for 120 days.

Cows were watered from individual automatic drinking bowls.

Milking of cows was performed using a machine in the milk line, 2-3 times a day.

Adaptive technology provides for the maintenance of 1-day-old calves (born under conditions of intensive technology) in individual pens installed in the open area.

The dimensions of the pens: length 180-200 cm, width 110-120 cm, the height of the front wall (taking into account the accumulation of a deep non-replaceable litter in winter) - 150 cm, the back wall - 140 cm, the length of the cubicle - 160 - 180 cm, the depth - 150 cm. The houses were built of wood boards and had a ventilation viewing window. The irreplaceable bedding inside them was gradually formed from sawdust, then from straw. The top layer of the bedding with a thickness of at least 5 - 8 cm should be constantly kept dry. In winter, the deep litter is not removed.

Only clinically healthy calves are placed in individual pens. Before being transferred to the pens, the skin of the calves is rubbed with plaited straw or burlap.

From the pens, the calves at the age of 30 days, they are transferred to unheated premises (pavilions) with unchangeable litter, designed for 8-10 animals.

The sizes of pavilions, m: length 3.0; width 6.0; the height of the front wall is 1.6, the back is 1.4. Their walls are made of boards. There are two windows. Window openings are covered with wooden shields. On the front side, the pavilions have an exercising area (cubicle).

In individual pens and pavilions, animals are accommodated according to the principle "all is vacant - all is occupied" with the observance of preventive breaks and sanitation of premises following veterinary and sanitary requirements.

The individual pens and pavilions are located at a distance of 0.7-1.0 m from each other on paved grounds.

The research work was carried out according to diets adopted on farms, taking into account the main indicators provided for by the Norms and diets of animal feeding. When growing calves in individual pens and pavilions at low temperatures, the level of milk feeding was set above the prescribed standards by 20%.

To activate the adaptive processes and the biological potential of dry cows and young animals, the environmentally friendly biogenic preparations were used: previously developed ones - dostim and mastim as well as of new generation - polystim and PV-1.

The research results. Clinical and physiological state of cows. During the observation, it was found that the clinical and physiological state of the control and tested animals in all experiments was within the physiological norms. Moreover, the data of the main indicators varied: body temperature from 39.0 ± 0.12 to 39.3 ± 0.11 °C, pulse and respiratory rate from 80 ± 0.51 to 84 ± 1.16 fluctuations/min and from 23 ± 0.93 to 25 ± 0.51 breaths per minute, respectively. The difference between the values of the control and experimental animals was statistically unreliable ($P > 0.05$).

Gynecological status of cows. The results of the study of the gynecological status of cows using biological stimulants indicate that the application of dostim, mastim and polystim, PV-1 35-30, 25-20, and 15-10 days before calving helped to reduce diseases in cows: retention of afterbirth and subinvolution of uterus, the risk of endometritis and mastitis incurrence. The use of these drugs contributed to enhancing the reproductive function of cows: reducing the time of estrus coming, increasing fertility, reducing the conception rate and the duration of the service period. At the same time, polystim and PV-1 had a higher effect (table 1).

Table 1 – Gynecological state of cows in the postpartum period

Indicator	Animal Groups Data		
	Control ^x	1 st experimental ^x	2 nd experimental ^x
Terms of the expulsion of afterbirth, h	13.2±1.53	7.8±0.86*	8.2±0.97*
	15.8±0.86	9.2±0.86***	10.8±1.07**
Retention of afterbirth, %	20	–	–
	30	–	–
Subinvolution of uterus, %	10	10	–
	20	20	–
Endometritis, %	20	10	–
	30	10	–
Mastitis, %	10	–	–
	20	–	–
Terms of the first estrus, days	27.0±0.84	24.6±0.51*	23.6±0.60*
	29.4±0.81	27.8±0.80	26.2±0.58*
Conception rate	2.8±0.39	1.8±0.25*	1.6±0.22*
	3.3±0.33	2.2±0.33*	1.8±0.25**
Duration of the service period, days	80.2±7.15	57.8±4.39*	53.0±4.05*
	82.8±5.82	68.0±4.06	68.0±4.36
Fertilization of Cows, %:			
1 st estrus	20	40	50
	10	30	40
2 nd estrus	20	40	40
	10	30	40
3 rd estrus	20	20	10
	20	30	20
4 th estrus	40	–	–
	60	$\frac{10}{10}$	–
^x In the numerator - in autumn-winter, in the denominator - in winter-spring periods. * P<0.05, ** P<0.01.			

The physiological state of calves born in winter and spring-summer periods. In calves born from the control and experimental cows, body temperature, pulse rate, and frequency of respiratory movements were within physiological norms.

30% of hypotrophic calves were born from cows of the control group, and 10% and 15%, from cows of the 1st and 2nd experimental groups, respectively. Live weight, exterior measurements (height at the withers, oblique body length, chest girth behind the shoulder blades and metacarpus girth) of calves from control cows were lower than from experimental ones. In calves born from control animals, diseases of the gastrointestinal tract and respiratory system were registered, and in experimental animals, they were not found.

The calves received from the cows of the control group had poorly developed muscles, pale mucous membranes of the oral and nasal cavities, dry, inelastic skin, and those born from the experimental cows were more viable, had a well-developed physique, elastic skin with a thick shiny hair.

Calves born in winter and raised under intensive technology, after intramuscular injection of dostim and polystim, grew faster, their live weight and average daily gain over the entire observation period were 6.4 and 9.6 kg higher and 43.2g and 65.2 g compared with the control, and with adaptive technology in winter - by 5.8 and 8.8 kg and 36.7 and 55.2 g, in the spring-summer - by 3.2 and 4.0 kg and 28.2 and 29.7 g ($P<0.05-0.001$), respectively.

When comparing exterior measurements of calves at the age of 120 days, it was established that the difference in the data of measurements of oblique body length, height at the withers, chest girth behind the shoulder blades and metacarpus girth was 4.5 - 8.3% and 2.8 - 10.6% respectively. A similar pattern was revealed in the nature of changes in the growth coefficient of the experimental calves. Thus, the biostimulants contributed to the increase in calves' live weight, while increasing the relatively high level of assimilation processes associated with the fact that their forage energy was mainly spent on increasing body weight. At the same time, in calves not injected with biological preparations, it was mainly spent on providing homeothermia (i.e., maintaining constant body temperature), which was especially evident at low ambient temperatures.

Nonspecific resistance of calves. In calves raised in the conditions of intensive technology in winter, after the injection of dostim and polystim, the following parameters were significantly higher: the phagocytic activity of leukocytes by 5.4 - 6.4%, the lysozyme activity of plasma - 3.0 - 6.2%, serum bactericidal activity - 7.1 - 9.5% and the content of immunoglobulins - 2.5 - 3.1 mg/ml (table 2).

Table 2 – Parameters of nonspecific resistance of calves

Group of animals	Age, days	Phagocytic activity, %	Lysozyme activity, %	Bactericidal activity, %	Immunoglobulins, mg/ml
Using intensive technology in winter					
1	2	3	4	5	6
Control	1	23.4±1.36	6.3±0.64	28.3±1.08	15.1±1.11
	15	32.0±1.14	9.3±0.71	32.8±1.10	14.0±0.90
	30	46.4±1.63	13.0±0.81	40.8±1.03	16.3±0.62
	60	45.6±1.75	15.2±0.79	48.9±1.15	20.7±0.70
	90	50.6±1.03	17.3±0.75	55.1±1.27	22.8±1.21
	120	52.2±1.46	19.6±1.06	59.0±0.97	25.8±0.52
1 experimental	1	25.2±1.11	6.9±0.45	30.1±1.36	16.3±0.91
	15	37.6±1.03**	11.9±0.67*	37.1±0.95*	15.9±1.01
	30	49.0±1.92	15.1±0.78	46.6±1.81*	18.7±1.10
	60	52.2±2.08*	19.2±0.70**	54.7±1.73*	23.9±0.63**
	90	55.4±1.25*	20.1±0.99	61.8±1.45**	27.1±0.81*
	120	57.6±1.40*	22.6±0.76*	66.1±1.39**	28.3±1.04
2 experimental	1	25.8±0.86	7.1±0.59	31.4±1.30	16.5±1.05
	15	40.2±1.24**	12.8±0.83*	39.9±1.17**	16.8±1.09
	30	51.6±2.06	16.2±1.15	50.8±1.31***	20.0±0.90**
	60	54.4±1.80**	21.4±1.17**	58.9±1.55***	25.4±1.24*
	90	56.6±1.80*	22.2±0.62***	65.2±1.64**	27.9±0.72**
	120	58.6±1.86*	25.8±0.77**	68.5±1.01***	28.9±0.79*
using adaptive technology in winter					
Control	1	21.6±1.57	6.2±0.41	29.0±0.98	21.4±1.42
	15	33.2±1.80	10.0±0.54	35.1±1.01	22.4±0.98
	30	47.2±1.20	15.1±0.47	44.6±1.18	24.0±1.24
	60	44.4±1.33	17.2±0.84	50.9±0.92	22.2±1.35
	90	51.8±1.16	18.6±0.59	58.3±1.13	25.7±0.76
	120	53.0±1.45	21.1±0.58	62.9±1.45	26.4±1.02

<i>Continuation of table 2</i>					
1	2	3	4	5	6
1 experimental	1	23.8±1.07	7.3±0.46	32.6±1.32	23.8±1.09
	15	40.2±1.50*	13.1±0.65**	40.5±1.42*	26.8±1.07*
	30	51.2±1.36	18.3±0.64**	52.2±1.42**	26.8±0.83
	60	54.4±1.50**	21.3±0.78**	60.8±1.41***	27.0±1.19*
	90	56.8±1.65*	22.2±0.60**	65.9±1.72**	30.2±1.09**
	120	58.2±1.56*	24.2±0.59**	68.9±1.39*	31.1±1.14*
2 experimental	1	25.2±1.77	7.8±0.64	32.4±1.55	24.1±1.22
	15	41.6±1.33**	14.2±0.64***	42.3±1.20**	27.5±1.17*
	30	52.4±1.63*	19.0±0.65**	55.0±1.53***	28.8±0.81*
	60	55.4±1.91**	23.4±0.69***	63.2±1.42***	29.0±1.03**
	90	57.8±1.60*	25.1±0.77***	69.9±1.21***	30.4±0.76**
	120	59.4±1.69*	27.3±0.79***	71.6±1.36**	32.1±1.07**
* P<0.05, ** P<0.01, *** P<0.001.					

With the adaptive technology, the data of these parameters were higher: in the winter period - by 5.2 - 6.4%, 3.1 - 6.2%, 6.0 - 8.7% and 4.7 - 5.7 mg/ml; and in the spring-summer period - by 0.2 - 0.6%, 4.6 - 5.7%, 4.9 - 7.2% and 3.4 - 4.8 mg/ml (P <0.05-0.001), respectively.

The research results testify that cell and humoral factors of nonspecific resistance of animals were activated by dostim and polystim. Dostim the most actively stimulated the phagocytic activity and the phagocytic index, and polystim - lysozyme, bactericidal activity and the synthesis of immunoglobulins.

Conclusion. The analysis of the research results on the use of biological preparations to activate the adaptive processes and biological potential of cows and calves born from them when kept under the intensive and adaptive technologies indicates that not only cellular and humoral factors of nonspecific resistance have been activated under the influence of biostimulants in all experimental animals, but gynecological diseases and mastitis in cows were excluded, and their reproductive function was improved, and the growth of calves was accelerated, the live weight and safety were increased. The most pronounced stimulating effect has been exerted by polystim and PV-1.

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СҮТТИ-ТАУАРЛЫ ФЕРМАДАҒЫ МҮЙІЗДІ ІРІ ҚАРА МАЛ АДАПТОГЕНЕЗІ МЕН БИОЛОГИЯЛЫҚ ПОТЕНЦИАЛЫ

Аннотация. Жұмыстың мақсаты – сүт өндірісі кәсіпорындарында ірі қараның биологиялық потенциалын және адаптациялық процестерін белсендендіру.

Тәжірибе жұмыстары Жамбыл облысы, Жуалы ауданы «Гамбург» ЖШС-да іске асырылды. Зерттеу нысаны ретінде қараала тұқымының 400 бас сиыры және сол сиырлардан туған 120 бұзау алынды. Бақылау мерзімі – 120 күн. Тәжірибеге 1 күндік бұзаулар қолданылды.

Ғылыми-зерттеу жұмыстары азықтану нормасына сәйкес іске асырылды. Жеке үй және павильондарда төмен температурада бұзау асырау уақытында сүтпен азықтандыру деңгейі белгіленген нормалардан 20% жоғары болды.

Қысыр қалған сиыр және жас төлдің адаптациялық процесін, биологиялық потенциалын белсендендіру үшін экологиялық қауіпсіз биогенді препараттар: бұрын жасалған – достим және мастим және заманауи полистим және ПВ-1 қолданылады.

Бақылау барысында тәжірибе және бақылау тобындағы жануарлардың клиникалық-физиологиялық жағдайы физиологиялық нормадан асқан жоқ. Негізгі шектеу көрсеткіштері: дене температурасы – $39,0 \pm 0,12$ -ден $39,3 \pm 0,11$ °C дейін, тыныс алу жиілігі $80 \pm 0,51$ -ден $84 \pm 1,16$ дейін ауытқу/мин және сәйкесінше $23 \pm 0,93$ -тен $25 \pm 0,51$ дейін қимыл/мин. Тәжірибе жануарлардың және бақылау шегінің арасындағы статистика сенімсіздік тудырды ($P > 0,05$).

Төлдеуге 35-30, 25-20 және 15-10 тәулік қалғанда достим, мастим және полистим, ПВ-1 қолдану жұмыстары мастит пен эндометриттің пайда болу қаупін, сиыр ауруын азайтуға септігін тигізді. Бұл препараттарды қолдану сиырдың келесідей көбею функциясын жоғарылатты: күйлеу мезгілінің жылдам келуі, жүктіліктің жоғарлауы, ұрықтану индексінің азаюы және сервис мерзімінің ұзақтығы. Полистим және ПВ-1 тиімді болып келеді.

Бақылау және тәжірибелі сиырдан туған бұзаудың дене температурасы, пульс жиілігі және тыныс алу қозғалысы физиологиялық норма шеңберінде көрінді.

Бақылау тобындағы сиырынан 30 % гипотрофик төл, ал 1-2 тәжірибелі топ бұзауынан сәйкесінше 10 және 15 % туды. Тірі салмақ, дене өлшеміндегі мән (шоқтық биіктігі, дененің қиғаш ұзындығы, көкірек орамы және жіліншік орамы) бақылау барысында азайды. Бақылау тобындағы сиырдан туған бұзаудың асқазан-ішек жолдары және тыныс алу мүшелерінің ауруы анықталды, ал тәжірибеліде байқалмады.

Бақылау тобынан алынған бұзаудың мускулатурасы әлсіз дамыған, ауыз және мұрын қуысының шырышты қабаты бұлыңғыр, терісі эластикалық емес, құрғақ, ал тәжірибелі топтарда туған төлдікі өміршен шықты, дене бітімі жақсы дамыған, жылтыр түкті эластикалық терісі бар.

Қыс мезгілінде дүниеге келген, интенсивті технология жағдайында өсірілген бұзаулардың бұлшық етіне достим және полистим енгізгеннен кейін жылдам жетілді, олардың орташа тәуліктік өсімі және тірі массасы зерттеудің барлық кезеңінде бақылаудағыдан басым болды: 6,4 және 9,6 кг және 43,2 және 65,2 г, ал сәйкесінше адаптивті технологияда қыс мезгілінде – 5,8 және 8,8 кг және 36,7 және 55,2 г, көктем – күз – 3,2 және 4,0 кг және 28,2 және 29,7 г ($P < 0,05-0,001$).

120 күнде дене өлшемін салыстырғанда, бақылауда дене өлшеміндегі мәндер (шоқтық биіктігі, дененің қиғаш ұзындығы, көкірек орамы және жіліншік орамы) төмен көрсеткіш көрсетті: 4,5 – 8,3 % және 2,8 – 10,6 %. Осындай заңдылық тәжірибелі бұзаудың өсу коэффициентінде анықталды.

Түйін сөздер: биологиялық стимулятор, адаптивті процестер, физиологиялық жағдай, гинекологиялық статус, бұзау, спецификалық емес резистенттік.

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АДАПТОГЕНЕЗ И БИОЛОГИЧЕСКИЙ ПОТЕНЦИАЛ КРУПНОГО РОГАТОГО СКОТА НА МОЛОЧНО-ТОВАРНЫХ ФЕРМАХ

Аннотация. Цель настоящей работы – активизация адаптивных процессов и биологического потенциала крупного рогатого скота на предприятиях по производству молока.

Экспериментальные работы проведены ТОО «Гамбург» Жуалинского района Жамбылской области. Объектами исследований были 400 коров черно-пестрой породы и 120 телят, родившихся от этих коров. В опытах использовали телят с 1-го дня рождения. Срок наблюдения продолжался в течение 120 дней.

Научно-исследовательская работа проведена по рационам, принятым в хозяйствах с учетом основных показателей, предусмотренных Нормами и рационами кормления животных. При выращивании телят в индивидуальных домиках и павильонах в условиях пониженных температур уровень молочного кормления устанавливали выше предусмотренных норм на 20 %.

Для активизации адаптивных процессов и биологического потенциала сухостойных коров и молодняка использовали экологически безопасные биогенные препараты: ранее разработанные – достим и мастим и нового поколения – полистим и ПВ-1.

В процессе наблюдения установлено, что клинико-физиологическое состояние контрольных и подопытных животных во всех проведенных опытах находилось в пределах физиологических норм. При этом данные основных показателей варьировали: температура тела от $39,0 \pm 0,12$ до $39,3 \pm 0,11$ °С, частота пульса и дыхательных движений от $80 \pm 0,51$ до $84 \pm 1,16$ колеб/мин и от $23 \pm 0,93$ до $25 \pm 0,51$ дв/мин соответственно. Разница между величинами контрольных и подопытных животных была статистически недостоверной ($P > 0,05$).

Результаты изучения гинекологического статуса коров при использовании биологических стимуляторов свидетельствуют о том, что применение достима, мастима и полистима, ПВ-1 за 35-30, 25-20 и 15-10 дней до отела способствовало уменьшению заболеваний у коров: задержки последа и субинволюции матки, риска возникновения эндометрита и мастита. Использование этих препаратов способствовало повышению воспроизводительной функции коров: сокращению сроков прихода в охоту, увеличению оплодотворяемости, сокращению индекса осеменения и продолжительности сервис-периода. При этом более высокий эффект оказывали полистим и ПВ-1.

У телят, родившихся от контрольных и подопытных коров, температура тела, частота пульса и дыхательных движений были в пределах физиологических норм. От коров контрольной группы рождалось 30 % телят-гипотрофиков, а от коров 1-й и 2-й подопытных групп – 10 и 15 % соответственно. Живая масса, экстерьерные промеры (высота в холке, косая длина туловища, обхват груди за лопатками и обхват пясти) телят от контрольных коров были ниже, чем от подопытных. У телят, родившихся от контрольных животных, отмечались заболевания желудочно-кишечного тракта и респираторных органов, а у подопытных – они не установлены. Телята, полученные от коров контрольной группы, имели плохо развитую мускулатуру, бледные слизистые оболочки ротовой и носовой полостей, сухую, неэластичную кожу, а родившиеся от подопытных коров были более жизнеспособными, имели развитое телосложение, эластичную кожу с густым блестящим волосатым покровом. Телята, родившиеся в зимний период и выращиваемые в условиях интенсивной технологии, после внутримышечной инъекции достима и полистима быстрее росли, живая масса и среднесуточный прирост их за весь срок наблюдения были выше по сравнению с контролем на 6,4 и 9,6 кг и на 43,2 и 65,2 г, а при адаптивной технологии в зимний период – на 5,8 и 8,8 кг и на 36,7 и 55,2 г, в весенне-летний – на 3,2 и 4,0 кг и 28,2 и 29,7 г ($P < 0,05-0,001$) соответственно. При сравнении экстерьерных промеров телят в возрасте 120 дней установлено, что разница в данных промеров косой длины туловища, высоты в холке, по обхвату груди за лопатками и обхвату пясти составляла 4,5 – 8,3 % и 2,8 – 10,6 % соответственно. Аналогичная закономерность выявлена в характере изменений коэффициента роста подопытных телят.

Ключевые слова: биологические стимуляторы, адаптивные процессы, физиологическое состояние, гинекологический статус, телята, неспецифическая резистентность.

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INNOVATIVE TECHNOLOGIES OF CALVES REARING IN DAIRY CATTLE BREEDING

Abstract. For the first time, the rationale of using polystim in the technology of calf rearing in private subsidiary plots, on small and medium farms has been scientifically substantiated and experimentally proved to activate the protective and adaptive functions of the body to the keeping conditions and to more fully realize the biological potential of resistance and productivity. Thus, live weight, average daily gain and growth rate of young cattle of the experimental group were higher by the end of the observation period (180 days) than in the control group: in the conditions of personal subsidiary plots by 6.6 kg, 33.3 g and 0.28, on small farms - by 5.2 kg, 20.0 g and 0.08, and with the technology of keeping on a medium farm - by 4.8 kg, 13.3 g and 0.23 ($P < 0.05$) respectively. The dynamics of exterior measurements of animals of all groups were similar to the nature of changes in their live weight and their average daily gain. At the same time, the incidence of respiratory organs diseases and the gastrointestinal tract in newborn calves was reduced to 25-40%, the duration of the disease was reduced by 2.45; 1.31 and 1.93 days ($P < 0.05-0.001$).

Key words: personal subsidiary plots, small and medium-sized farms, calves, polystim, growth and development, hematological and biochemical profiles, meat quality.

Introduction. In modern agricultural conditions, in a complex of measures to increase the production of full-fledged livestock products within the framework of the Priority National Project “Development of the agro-industrial complex”, it is important to stimulate the development of small sizes of farming in the agro-industrial complex, taking into account the veterinary and hygienic requirements for the chain “forage-keeping conditions - protection of farms from infections - receipt and preservation of young stock - local quality and processing of products - protection environment - human health” [1].

The relationship between animals and the environment in a production environment is quite complicated. The state of health and productivity of animals is influenced to varying degrees by the technological systems available in enterprises depending on the number of animals. Therefore, of practical interest is the determination of the optimal number of cows at milk production enterprises, in which stress loads on the animal organism would be minimal, and their resistance, productivity, and safety would be great [2].

In Chuvashia, cattle are traditionally kept mainly on small farms. This can be explained by the peculiarities of the climatic conditions: soil erosion, shallow contouring and ploughness of the land, an insignificant proportion of hayfields and pastures in the total area of agricultural land, and low forage crop yield since the region belongs to the zone of unstable moisture. The agriculture, fodder, and livestock systems became dependent on this. On small (with livestock of 50 and 100 cows) and medium (up to 200 cows) farms, the adaptive and reproductive capacity of animals is better realized than on larger ones. The stress state of young cattle was directly dependent on the capacity of milk production enterprises, and

the body's natural resistance was inverse. Also, with the increase in the size of such enterprises, the need for additional veterinary preventive and therapeutic measures increased [3].

The use of the reserve of adaptive qualities of the calf body is of great importance in dairy cattle breeding in the Republic of Kazakhstan and the Russian Federation [4-9].

The aim of this work is to scientifically substantiate the calf rearing in personal subsidiary plots, on small and medium-sized farms using a biostimulator polystim (PS-1).

Materials and methods. The experimental part of the research work was carried out on the Koltsovka Agrofirma OOO dairy farm (medium farm with livestock of 200 cows), training and production farm (small farm for 50 cows) VGO Vurnarsky agricultural technical high school and on personal subsidiary farms of Vurnarsky district of the Chuvash Republic. The processing of materials was carried out in the State Institution "Chuvash Republican Veterinary Laboratory" of the State Veterinary Service of the Chuvash Republic and in the Vurnarsky District Veterinary Laboratory of the State Institution "Vurnarsky District station of anti-animal diseases", as well as in laboratories of the Chuvash State Agricultural Academy.

Three series of scientific and economic experiments have been conducted in the conditions of personal subsidiary plots, small and medium farms using black-motley calves. In all series of experiments, two groups of newborn calves were selected according to the principle of analogs (control and experimental), taking into account the physiological state and live weight of 10 animals in each group.

In the first series of the experiments, newborn calves were raised in a cowshed with a cow-mother in an isolated section, in the second - in the beginning in the dispensary individually for up to 30 days, then in group sections (starting from 3-5 up to 8-10 animals), and in the third a series of experiments - firstly individually in a shift-section dispensary for up to 21 days, then in a group way in sections of a calf pen (8-10 animals each).

The studies were conducted against the background of balanced feeding according to diets adopted on farms, taking into account the main indicators stipulated by the Norms and diets of feeding farm animals. Analyzing the diet of feeding calves in winter, it should be noted that it provided the animals with EFU of 102.4%, crude protein - 114.1%, digestible protein - 91.2%.

To activate the protective and adaptive functions of the calf body to the keeping conditions in personal subsidiary plots, on small and medium farms in winter, to reduce the stress load on the body and to more fully realize the biological potential of the resistance and productivity of young stock, we used a polystim biostimulator developed by scientists of the Chuvash State Agricultural academy.

When setting up the experiments, the control group of animals was not administered with a biostimulator, and the experimental group was intramuscularly injected with polystim at a dose of 3 ml at 1-2- and 5-6-day olds ages.

After the slaughter of young animals (control and experimental groups) at the age of 180 days, histomorphological evaluation of internal organs and veterinary and sanitary examination of beef were performed.

Research results. The parameters of the air basin in the premises for keeping calves in the conditions of small forms of management are presented in table. 1.

The results of these studies show that the parameters of the air basin in the premises for keeping calves in private plots, on small and medium farms for the entire research period were within the limits of hygiene standards.

Analysis of the clinical and physiological state of the experimental animals showed that in the process of conducting the test, the data on body temperature, pulse, and respiratory rates in calves were within the physiological norm.

We studied the effect of polystim on the incidence of calf disease in early postnatal ontogenesis to identify prophylactic efficacy. When rearing animals in private subsidiary plots for the entire observation period, 3 calves fell ill in the control group, including 2 bronchopneumonia and 1 dyspepsia, and the experimental group 1 calf with dyspepsia. On the small farm, over the test period, 5 animals (2 bronchopneumonia and 3 dyspepsias) fell ill in the control group, and 1 calf with dyspepsia in the experimental group. On the middle farm, dyspepsia was found in 4 calves and bronchopneumonia in 2 calves of the control group, as well as dyspepsia in 2 calves of the experimental group. The duration of illness of animals in the control and experimental groups in the first series of the experiment was

Table 1 – The microclimate parameters in the premises for keeping calves

Parameter	Keeping animals					
	In the private subsidiary plot		On small farm		On medium farm	
	cowshed		dispensary	calf pen	dispensary	calf pen
	rearing periods, days					
	1-30	31-180	1-30	31-180	1-21	22-180
Air temperature, °C	17.2±0.43	15.4±0.25	15.8±0.28	14.7±0.19	15.4±0.38	13.3±0.23
Relative humidity, %	69.0±1.15	72.7±1.34	73.0±1.43	74.8±1.59	75.0±1.75	77.5±1.80
Air velocity, m/s	0.15±0.01	0.17±0.02	0.20±0.02	0.23±0.01	0.18±0.01	0.23±0.02
Light coefficient	1:10	1:10	1:13	1:13	1:15	1:14
Coefficient of natural illumination, %	0.50±0.03	0.60±0.02	0.63±0.04	0.75±0.03	0.73±0.06	0.78±0.05
Air Pollutant Concentration:						
ammonia, mg/m ³	5.3±0.26	7.6±0.28	6.2±0.35	8.4±0.45	7.1±0.41	9.3±0.55
hydrogen sulfide, mg/m ³	3.2±0.19	5.5±0.20	3.4±0.23	5.9±0.25	3.6±0.47	6.8±0.36
carbon dioxide, %	0.15±0.01	0.17±0.02	0.16±0.02	0.18±0.01	0.18±0.01	0.20±0.02
bacterial count, thousand/m ³	21.1±0.78	30.3±0.99	25.6±1.15	33.7±1.01	29.8±1.23	35.3±1.25
dust content, mg/m ³	1.3±0.06	2.2±0.10	1.6±0.09	2.6±0.12	2.0±0.12	3.3±0.13

7.45±1.16 and 5.00±0.00 days, in the second series - 8.31±1.16 and 7.00±0.00 and in the third series - 8.43±1.24 and 6.50±0.93 days, that is, in experimental animals it was shorter by 2.45; 1.31 and 1.93 days, respectively, and proceeded more benign than in the control. The Möllenberg coefficient, which expresses the therapeutic and prophylactic efficacy of using a biostimulator, in control animals exceeded the data of the experimental young in 4.1; 5.9 and 3.9 times.

From the obtained data, it follows that intramuscular injection of polystim to calves prevented the respiratory and digestive disease incidence, reduced the duration of the disease and the Mellenberg coefficient.

It was found that the live weight, average daily gain and growth coefficient of calves of the experimental group were higher at the end of the observation period than in the control: in the conditions of private subsidiary plots by 6.6 kg, 33.3 g and 0.28, of the small farm - by 5.2 kg, 20.0 g and 0.08, and with keeping technology on the medium farm - by 4.8 kg, 13.3 g and 0.23 ($P<0.05$), respectively. At the same time, the exterior measurements of the calves of the tested group exceeded the control data in the conditions of private subsidiary plots, in cm: oblique body length - 4.0 cm, height at the withers - 4.2 cm, chest girth behind the shoulder blades - 4.8 cm and metacarpal girth - 0.2 cm; on a small farm - by 4.2 cm; 4.6; 4.6 and 0.1 cm and in medium farm conditions - by 4.0 cm; 3.8; 3.6 and 0.2 cm, respectively ($P<0.05$).

Thus, intramuscular injection of polystim at a dose of 3 ml at the age of 1-2- and 5-6 days stimulates calf growth and development. A higher corresponding effect was obtained as a result of the use of the drug in the conditions of private subsidiary plots rather than small and medium farms.

Veterinary-sanitary inspection of beef is presented in table. 2.

The research showed that the organoleptic, biochemical, and physico-chemical indicators of meat from both experimental and control animals raised under conditions of private plots, small and medium farms were almost identical. The meat of the experimental animals had a dry crust and a pale pink color. The place of its cut was uneven, more saturated with blood than in other places of the carcass. Consistency - dense, elastic, when pressing with a finger on the surface of the meat, a dimple formed, which quickly aligned. The muscles in the cut were slightly moisty and did not leave a wet spot on the filter paper; they had a light red color. There was no blood in them or the blood vessels. Small vessels under the pleura and peritoneum were not visible. The cut surface of the lymph nodes was light gray. The broth made from this meat was transparent, aromatic, on its surface, there was a slight accumulation of large fat drops.

The pH value of the meat of the calves of the control groups raised in private subsidiary plots, on small and medium farms, was equal to 5.97±0.02; 6.02±0.01, and 6.03±0.01, respectively, and in experimental

Table 2 – Veterinary-sanitary inspection of beef in the conditions of small forms of management

Indicators	Group of animals	
	control	experimental
Organoleptic:		
appearance and surface color	the surface of the carcass has a dry crust of drying of a pale pink color	
muscles on the cut	slightly moist, do not leave a wet spot on the filter paper; of light red color	
consistency	the cut meat is dense, elastic; the hole formed by pressing with a finger quickly aligns	
smell	specific to fresh beef	
surface fat	yellowish color, solid consistency, crumbles when pressed	
tendon conditions	elastic, dense, the surface of the joints is smooth, shiny	
transparency and smell of broth	transparent, aromatic, large drops of fat on the broth surface	
Biochemical:		
pH	5.97±0.02*	5.89±0.02*
	6.02±0.01**	5.95±0.02**
	6.03±0.01***	5.98±0.01***
amino ammonia nitrogen, mg	1.22±0.02*	1.25±0.01*
	1.18±0.02**	1.15±0.01**
	1.14±0.01***	1.11±0.02***
reaction to peroxidase	positive	
reaction with copper sulfate	negative	
Physico-chemical - concentration of toxic elements, mg/kg:		
lead	0.05*	0.04*
	0.07**	0.06**
	0.05***	0.06***
zinc	21.6*	22.2*
	19.7**	21.2**
	19.1***	18.3***
cadmium	not found	
arsenic	not found	
mercury	not found	
* in the conditions of private subsidiary plots, ** in the conditions of a small farm, *** in the conditions of a medium farm.		

groups - 5.89±0.02; 5.95±0.02 and 5.98±0.01; amino ammonia nitrogen - 1.22±0.02 mg; 1.18±0.02; 1.14±0.01 mg and 1.25±0.01; 1.15±0.01; 1.11±0.02 mg, respectively. In meat samples from animals of the compared groups, the reaction to peroxidase was positive, and with copper sulfate, it was negative. According to the organoleptic and biochemical properties, the meat of the experimental animals did not differ from the control data.

The content of cadmium, arsenic, and mercury in meat samples was not found. The lead level in the meat samples of the control groups of animals was 0.05; 0.07 and 0.05 mg/kg, and in experimental animals - 0.04; 0.06 and 0.06 mg/kg, respectively. The zinc content in samples of meat from animals in the control groups was 21.6; 19.7 and 19.1 mg/kg, and in experimental group - 22.2; 21.2 and 18.3 mg/kg, respectively. Therefore, according to the physico-chemical properties, the meat of the experimental animals did not differ from the control data ($P>0.05$).

Thus, the organoleptic, biochemical and physicochemical parameters of beef in experimental groups of animals raised under conditions of private plots, small and medium farms were identical and met the requirements of the Sanitary and Epidemiological Rules and Norms of SanPiN 2.3.2.1078-01, which indicates the environmental safety of the tested biostimulant and the benignity of meat carcasses.

As a result of histomorphological studies, it was found that the polystim did not cause abnormalities in the morphology of the tissues of the lungs, lymph nodes, adrenal glands, liver, kidneys, spleen, and thyroid gland.

Suggestions for production. To activate the protective and adaptive functions of the calf body to the keeping conditions on private subsidiary plots, on small and medium-sized farms in winter, to reduce the stress load on the body and to more fully realize the biological potential of young animals' resistance and productivity, we recommend injecting calves with a 3 ml biostimulant intramuscularly at a dose of 3 ml at the age of 1-2 and 5-6 days.

At the same time, the stimulating effect of reducing the incidence of respiratory organs and the gastrointestinal tract of newborn calves, increasing the gain in live weight was the highest under the influence of polystim in the conditions of private subsidiary plots.

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СҮТТІ ІРІ ҚАРА МАЛ ШАРУАШЫЛЫҒЫНДА БҰЗАУ ӨСІРУДІҢ ИННОВАЦИЯЛЫҚ ТЕХНОЛОГИЯСЫ

Аннотация. Жұмыстың мақсаты биостимулятор полистимін (ПС-1) қолдану арқылы жеке қосалқы учаскелерде, шағын және орта фермаларда бұзау өсіруді ғылыми негіздеу.

Шағын және орта ферманың жеке шаруашылығында үш сериялы ғылыми-шаруашылық тәжірбиесі қараала бұзауларға жүргізілді. Барлық тәжірбиелік серияда жаңадан туған бұзаудан жұп – аналогтар принципі бойынша (бақылау және тәжірбиелік) физиологиялық жағдайы және тірі салмағы 10 жануардан тұратын топтар құралды.

Эксперименттің бірінші нұсқасында жаңа туған бұзаулар сиыр-анасымен бірге оқшауланған бөлімде, екіншісінде алдымен профилакторийде жеке 30 күнге дейін, одан кейін секцияларда топ түрінде (3-5-тен 8-10 басқа дейін), ал тәжірбиенің үшінші нұсқасында алдымен ауыспалы-секциялық профилакторияда 21 күнге дейін, содан кейін топтық әдіспен бұзау секциясында (әрқайсысы 8-10 бас) өсірілді.

Ауылшаруашылығы жануарларының қарастырылған норма және азықтандыру рационына сәйкес зерттеулер жүргізілді. Жануарлардың қоректену рационын талдау барысында қыс мезгілінде КЭБ 102,4 % 114,1 шикі протеин, 91,2 % қорытылған протеин қамтамасыз етті.

Жануарлардың бақылау тобына эксперимент жүргізгенде биостимулятор енгізілмеді, ал тәжірбие тобына 1-2 және 5-6 тәуліктік жастағы бұзаудың 3 мл дозада бұлшық етіне енгізілген.

Жас малды сойғаннан кейін (бақылау және эксперименттік топтар) 180 тәуліктік жасында ішкі мүшелерге гистоморфологиялық бағалау және сиыр етін ветеринариялық-санитариялық сараптау жүргізілді.

Жеке қожалықтардағы бақылау тобында 3 бұзау, 2 бронопневмония және 1 диспепсия, тәжірбиелік топта 1 бұзау диспепсия ауруына ұшырады. Шағын фермада тәжірбие жасау барысында бақылау тобында 5 жануар (2 бронопневмониямен және 3 диспепсиямен), тәжірбие тобында 1 бұзау диспепсиямен ауырды. Орта фермаларда бақылау тобында 4 диспепсия және 2 бронопневмониямен, тәжірбиелі тобында 2 бұзау диспепсияға ұшырады. Бақылау және тәжірбиелі топтарда бірінші нұсқада жануарлардың ауру ұзақтығы 7,45±1,16 және 5,00±0,00 тәулік, екінші топта 8,31±1,16 және 7,00±0,00 және үшіншіде 8,43±1,24 және 6,50±0,93 тәулік, бақылаумен салыстырғанда, тәжірбиелі жануарларда жеңіл формада қысқа мерзімде 2,45; 1,31 және 1,93. Бақылау жануарларындағы биостимуляторды қолданудың емдік-профилактикалық тиімділігін анықтайтын Мелленберг коэффициенті бақылаудағы жас жануарлардың деректерінен 4,1; 5,9 және 3,9 есе асып түсті.

Бақылау кезеңінің соңында эксперимент тобындағы бұзаудың тірі салмағы, орташа тәуліктік өсімі және өсу коэффициенті бақылауға қарағанда жоғары екені анықталды: жеке қосалқы учаскелерде 6,6 кг, 33,3 г және 0,28, ал ұсақ шаруа қожалығында 5,2 кг, 20,0 г және 0,08, ал орташа фермада технологиялық қызмет көрсетумен сәйкесінше 4,8 кг, 13,3 г және 0,23 (P < 0,05). Бақылау топтарында дене өлшемінің көрсеткіші бақылаумен салыстырғанда басым шықты: дененің қиғаш ұзындығы – 4,0 см, шоқтық биіктігі – 4,2 см, көкірек орамы – 4,8 см және жіліншік орамы – 0,2 см; шағын ферма – 4,2 см; 4,6; 4,6 және 0,1 және орта фермада – 4,0 см; 3,8; 3,6 және 0,2 сәйкесінше (P < 0,05).

Жеке қосалқы учаскелерде, кіші және орта фермаларда өсірілген бақылау тобындағы бұзау етінің рН мәні сәйкесінше 5,97 ± 0,02 құрады; 6,02 ± 0,01 және 6,03 ± 0,01, ал эксперименттік топтар – 5,89 ± 0,02; 5,95 ± 0,02 және 5,98 ± 0,01; аммиакты азот – 1,22 ± 0,02 мг; 1,18 ± 0,02; 1,14 ± 0,01 мг және 1,25 ± 0,01; 1,15 ± 0,01, тиісінше 1,11 ± 0,02 мг. Салыстырылған топ жануарларынан алынған ет сынамасында пероксидаза реакциясы – оң, ал мыс сульфатында теріс шықты. Органолептикалық және биохимиялық қасиеттері бойынша тәжірбиелік топтың еті бақылау деректерінен ерекшеленбеді.

Ет сынамасында кадмий, мышьяк және сынап мөлшері табылмады. Жануарлардың бақылау тобы етіндегі қорғасын деңгейі 0,05, 0,07 және 0,05 мг / кг құрады; ал тәжірбиелік – 0,04, тиісінше 0,06 және 0,06 мг / кг.

Бақылау тобындағы жануарлардан алынған етте мырыш концентрациясы 21,6; 19,7 және 19,1 мг / кг, ал тәжірибелік – 22,2, сәйкесінше 21,2 және 18,3 мг / кг. Сондықтан физика-химиялық қасиеттері бойынша жануарлардың эксперименттік тобының еті бақылау үлгілерінен ерекшелігі болмады ($P > 0.05$).

Гистоморфологиялық зерттеулер нәтижесінде полистимнің өкпе, лимфа түйіні, бүйрек үсті безі, бауыр, бүйрек, көкбауыр және қалқанша безі тінінің морфологиясында ауытқу тудырмайтындығы анықталды.

Түйін сөздер: жеке қожалықтар, шағын және орта фермалар, бұзау, полистим, өсу және даму, гематологиялық және биохимиялық профилдер, ет сапасы

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ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ ВЫРАЩИВАНИЯ ТЕЛЯТ В МОЛОЧНОМ СКОТОВОДСТВЕ

Аннотация. Цель настоящей работы – научно обосновать выращивание телят в личных подсобных хозяйствах, на малых и средних фермах с применением биостимулятора полистим (ПС-1).

Проведены три серии научно-хозяйственных опытов в условиях личных подсобных хозяйств, малой и средней ферм с использованием телят черно-пестрой породы. Во всех сериях опытов было подобрано две группы новорожденных телят по принципу пар-аналогов (контрольная и опытная) с учетом физиологического состояния и живой массы по 10 животных в каждой группе.

В первом варианте опытов новорожденных телят выращивали в хлеву с коровой-матерью в изолированной секции, во втором – сначала в профилактории индивидуально до 30 суток, затем – в секциях групповым способом (начиная с 3-5 до 8-10 голов), а в третьем варианте опытов – сначала индивидуально в сменно-секционном профилактории до 21 суток, затем – групповым способом в секциях телятника (по 8-10 голов).

Исследования проведены на фоне сбалансированного кормления по рационам, принятым в хозяйствах с учетом основных показателей, предусмотренных Нормами и рационами кормления сельскохозяйственных животных. Анализируя рацион кормления телят в зимний период, следует отметить, что он обеспечивал потребность животных в ЭКЕ на 102,4 %, сыром протеине – 114,1, переваримом протеине – на 91,2 %.

При постановке опытов контрольной группе животных биостимулятор не вводили, а опытной группе внутримышечно вводили полистим в дозе 3 мл в 1-2- и 5-6-суточном возрасте.

После убоя молодняка (контрольных и опытных групп) в 180-суточном возрасте проводили гистоморфологическую оценку внутренних органов и ветеринарно-санитарную экспертизу говядины.

При выращивании животных в личных подсобных хозяйствах за весь период наблюдения в контрольной группе заболело 3 теленка, в том числе бронхопневмонией – 2 и диспепсией – 1, а в опытной – 1 теленок диспепсией. В условиях малой фермы за период опыта в контрольной группе заболело 5 животных (2 бронхопневмонией и 3 диспепсией), в опытной группе – 1 теленок диспепсией. На средней ферме установлена диспепсия у 4 и бронхопневмония у 2 телят контрольной группы, а также диспепсия у 2 телят опытной группы. Продолжительность болезни животных контрольной и опытной групп в первом варианте опыта составляла 7,45±1,16 и 5,00±0,00 сут, во втором – 8,31±1,16 и 7,00±0,00 и в третьем – 8,43±1,24 и 6,50±0,93 сут, то есть у опытных животных она была короче на 2,45; 1,31 и 1,93 сут соответственно, и протекала в более легкой форме, чем у контрольных. Коэффициент Мелленберга, выражающий лечебно-профилактическую эффективность применения биостимулятора, у контрольных животных превышал данные опытного молодняка в 4,1; 5,9 и 3,9 раза.

Установлено, что живая масса, среднесуточный прирост и коэффициент роста телят опытной группы оказались выше к концу срока наблюдения, чем в контроле: в условиях личных подсобных хозяйств на 6,6 кг, 33,3 г и на 0,28, малой фермы – на 5,2 кг, 20,0 г и на 0,08, а при технологии содержания на средней ферме – на 4,8 кг, 13,3 г и на 0,23 ($P < 0,05$) соответственно. При этом экстерьерные промеры телят опытной группы превосходили контрольные данные в условиях личных подсобных хозяйств, см: косяя длина туловища – на 4,0 см, высота в холке – 4,2 см, обхват груди за лопатками – 4,8 см и обхват пясти – на 0,2 см; малой фермы – на 4,2 см; 4,6; 4,6 и 0,1 см и в условиях средней фермы – на 4,0 см; 3,8; 3,6 и 0,2 см соответственно ($P < 0,05$).

Величина рН мяса телят контрольных групп, выращенных в личных подсобных хозяйствах, на малой и средней фермах, равнялась соответственно 5,97±0,02; 6,02±0,01 и 6,03±0,01, а опытных групп – 5,89±0,02; 5,95±0,02 и 5,98±0,01; аминокислотного азота – 1,22±0,02 мг; 1,18±0,02; 1,14±0,01 мг и 1,25±0,01; 1,15±0,01; 1,11±0,02 мг соответственно. В пробах мяса животных сравниваемых групп реакция на пероксидазу была положительной, а с сернокислой медью – отрицательной. По органолептическим и биохимическим свойствам мясо опытных групп не отличалось от контрольных данных.

Содержание кадмия, мышьяка и ртути в пробах мяса не обнаружено. Уровень свинца в пробах мяса контрольных групп животных составлял 0,05; 0,07 и 0,05 мг/кг, а опытных – 0,04; 0,06 и 0,06 мг/кг соответственно. Концентрация цинка в пробах мяса животных контрольных групп равнялась 21,6; 19,7 и 19,1 мг/кг, а опытных – 22,2; 21,2 и 18,3 мг/кг соответственно. Следовательно, по физико-химическим свойствам мясо опытных групп животных не отличалось от контрольных данных ($P > 0,05$).

В результате гистоморфологических исследований установлено, что полистим не вызывал отклонений от нормы в морфологии тканей легких, лимфатических узлов, надпочечников, печени, почек, селезенки и щитовидной железы.

Ключевые слова: личные подсобные хозяйства, малые и средние фермы, телята, полистим, рост и развитие, гематологический и биохимический профили, качество мяса.

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STAGES OF REGIONAL FOOD SECURITY PROVISION

Abstract. The problem of national economic security, which includes guaranteed food provision in the regions, occupies one of the pivotal places in the politics of economically developed countries of the world. Issues of food security and agricultural development should be a priority; without them, all conversations about national security are meaningless. Over the past 20 years, a lot of funds and efforts have been invested in the development of agriculture in Russia, the results of these efforts say it all. Russia has become the largest exporter of food raw, completely covers the needs of the population in chicken eggs, poultry, and pork. Despite significant advances in food security, many problems need to be solved immediately.

The problem of food security provision at the federal and regional levels should be approached comprehensively. First of all, it is necessary to comprehend and realize that economic life develops according to its very specific laws, the complex interaction of which, ultimately, determines the state of the economy. The current situation with the position of food security can be assessed as not quite satisfactory.

The article outlines the problems of food security in the Chelyabinsk region and the relationship of its tasks, the growth of life expectancy, and the working capacity of the population. Four stages of their duration and features of tasks at each stage are substantiated. The term for the full achievement of food security is designed for 12 years, improving the nutritional structure and increasing its usefulness will increase life expectancy by 8-12 years, which is consistent with state policy in the economic and social spheres.

Key words: stages of food security, improving the patterns of consumption, the tasks of agro-industrial complex and agriculture, improving the food quality.

Introduction. Russia has become the largest exporter of food raw; it completely covers the population's needs for chicken eggs, poultry meat, and pork [1-5]. However, the food quality has not changed for the better. This is especially true of dairy and meat products (cottage cheese, cheeses, sour-milk products, and sausage goods) [6,7]. In pursuit of profit, manufacturers began to use various growth stimulants. In some cases, when baking bakery products, a wheat grain of class 3 is used, which is essentially fodder [8-10].

The problem of providing food security at the federal and regional levels should be approached comprehensively. First of all, it is necessary to conceptualize and realize that economic life develops according to its laws, the complex interaction of which, ultimately, determines the state of the economy [11-13].

The daunting challenge of stabilizing the food market cannot be reduced to achieving medically sound per capita consumption standards previously accepted as food safety landmarks. The named standards give the basis only for comparison with the actually achieved level. The lameness of this approach is that it has little to do with the dynamics of the consumption of products by different layers of the population. The standards are formed under the influence of biological needs and are determined by the financial capabilities of buyers. The effective demand of the population consists of professional employment, gender and age composition, geographical area of resettlement, the presence, and

composition of the household, organization of production, storage, and processing of agricultural products. It all depends on household income and the price ratio of various food products. [14,15].

The transition to prognostic estimates of consumption, taking into account the level of present and future income, initially implies a certain stage-by-stage, differentiation of the solution of the food issue for individual layers and social groups. Today, and in the foreseeable future, people are different, and will vary in the size of their income, habits, food addictions. The revival and growth of economic processes of reproduction, which are already outlined, will result in a boost in per capita income. This increase in different layers and groups will not be the same.

The current situation with the food security position can be assessed as not quite satisfactory. The actual level of food consumption in the Chelyabinsk region does not fully cover the energy needs of various social groups. In the daily diet, the protein content per capita is 85 g, including animal origin 35 g. Such food patterns, taking into account the harsh climate of the Urals, the indicated level of consumption does not always compensate for energy costs, and a deficiency of animal proteins and fats reduces the immunoprotective functions of the organism.

The dynamics of the food patterns have shifted towards cheaper and less valuable products. Until now, a significant part of meat and dairy products (up to 25-35%) are imported annually to the region from neighboring regions of Russia. A decrease in the level of consumption of animal and vegetable products is fraught with the fact that the undernourishment of people can aggravate the situation, lead to social problems, and decrease working capacity, which inhibits the growth of life expectancy. All this contradicts the immediate prospects of the country's development.

The cheapest sources of vegetable protein and carbohydrates are bread, potatoes, vegetables, and sugar [16-19]. It is these products plus vegetable oil that have become the main foodstuffs for a quarter of the population [20-23]. The most scarce in the diet of South Urals residents are dairy products, in which the optimal ratio of protein, fat, vitamins, and trace elements is observed.

Methods of research. The object of the research is the organizational and economic processes characterizing the environmental, economic, and social assessments of animal breeding technology. In the course of the research, methods of comparative analysis and expert evaluation and other methods were used. The experts were agricultural specialists, traders, and buyers. The complex analysis method was used to evaluate existing production technologies. The expert method has been applied when considering the prospects for the development of various forms of land management. The survey method has found application in assessing the quality of foodstuffs.

Research results. We propose a stage-by-stage food security solution.

At the first stage, which cannot be extended, the task is to protect the disadvantaged segments of the population. To do this, it is necessary to increase the production of the cheapest and easily reproducible products: bakery and cereal products, vegetables, vegetable oil. In general, in the Chelyabinsk region, this problem is solved by increasing local food resources. The exceptions are sugar. The economic essence of the first stage is that the listed groups of foodstuffs should be available both in quantity and at prices to citizens with the lowest incomes.

In the development of the agriculture-based economy, there are many issues associated with the fact that in the early stages of the reform, many subsectors were destroyed. First of all, this applies to dairy and beef cattle breeding, sheep breeding, and productive horse breeding. During the implementation of the first stage, an increase in per capita consumption level will be achieved up to 2600-2700 c/cal against 2200 c/cal per day. From a quantitative point of view, it is advisable to bring the per capita food consumption per year within the following limits: bakery products - 140 kg, potatoes - 135-140 kg, vegetables - 80-90 kg, fruits and berries - 30 kg, eggs - 260-270 pcs., dairy products - up to 200-230 kg, meat products up to 50-60 kg. This product minimum can be achieved not only by increasing the production of food raw, but also by ensuring its best preservation and processing.

The implementation of the first stage involves real growth in the personal sector. This can only be achieved by overcoming the stagnation in the economy. Unfortunately, income growth is slow. At this stage, much depends on supporting the introduction of private subsidiary plots in villages and cities. In fact, this direction was lost. The successful implementation of the first stage allowed to stabilize social relations.

In the second stage, it is necessary to solve the problem of radical improvement in the overall food patterns by increasing the production of more expensive and protein-rich, vitamin-rich products: meat and fish products of a wide range, dairy products, early vegetables, and potatoes. The implementation of this stage will require significant investments in the agricultural sector and therefore can be carried out in the conditions of economic growth of the country and regions.

In our opinion, in the region, there is a real opportunity in the coming years to solve the problems of the second stage of providing food security by advancement and regional production location, and effective use of the entire resource potential. For example, in the Chelyabinsk region in recent years, 2.0 million tons of grain have been grown or more than 4.5-5 tons per capita. This covers the region's needs for food and feed grain. The bioclimatic potential of the region allows growing potatoes and vegetables in sufficient quantities and assortment. In most regions of the country, the second stage is barely forming. In economically prosperous regions, the second phase of food security has been successfully resolved. Such regions include the Krasnodar Territory and the entire North Caucasus, Moscow and the Moscow Region, St. Petersburg and the Leningrad Region, areas associated with the extraction of energy resources.

The implementation of the second stage of providing food security is linked to the search and use of the domestic reserves of the agricultural sector in the regions. So, in the region, there are exceptionally great differences in the indicators of milk and meat production efficiency for individual farms.

At this time, it is critical to begin the structural transformation of livestock industries. In many farms in the steppe underpopulated areas of the Southern Urals, in the conditions of the market, it becomes preferable to engage in specialized beef cattle breeding, productive horse breeding, and sheep breeding. The sale of dairy products is difficult due to the lack of capacious markets, the distance of transportation of milk is 50-70 km or more. Not all former, even main farm estates have access to asphalt roads. On the other hand, the productivity of the dairy herd is often less than 4500-5000 kg. It is from this level of productivity that dairy farming becomes profitable. Long-term replenishment of local livestock with dairy breeds did not give the desired result. This is a costly and resource-intensive path. Therefore, substantial attention should be paid to breeding, the organization of proper feeding throughout the entire period.

The implementation of the third stage of the food security concerns fairly prosperous layers of the population; these are representatives of the middle class and the population with high per capita incomes. The per capita level of food consumption that is typical of these segments of the population will not be accessible to everyone. The third stage should be characterized by a gradual increase in the diet of delicatessen products: fish products, meat - dairy and confectionery industry, greenhouse vegetables, fresh berries, and fruits.

Such an implementation began quite successfully. For example, the commissioning of the Churilov Greenhouse facility made it possible to satisfy the needs for winter vegetables by 70-80% (tomatoes, cucumbers, peppers, green vegetables). The Chelyabinsk region has a large number of freshwater pools and lakes suitable for growing commercial pond marketable fish. In the reservoirs of the Troitskaya and Yuzhnouralskaya regional hydroelectric power plants, a lot of marketable fish were previously grown. Care should be taken to clean, repair these reservoirs, and stock up. It is advisable to lease freshwater reservoirs for a period of 5 to 15 years.

Achieving this level implies a significant strengthening of the material and technical base of the agro-industrial complex, a very noticeable increase in population incomes. Already there is an urgent need to transfer all sectors and enterprises of the agro-industrial complex to resource-saving technologies, oriented towards a more complete and deeper processing of agricultural raw materials into integral foodstuffs. In terms of the production of food products from each ton of raw materials, our industry is 12-15% inferior to the countries of Western Europe and the USA. The transfer to such technologies is associated with large investments, therefore, this stage will significantly stretch in time.

It makes no sense to talk about achieving the third stage of food security without ensuring the sustainable and progressive development of macroeconomic processes. Currently, many agricultural enterprises of the agro-industrial complex are marginally profitable. It is difficult for them to provide even simple reproduction. To realize the fulfillment of the third stage goals, it is necessary to reconstruct and modernize the existing production, gradually moving to unmanned technologies. Only in conditions of stable improvement of macroeconomic processes, it is possible to achieve the goals and objectives of the third stage.

The stated provisions do not conflict with the fact that some reserves and opportunities should be activated in advance. We mean the capacity of farmers and subsidiary farms of citizens. By creating the appropriate conditions, it is possible to significantly increase the growth of pork, beef, lamb, and horse meat. We believe that agricultural enterprises should join in the construction of refrigerators and storage facilities with controlled microclimate. Modern warehouses allow minimizing the loss of vegetables during storage, preserving a good marketable appearance and food, and taste advantages of vegetables and fruits.

Processing enterprises should be close to the places of agricultural production, this will reduce the cost of transportation of food raw, create new jobs, improve the quality of finished products. It is advisable, along with the construction of refrigerators, storage facilities, and processing enterprises, to take care of creating their own production lines, i.e. construction of stores for the sale of local products.

Economical and social efficiency of the stages of the food security provision in the region

No	Indicator	Main stages in food security provision			
		1	2	3	4
1	Stage duration, years	10-12 years	8-10 years	9-10 years	10 years
2	Conditions for moving to the next stage	Provision of products at the lowest price	Growth in population income	Growth in population income	High living standards
3	Priority in the AIC development: 3.1. Agriculture	Production of grain, vegetables, poultry products, pork	Dairy farming, grain production, greenhouse vegetables	Production of grain, vegetables of open and closed ground, fruits, commodity horse breeding, and beef cattle breeding	Grain production, vegetables, fruits, berries, meat, and wool sheep breeding
	3.2 Formation of market-oriented infrastructure	–	Construction of storage facilities and refrigeration containers for vegetables and fruits	Commissioning and operation of refrigerators and vegetable storages	Company trade organization
4	Economical efficiency	Break-even and medium	Medium and high	High	World leaders level
5	Social efficiency: 5.1. Unemployment, %	Not higher than 8 %	8-6%	6 % and less	about 4%
	5.2. Annual growth in income, %	3-5	5-6	about 6	about 4-5
6	The quality of raw materials and foodstuff	Low and medium	Medium	Medium and high	High
7	The population proportion in need of social support, %	up to 20	12-15	about 10	5-8
8	Assessment of export potential	Low and medium	Medium	Medium and high	High

Producers of agricultural raw materials do not have enough free financial resources; cooperation between agricultural enterprises and farms in the districts and the region as a whole is needed. Even in this case, help is needed from the regional and federal budgets in the way of business partners or in paying off the interest rate in full or in part on loans. All of the above will predetermine the prerequisites and economic base for the transition to the implementation of the fourth stage of the food security provision. For business cooperation - a wide field of interaction: from providing assistance in the processing of land shares and the forage preparation to providing young animals in mutually beneficial conditions. Consumer cooperation can find its place here, the resources of which turned out to be disengaged in increasing the volume of foodstuffs.

At the fourth stage of the food security provision, we have to make the transition to the consumption of environmentally friendly products in a wide range that takes into account the needs of all layers and groups of the population, home, and public food types, regional, national, age-specific professional

characteristics of consumer demand, etc. This is the most complicated and difficult problem to be solved since its implementation is associated with an increase in the share of highly capital-intensive industries (for example, the production of veal and lamb meat), and the development of technologies that exclude the use of bio-stimulants, herbicides, pesticides, etc. In Russia, a home type of food has developed over the centuries. We assume that this is due not so much to the traditions of the nation as to the low incomes of the population.

At the third and fourth stages of achieving food security, a system of government procurement of foodstuff for the needs of defense, the social sphere, strategic stocks, etc., should be put into practice. Such a procurement system should be based on other principles than existing now.

Currently, by announcing tenders for the purchase of food raw, the government is orienting procurers to lower prices. This does not stimulate producers, because they do not know at what price the raw materials grown by them will be purchased. It is not uncommon for commodity producers to sell their products under government orders, at prices that barely cover their costs. The government should conclude an agreement with the producers on the volume of purchases in advance, guarantee a minimum wholesale price, which allows not only to cover all production costs, but also to receive no big profit within 10-15% of profitability.

In general, we tried to generalize the staging of food security provisions and present its results in the form of the following table. It should be noted that certain groups of the population are already not only at the second and third, but even at the fourth stage of financial solvency.

Although, in general, the social orientation of the development of the agro-industrial complex should be aimed at first-priority satisfaction of the most urgent needs of the first and second stages, nevertheless, it is necessary to work on the backlogs of higher stages. It is time to start developing and implementing the third and fourth stages of food security. This will allow in advance to propose the relevant technical, technological, and organizational-economic solutions. Such decisions should be aimed at stimulating the real production of high-grade foodstuffs, strengthening the economy of the agro-industrial complex, by seizing the income of the “shadow” sector.

Thus, the presented materials are rather conditional, but they allow us to see the overall picture of achieving goals and specific indicators at different stages. The goals, indicators, and terms for the stages can be specified.

Large industrial enterprises and holdings may include agrarian workshops or even enterprises for the production of foodstuffs: vegetables, milk, meat, etc. The products of these rural units are intended for domestic consumption of the population employed in them. At the same time, the territory of such workshops and enterprises can be used as a recreation center for children and employees. Such an approach can contribute to personnel retention and the health promotion of children and the workers themselves.

In connection with the development and improvement of market relations, the creation of conditions that represent certain guarantees for ensuring the growth of food resources is gaining importance. To do this, it is necessary to bring into action and constantly improve the system of federal and regional orders for basic food products. In Russia, there are real opportunities for the growth of environmentally friendly products and raw materials. In the countries of Western Europe and the USA, there are practically no such lands left. These are our views on the prospects for ensuring the country's food security.

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ЖЕРГІЛІКТІ АЗЫҚ-ТҮЛІК ҚАУІПСІЗДІГІН ҚАМТАМАСЫЗ ЕТУ САТЫЛАРЫ

Аннотация. Зерттеу нысаны – мал шаруашылығы технологиясының экологиялық, экономикалық және әлеуметтік бағасын сипаттайтын ұйымдастырушылық-экономикалық үдерістері. Зерттеу барысында салыстырмалы талдау және басқада сараптамалық бағалау әдістері қолданылды. Сарапшылар ауыл шаруашылығы

мамандары, сауда-саттық қызметкерлері және сатып алушылар болды. Күрделі талдау әдісі өндірістік технологияларды бағалау үшін қолданылды. Сараптама әдісі жерге орналастырудың түрлі нысандарын дамыту перспективаларын қарастыруда қолданылды. Сауалнама әдісі тамақ өнімдерінің сапасын бағалауда қолданылады.

Азық-түлік қауіпсіздігінің кезең-кезеңімен шешімін ұсынудамыз.

Бірінші кезеңді іске асыру кірістердің нақты өсімін көздейді. Бұған экономикадағы тоқырауды еңсеру арқылы ғана қол жеткізуге болады. Өкінішке орай, халық табысының өсімі баяу. Бұл кезеңде көп нәрсе ауыл мен қалада жеке шаруашылықтарды қолдауға байланысты болып келеді. Шындығында бұл бағыт жоғалды. Бірінші кезеңнің сәтті жүзеге асырылуы әлеуметтік қатынастарды тұрақтандыруға мүмкіндік берді.

Екінші кезеңде қымбат және ақуызға, дәруменге бай өнімдерді: сүт, көкөніс пен картоп, ет және балық өнімдерін өндіруді ұлғайту арқылы жалпы тамақтану құрылымын түбегейлі жақсарту мәселесін шешу қажет. Бұл кезеңді іске асыру агроөнеркәсіптік кешенге едәуір инвестиция қажет етеді, сондықтан оны елдің және өңірлердің экономикалық өсу жағдайында жүзеге асыруға болады.

Азық-түлік қауіпсіздігінің үшінші кезеңін іске асыру халықтың үздік тобына, яғни орта тап өкілдері мен жан басына шаққандағы жоғары табысы бар тұрғындарға қатысты. Халықтың аталған сегментіне тән тамақ өнімі, жан басына шаққандағы тұтыну деңгейі бәріне бірдей қолжетімді бола бермейді. Үшінші кезең деликатес өнімінің диетасын біртіндеп жоғарылату арқылы сипатталуы керек, атап айтқанда, балық, ет-сүт және кондитерлік өндіріс, жабық жердегі көкөніс, жаңа піскен жидектер мен жемістер.

Азық-түлік қауіпсіздігіне қол жеткізудің үшінші және төртінші сатысында қорғаныс, әлеуметтік қызметтер, стратегиялық қор және т.б. үшін азық-түлікті мемлекеттік сатып алу жүйесін тәжірибеге енгізу қажет. Мұндай сатып алу жүйесі қазіргі принциптерге негізделуі тиіс.

Халықтың белгілі бір топтары екінші және үшінші деңгейде ғана емес, тіпті төлем қабілетінің төртінші сатысында да кездеседі. Негізінде агроөнеркәсіптік кешенді дамытудың әлеуметтік бағыты бірінші және екінші сатының шұғыл қажеттіліктері алғашқы қанағаттандыруға бағытталуы керек, сондай-ақ артта қалған жоғары сатылармен жұмыс істеу қажет. Азық-түлік қауіпсіздігінің үшінші және төртінші сатысын әзірлеп, іске асырудың уақыты жетті. Бұл тиісті техникалық, технологиялық және ұйымдастырушылық-экономикалық мәселелерді алдын ала шешуге мүмкіндік береді. Мұндай шешімдер «көлеңкелі» сектор кірісін ескере отырып, жоғары сұрыпты тамақ өнімінің нақты өндірісін ынталандыруға, агроөнеркәсіптік кешен экономикасын нығайтуға бағытталуы керек.

Ірі өнеркәсіптік кәсіпорындар мен холдингтерге ауылшаруашылық шеберханалары немесе тіпті тамақ өнімдерін өндіретін кәсіпорындар да кіруі мүмкін, мысалы, көкөністер, сүт, ет және басқалары. Ауылдық бөлімше өнімдері онда жұмыс істейтін халықтың ішкі тұтынуына арналған. Сонымен қатар, мұндай шеберханалар мен кәсіпорындар аумағын балалар мен еңбек ұжымдарының демалу орталығы ретінде пайдалануға болады. Мұндай тәсіл кадрлардың шоғырлануына, балалар мен жұмыс істейтін адамдар денсаулығына ықпал етеді.

Нарықтық қатынастардың дамуына және жетілуіне байланысты азық-түлік ресурс өсімін қамтамасыз етудің белгілі бір кепілдігін ұсынатын жағдайды жасау маңызды бола түсуде. Ол үшін негізгі тамақ өнімдеріне федералды және аймақтық тапсырыс жүйесін енгізіп, үнемі жетілдіру қажет. Ресейде экологиялық таза өнімдер мен шикізаттың өсуіне нақты мүмкіндіктер бар.

Түйін сөздер: азық-түлік қауіпсіздік кезеңі, тұтыну құрылымын жақсарту, ауыл шаруашылығы мен ауыл шаруашылығы міндеттері, өнім сапасын жақсарту.

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ЭТАПЫ ОБЕСПЕЧЕНИЯ РЕГИОНАЛЬНОЙ ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ

Аннотация. Объектом исследования являются организационно-экономические процессы, характеризующие эколого-экономические и социальные оценки технологии животноводства. В ходе исследований применялись методы сравнительного анализа и экспертной оценки, другие методы. В качестве экспертов выступали специалисты сельскохозяйственных предприятий, торговые работники и покупатели. Метод

комплексного анализа был использован при оценке существующих технологий производства. Экспертный метод нашел применение при основании перспектив развития различных форм хозяйствования на земле. Опросный метод нашел применение оценке качества продовольственных товаров.

Нами предлагается поэтапное решение продовольственной безопасности.

Реализация первого этапа предполагает реальный рост доходов населения. Обеспечить это можно только преодолев стагнацию в экономике. К сожалению, рост доходов населения идет медленно. На этом этапе многое зависит от поддержки введения личных подсобных хозяйств в селах и городах. В действительности это направление оказалось упущенным. Успешная реализация первого этапа позволила стабилизировать социальные отношения.

Реализация второго этапа обеспечения продовольственной безопасности увязана с изысканием и задействованием внутренних резервов АПК в регионах. Так, в области исключительно велики различия в показателях эффективности производства молока и мяса по отдельным хозяйствам.

Реализация третьего этапа продовольственной безопасности касается достаточно обеспеченных слоев населения, это представители среднего класса и населения с высокими душевыми доходами. Тот душевой уровень потребления продуктов питания, который является типичным для этих слоев населения не будет доступен всем и каждому. Третий этап должен характеризоваться постепенным возрастанием в рационе питания деликатесной продукции: изделий рыбной, мясо-молочной и кондитерской промышленности, овошей закрытого грунта, свежих ягод и фруктов.

На третьем и четвертом этапах достижения продовольственной безопасности должна быть введена в практику система государственных закупок продовольствия для нужд обороны, социальной сферы, стратегических запасов и т.д. Такая система закупок должна базироваться на других принципах, чем сейчас.

Следует учесть, что отдельные группы населения уже находятся не только на втором и третьем, но даже на четвертом этапе платежеспособности. Хотя в принципе социальная ориентация развития АПК должна быть направлена на первоочередное удовлетворение самых насущных потребностей первого и второго этапов, тем не менее, необходимо работать над заделами и более высоких этапов. Пора приступать к разработке и реализации третьего и четвертого этапов продовольственной безопасности. Это позволит заблаговременно отладить соответствующие технико-технологические и организационно-экономические решения. Такие решения должны быть направлены на стимулирование реального производства полноценных продуктов питания, укрепления экономики АПК, за счет изъятия доходов «теневое» сектора.

Крупные промышленные предприятия и холдинги могут иметь в своем составе аграрные цеха или даже предприятия по производству продуктов питания: овощей, молока, мяса и др. Продукция этих сельских подразделений предназначена для внутреннего потребления занятого в них населения. Одновременно территорию таких цехов и предприятий можно использовать в качестве базы отдыха детей и трудовых коллективов. Такой подход будет способствовать закреплению кадров, укреплению здоровья детей и самих трудящихся.

В связи с развитием и совершенствованием рыночных отношений важное значение приобретает создание условий, представляющих определенные гарантии обеспечения наращивания ресурсов продовольствия. Для этого надо ввести в действие и постоянно совершенствовать систему федеральных и региональных заказов на основные товары продовольственного назначения. В России имеются реальные возможности для роста объема экологически безопасной продукции и сырья.

Ключевые слова: этапы продовольственной безопасности, совершенствование структуры потребления, задачи АПК и сельского хозяйства, повышение качество продуктов.

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ENVIRONMENTAL ASSESSMENT OF PASTURE LAND QUALITY

Abstract. In the Message of the President to the people of the Republic of Kazakhstan N. A. Nazarbayev "the Third modernization of Kazakhstan: global from January 2017, it is said "the agro-industrial complex of Kazakhstan has a promising future", "we will help to be one of the largest producers of agricultural export products" [1]. Kazakhstan ranks sixth in the world in terms of its grass resources. Pasture land is 189.0 million hectares, historically being the driving force in the country's economy, as a source of feed resources for the development of livestock [2]. According to the Agency of the Republic of Kazakhstan, there are 27.1 million hectares of pastures that were shot down in an average and severe degree. In the zonal aspect, the destruction of pasture ecosystems is mostly observed in the flat part, where more than 95% of all downed pastures are located, including the desert and semi – desert zones-16.1 million hectares or 60% of their area.

Downed pastures are the main consequence of changing environmental conditions and irrational human economic activity. It is manifested in the loss of valuable forage plant species from the herbage and their replacement with weeds, non-edible and annual species [3,4].

Key words: Pasture, agricultural land.

Introduction. In the conditions of vertical zoning of soils, for the first time in Kazakhstan, complex studies were carried out. Research on the causes of pasture degradation and development of techniques for their restoration in a specific project area. The implementation of the results of the dissertation work will create conditions for the restoration of degraded pastures with an increase in the growth and development of vegetation cover by 15-18% and increase of livestock production by rational grazing up to 12%.

The theoretical value of the research. The approach to restoration of degraded pastures (restoration of the original natural herbage) through rational use methods gives a new impetus to the theoretical justification of this process of pasture science.

Scientific novelty. This article aims to show the possibility of restoring degraded pastures in the system of their seasonal use (spring-summer-autumn) with the use of intra-seasonal pasture rotations. For the intensive development of animal husbandry and further growth of productivity of farm animals, a sufficient amount of cheap full-fledged feed is necessary. In Kazakhstan, since ancient times, natural forage lands have been the main sources of animal feed production. The current state of the world's pastures is assessed as unsatisfactory. Under the combined impact of negative environmental management factors, fragile and easily damaged pasture ecosystems are being degraded. Severe desertification, vegetation and soil degradation affects 27% of the land in North America, 22% in South America, 18% in Africa and 16% in Australia. It should be noted that insufficient forage is frequently aggravated by the farmers and farms who do not use pastures – allow continuous and irregular grazing animals and thereby contribute to the reduction of vegetation, overgrowing weeds and uneaten plants, and in the future to fail with the emergence of wind erosion. In our Republic, hayfields and pastures occupy 188.

7 million hectares and their share in agricultural land is 7.5 times greater than the area of arable land.

Currently, about 48 million hectares in the Republic are degraded due to haphazard use of pastures and keeping of animals due to restrictions on the borders of the grazed territory. As a result, there is a "failure" of pastures and a sharp decrease in the productivity of grass stands. The main area of degraded land is usually confined to localities, since the bulk of farm animals are privately owned. At the same

time, the concentration of livestock on these lands turns them into barren areas, since they are grazed for decades without any use regime [5]. In the world, 2 billion hectares, or 23% of the land used by humans, are subject to some degree of degradation. The main economic consequences of land degradation are a decrease in crop yields and pasture productivity, a decrease in the number of animals and their productivity, as well as a reduction in the export potential of agriculture [6,7]. Grazing of animals has a great influence on the state of pasture ecosystems. Grazing of agricultural animals, mainly excessive, representing one of the forms of direct withdrawal of plant resources-feed, also leads to a significant restructuring of the species composition of grass stands, most of all in desert and semi-desert zones. The negative impact of grazing can be reduced to three main phenomena: changes in vegetation, its functioning (ecological and physiological processes) and disturbance of environments. Initially, grazing leads to an increase in productivity and intensification of exchange processes in the "soil - plant" system, but overgrazing leads to the suppression of herbage and changes in soil cover. With an increased pasture load that exceeds the established size of removal of plant mass, there is a radical restructuring of the ecology of desert communities, their structure and productivity [8]. Grazing has a very strong effect on the plant body, causing a variety of morphological and physiological changes, disrupts patterns in the onset of phenological phases, as well as in the composition of populations. In addition, frequent alienation causes not only a decrease in pasture productivity, but also a strong reduction in soil moisture and mineral salts in the soil. The capacity of underground organs is an indicator of the vital state of plants, as well as their features in the accumulation of carbohydrate reserves [9]. Livestock grazing affects the return of organic matter to the soil in the direction of a negative balance, in addition, there is the use of certain quality plants (remain uneaten coarse-stemmed and poisonous plants) and trampling of plants by the hooves of animals, when grazing by cattle to various degrees, the soil is compacted. This all leads to changes in the composition of plants and, during grazing, to soil erosion [10]. The main reason for the desertification of large areas of pastures in the steppes is the haphazard use of them, as a result of which the vegetation cover gradually becomes sparse, there are deepening and small spots on the soil surface. The soil surface is often knocked out by livestock, which leads to the loss of the fertile soil layer, its erosion with the appearance of a large number of cracks. Pastures are subject to desertification as a result of grazing by livestock, further aggravated by drought and wind erosion. Pasture degradation is expressed in the reduction or disappearance of vegetation, especially livestock feed. Overgrazing by livestock can lead to desertification of land around wells or springs within a radius of 1 to 1.5 km [11]. In semi-desert and desert zones of Kazakhstan, natural pastures and hayfields are characterized by low productivity, uneven yield of feed mass by season. As a result, the balance of natural feed resources is extremely unfavorable, especially the disproportion between summer and winter is great. This leads to the fact that the huge reserves of spring and summer feed are not fully used by the livestock industry, while the most difficult and responsible period in animal husbandry - winter – is the least provided with feed [12]. It should be noted, as A. Voisin emphasizes [13], that animals do not eat grass like other mown food, but collect it. They choose the more delicious part of the herbage and bite it at different heights, depending on the height and density of the grass, the species composition of the herbage and the phase of development of its constituent species. M. A. Shmykov [14] writes that when free grazing cattle roam the entire territory of pastures, looking for tender, delicious plants and trampling all other vegetation. At the same time, well-eaten grasses do not have time to grow enough, as they are again bitten by cattle, unused plants interfere with the normal growth of Otava, and the most valuable plant species, due to continuous biting and trampling by cattle, fall out of the herbage. Less valuable and completely uneatable in-seminating the area of pastures, turn them into little or completely unproductive land. When grazing, the cattle not only eat the grass, but also trample it down. Trampling is considered an important factor in the formation of grasslands of pasture type. At the same time, its influence is evaluated in different ways, on the one hand, trampling has a positive effect on the formation of herbage, since coarse-stemmed grasses and weeds disappear, pasture – tolerant plants begin to prevail-meadow bluegrass, creeping clover, meadow fescue, and meadow Timothy. Due to grazing, the soil is enriched with various microorganisms, since animals leave behind a lot of excrement, which activates the vital activity of their microflora and strengthens the biological processes in the soil. On the other hand, trampling has a negative effect on the pasture, as the aeration and water regime of the soil deteriorates, the growth of grass roots, especially legumes, slows down, and the number of earthworms decreases. Excessive grazing of livestock leads to the disappearance

of valuable plant species from the herbage, including legumes, the appearance of low-value cereals and various grasses, which reduces the yield and longevity of the pasture [15]. The productivity and longevity of pasture grass depends on the way the pasture is used. In Kazakhstan, haphazard and erratic grazing has led to the loss of valuable grass vegetation and reduced yields. As a result, there were strongly dislodged pastures overgrown with poorly eaten harmful and poisonous grasses. On broken pastures, under the influence of intensive grazing, pasture degression occurs along the way of reducing the total number of species and deterioration of the quality of pasture feed.

To stop the progressive decline in the yield of natural pastures and continue to maintain them at a good level, it is necessary to implement a number of measures for care and proper use:

- a) improve the herbage by grazing;
- b) temporarily withdraw or give rest to restore the herbage;
- C) establish a strict order of grazing of farm animals by year and season;
- d) strictly control the load of livestock;
- d) to carry out agro-technical measures to care for the grass.

All these measures for pasture care and use are combined into a system of pasture turnover. Therefore, the basic condition of the rational use of pastures is the use of pastebot providing for adjustable grazing system paddocks, compliance with the established routine of pasturage and technology grazing of herbage, alternating years in each paddock beginning and ending dates of grazing, and if necessary, periodic shifts in the paddocks grazing on the hay [16].

Zh. a. Zhambakin [17] writes that the main task of the technology of using grazing lands in the system of pasture rotations and paddocks is:

- restore the indigenous or somewhat different (production) agrocenosis on the pasture, which will be most profitable from an economic point of view in specific environmental conditions;
- to keep this most productive agrocenosis as long as possible in the conditions of grazing of farm animals;

This system in the language of practitioners has acquired the name "large-scale use of pastures". The technology of a large-car system of arid pasture exploitation consists of the following elements: the choice of a place for organizing fenced pastures with a scheme of pasture rotations; zootechnical and veterinary requirements for pasture rotations; the number and size of pens; the organization of the territory and technique of pasture use; water supply; organization of labor for livestock breeders. The main cheap way to maintain high productivity and improve the conditions for keeping livestock in the summer is to introduce a rational system of pasture use-the basis of which is based on paddock grazing. The use of pastures 24 should be carried out according to a specific plan. For each herd of cattle, a herd of horses, a flock of sheep, it is necessary to have a specific area of pasture that guarantees the need for green feed during the pasture period. The area of the plot depends on the total demand for green (pasture) feed, taking into account the livestock, the yield of the plot and the dynamics of its distribution during the season [18]. One of the ways of rational use of meadow grass is its pasture use and corral grazing of animals. To ensure maximum productivity of grasslands, they must be created on fairly fertile, well-drained land, while performing a full range of techniques for rational use and care of them. As you know, pastures must meet the following requirements:

- a) produce high yields of cheap pasture feed, which corresponds to intensive land use;
- b) ensure a uniform supply of green mass throughout the pasture season in order to fully meet the daily need of livestock for green feed;
- C) pasture grass must contain in a certain ratio and quantity all the necessary ingredients of the diet for animals, i.e. it must be highly nutritious;
- d) exclude the possibility of infectious infection of animals and promote their health [19-20].

Grassland plants are long preserved in the pasture in comparison with plants of the upper leafage due to the fact that after bleaching, they quickly recover spare plastic substances. In turn, grass-roots cereals, legumes, and various grasses give way to plants with basal leaves, with leaves pressed to the ground, and plants with creeping shoots, since these plants have leaves that are less accessible to animals for grazing. The main pasture territory of Kazakhstan is arid regions with arid climate conditions. The main factor determining the state of these lands is the grazing of farm animals. The concentration of livestock around localities causes degradation of soil and vegetation cover. The specificity of this phenomenon is a

reduction in the photosynthetic activity of plant associations, a decrease in the productivity and quality of phytomass, and the loss of landscape-stabilizing function of vegetation. The consequences of desertification are expressed in a decrease in the forage capacity of pastures, feed nutrition, contamination with poisonous and non-edible species, loss of diversity of species and indigenous types of pastures, the emergence of territories unsuitable for grazing, the growth of pockets of soil deflation. In these conditions, a new strategy for the use of pasture resources of the Republic is needed, which should radically change the increasingly entrenched trend of environmentally abnormal land use. In addition, the development of grazing pastures is a set of measures related to the definition and selection of the required area, securing it for commodity producers with subsequent geobotanical survey, guaranteed water supply, determining the feed capacity and grazing livestock, creating infrastructure for housing and work of livestock breeders. This work is devoted to the solution of this issue, the rational use of natural pasture.

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ЖАЙЫЛЫМДЫҚ ЖЕРЛЕРДІҢ САПАСЫН ЭКОЛОГИЯЛЫҚ БАҒАЛАУ

Аннотация. Қазақстанның негізгі жайылымдық аумағы – климаттық жағдай бойынша құрғақ аридті аймақтар. Осы алқаптардың жай-күйін анықтайтын басты фактор – ауыл шаруашылығындағы жануарларды жаю. Елдімекендер айналасындағы малдың шоғырлануы топырақ және өсімдік жамылғысын тоздырады. Бұл құбылыстың ерекшелігі – өсімдік қауымдастықтарының фитосинтетикалық белсенділігінің қысқаруы, фитомассаның өнімділігі мен сапасының төмендеуі, өсімдіктердің ландшафты-тұрақтандырушы қызметінің жоғалуы. Шөлейттенудің салдары жайылымдардың азықтық сыйымдылығының төмендеуі, азықтың қоректенуі, улы және жеуге болмайтын түрлерімен ластануы, жайылымдардың түрлері мен байырғы типтерінің түрлі шығыны, жаюға жарамсыз аумақтардың пайда болуынан және топырақтың дефляция ошақтарының көбейгендігінен көрінеді. Бұл жағдайда республиканың жайылымдық ресурстарын пайдаланудың жаңа стратегиясы қажет, ол экологиялық нормаланбаған жер пайдаланудың неғұрлым тамыр жаю үрдісін түбегейлі өзгертуі тиіс. Бұдан басқа, шалғайдағы жайылымдарды игеру – талап етілетін алқаптарды анықтау мен іріктеу, оны тауар өндірушілерге бекітіп, кейіннен геоботаникалық зерттеу, кепілдендірілген сумен жабдықтау, мал азығын және жайылатын мал басын анықтау, тұрғын үй мен малшылардың жұмысы үшін инфрақұрылым құруға байланысты іс-шаралар кешені. Зерттеу жұмысы осы мәселені шешуге, табиғи жайылымдарды ұтымды пайдалануға арналған. Мақалада нақты шаруашылықта дәстүрлі жүйесіз пайдаланумен салыстырғанда жайылым айналымы жүйесінде маусымдық жайылымдарды пайдаланудың артықшылығы көрсетілген. Жалпы алғанда, бұл жерлерден бас тартуы жануарлардың шектеулі алаңда шоғырлануына, маусымдық және пайдаланылатын алқаптардың бұзылуына, жайылымдық жүктемені, жерді пайдалану мерзімін сақтамауына байланысты.

Көптеген аудандар мен облыстарда бұл мәселе өзекті саналады, өйткені мал басының (жайылымда жайылып жүрген жануарлар) 1 га пайдаланылатын мал азығының көлемі жайылымдардың жалпы мал азық базасынан едәуір асып түседі. Осы себепті жануарларды суланған жайылымдарға тиеу жылдамдығы артады. Мұндай сәйкессіздік кейбір жағдайда жайылымдық егіншілікті экологиялық және экономикалық реттеудегі қиындықтарға алып келді. Бұдан басқа, қазіргі уақытта жайылымдық жерлердің тозуының негізгі себебі қоғамның барынша табыс алуға ұмтылуы болып саналады, бұл табиғат әлеуетінен асатын табиғи ресурстарды өндірудің ақталмаған жоғары көлеміне әкеледі. Республикадағы жайылымдардың қазіргі жай-күйі, бір жағынан, жайылымдық мал азығының өнімділігі мен сапасының үдемелі нашарлауы, ал екінші жағынан суланған жайылымды, әсіресе, балық қақ және ауылдық алқаптарды жүктемені және қарапайым жайылым айналымын сақтамай өте қарқынды пайдалануы негізінде сипатталады, бұл бірте-бірте экологиялық балансты бұзды, мал азығы қорларының азаюына, сонымен қатар жердің тозуына, жел эрозиясының пайда болуына және арамшөптің және жеуге болмайтын өсімдіктердің көбеюіне әкеп соқтырды.

Жұмыстың өзектілігі белгілі бір аймақтағы алыс жайылымдарды пайдалану арқылы жайылым ресурстарын пайдаланудың ғылыми негізделген тәсілдерін қолдану негізінде шешімдерге бағытталғандығына байланысты. Осыған байланысты мал шаруашылығын жүргізудің жаңа нысанын әзірлеу, яғни малды шалғайдағы учаскелерге ауыстыру және тозған жайылымды азайту мақсатында жыл мезгілдері бойынша осы учаскелерді пайдалану аграрлық зерттеулердің перспективті бағыты болып саналады және республиканың мал шаруашылығы саласының сұранысын көрсетеді.

Түйін сөздер: жайылымдар, ауыл шаруашылығы алқаптары.

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ЭКОЛОГИЧЕСКАЯ ОЦЕНКА КАЧЕСТВА ПАСТБИЩНЫХ УГОДИЙ

Аннотация. Основная пастбищная территория Казахстана – засушливые по климатическим условиям аридные регионы. Главный фактор, определяющий состояние этих угодий – выпас сельскохозяйственных животных. Концентрация скота вокруг населенных пунктов вызывает деградацию почвенного и растительного покрова. Специфика этого явления – сокращение фитосинтетической активности растительных ассоциаций, снижение продуктивности и качества фитомассы, потеря ландшафтно-стабилизирующей функции растительности.

Последствия опустынивания выражаются в снижении кормоемкости пастбищ, питательности корма, засорении ядовитыми и непоедаемыми видами, потерями разнообразия видов и коренных типов пастбищ, возникновении территорий, непригодных для выпаса, разрастание очагов дефляции почв.

В этих условиях нужна новая стратегия использования пастбищных ресурсов республики, которая коренным образом должна изменить все более укореняющуюся тенденцию экологически ненормированного землепользования. Кроме того, освоение отгонных пастбищ – это комплекс мероприятий, связанный с определением и отбором требуемой площади, закреплением ее за товаропроизводителями с последующим геоботаническим обследованием, гарантированным водоснабжением, определением кормоемкости и выпасаемого поголовья, созданием инфраструктуры для жилья и работы животноводов. Решению именно этого вопроса, рациональному использованию естественных пастбищ посвящена данная работа.

В представленной работе показано преимущество использования сезонных пастбищ в системе пастбищеоборота по сравнению с традиционным бессистемным использованием в конкретном хозяйстве. В целом отказ этих земель произошел из-за большей концентрации животных на ограниченной площади, нарушения принципа сезонности и используемых площадей, несоблюдения пастбищной нагрузки, сроков землепользования. Во многих районах и областях этот вопрос особенно актуален, поскольку прирост поголовья скота (животных, пасущихся на пастбищах) на 1 га используемой кормовой площади значительно превышает валовую кормовую базу пастбищ. По этой причине увеличивается скорость погрузки животных на обводненные пастбища. Такая диспропорция привела в некоторых случаях к трудностям в экологическом и экономическом регулировании пастбищного земледелия. Кроме того, в настоящее время основной причиной деградации пастбищных угодий является стремление общества к получению максимально возможного дохода, что приводит к неоправданно высоким объемам добычи природных ресурсов, превышающим потенциал самой природы. Современное состояние пастбищ в республике характеризуется, с одной стороны, прогрессирующим ухудшением продуктивности и качества пастбищных кормов, а с другой – чрезмерно интенсивным использованием обводненных пастбищ, особенно приколхозных и приаульных массивов, без соблюдения нагрузки и элементарного пастбищного оборота, что постепенно нарушало экологический баланс, приводило не только к снижению кормовых запасов, но и к деградации земель, появлению ветровой эрозии и зарастанию сорняками и несъедобной растительностью.

Актуальность данной работы заключается в том, что она направлена на решения посредством использования научно-обоснованных подходов по эксплуатации пастбищных ресурсов с применением отгонно-пастбищного использования на конкретной территории. В связи с этим разработана новая форма ведения животноводства, то есть перевод скота на отгонные участки и использование этих участков по сезонам года с умеренным стравливанием с целью снижения деградации пастбищ является перспективным направлением аграрных исследований и отражает запросы животноводческой отрасли республики.

Ключевые слова: пастбища, сельскохозяйственные угодья.

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ALTERNATIVE TYPES OF EMPLOYMENT IN THE CONTEXT OF HUMAN POSSIBILITIES EXTENSION IN THE DIGITAL ECONOMY (CASE OF UKRAINE)

Abstract. As a result of the Fourth Industrial Revolution, the global spread of digital technologies and automation processes have led to a steady decline in staffing needs. Thus, in the near future only the most competitive part of the working population will have the opportunity for productive, well-paid, and stable employment. The problem of ensuring social wellbeing by providing livelihoods to the general public, expanding opportunities for self-realization, and the most productive use of labor potential can be partially solved by the implementation of unconditional basic income. However, for many countries around the world, as proven by experiments, this decision could be quite expensive and controversial. In this context, the main positive and negative socio-economic, demographic, and political aspects of the implementation of unconditional basic income in Ukraine were identified. A research has been made on alternative types of employment (freelance, gig employment, crowd employment), as well as on the opportunities for self-realization and implementation of activities useful to society in the digital economy (implementation of social projects; volunteering, participation in social projects; lifelong learning; raising children and care for the elderly, etc.) as promising areas of human potential use in society.

Key words: opportunities for self-realization, social sphere and labor market, digital economy, unconditional basic income, alternative types of employment.

Problem statement. Global changes in the social sphere and labor market, associated with the development of information and communication technologies, changes in the content of labor and forms of its organization, the gradual increase in productivity determine that not only the most competitive part of the working population will have access to the productive, well-paid, and stable employment, but also a more wider category of people. The labor market will need fewer workers. This necessitates the search for both financial resources to ensure the well-being of a less competitive part of population in the labor market, and alternative activities that will use the potential of these people, as well as have a positive socio-economic effect in the long term that will benefit society and change it for the better.

Analysis of research and publications. Dynamic and multi-vector changes that occur in the socio-labor sphere in the transition to the digital economy, the current state of the labor market in its global scope are studied by Azmuk N.A. [1-2], Grishnova O.A. [3-4], Kolot A.M. [5], Mishchuk G.Yu. [6]. Current issues of transition to the digital economy, the consequences of technological progress are also presented in the reports of international organizations - the World Economic Forum (Global Competitiveness Index 4.0 [7-8], The Future of Jobs Report [9-10]), and some leading consulting companies [11]. However, employment issues and ensuring the minimum necessary level of income for the general population during the Fourth Industrial Revolution, as well as the global technological change, changes in the content of labor and forms of its organization remain insufficiently studied, despite their growing relevance and social significance in the near future.

Therefore, **the purpose of the research** is to study the changes in the social sphere and labor market that occur under the influence of digital technologies, as well as to study alternative types of employment and opportunities for self-realization as promising areas of utilizing human potential. In fact, the untapped human potential leads to significant social losses and the growth of socially vulnerable groups.

Results. The wider use of digital technologies and automation processes that took place during the Fourth Industrial Revolution have led to a steady decline in staffing needs. Thus, experts of the World Economic Forum in "The Future of Jobs Report" [10] note that in 2025 the share of machine labor will exceed the share of human labor (in 2022 the share of human labor is projected to be 58%, machine - 42%; in 2025 - the share of human labor will decrease down to 48%, and machine labor will increase up to 52%). Naturally, for different areas of employment or professions, these processes have different scales and require different amounts of investment. The rates of layoffs will also vary, but is likely to be faster than the creation of new jobs. The labor market demand, supply, and the employment structure will change, although, it can be argued that these changes will be evolutionary, not revolutionary.

The features of the existing organization of business processes in various fields have led to the fact that the greatest opportunities for automation are now concentrated in such areas as hotel and restaurant businesses, agriculture, manufacturing, transportation and warehousing, wholesale and retail trade, mining, construction, utilities, finance and insurance, arts and entertainment, real estate, administration, information, health and social care, management and training services.

The extremely high possibilities for automation in the restaurant industry are demonstrated, for example, by the automation strategy introduced by the Japanese chain of sushi restaurants Kura [12]. In its 262 restaurants, robots help prepare sushi, and waiters have been replaced with conveyors. To ensure the freshness of the dishes, this system monitors the duration of circulation of each sushi plate, and automatically removes them after a certain time. Visitors place orders by touching the panels on the touch screens, and when they finish their meal, they place empty plates into the oblong opening near their table. The system automatically issues the bill, and then washes the plates, and quickly delivers them back to the kitchen. Instead of hiring managers for each restaurant, Kura has established a management center that remotely controls almost every aspect of the restaurant's operations. Kura's automated business model allows it to sell a plate of sushi for only 100 yen (about a dollar) providing a much lower price than their competitors. As we can see from this business model of running a restaurant, the need for staff is minimal, which is considered an advantage in terms of production costs reduction, but as for providing employment to the population may have contradictory consequences.

The problem of ensuring social wellbeing by providing livelihoods for the general public, expanding opportunities for self-realization and the most productive use of human potential can be partially solved by the introduction of unconditional basic income. This approach requires significant financial resources and a high level of social responsibility of the population. Also, as objectively observed, the experiments conducted around the world on its implementation showed quite contradictory results [13-17]. Such experiments on the implementation of unconditional basic income in the EU showed that when receiving it, most people do not start working less than before, on the contrary, the interest in finding self-fulfilling work-increases. In Ukraine, the situation is slightly different due to the historical background and the long-standing misconception that "the State owes something to its citizens." These and other issues create many problems that researchers in developed and affluent countries do not usually encounter. The public sentiment on this issue in Ukraine is quite vividly reflected in the "Electronic Petition №22 / 022551-ep. Implementation of unconditional basic income in the amount of not less than UAH 7,000 per month in order to effectively improve the socio-economic living standard of citizens and create a fundamentally new direction of the State development" that was published on March 28, 2016 [18].

The introduction of the concept of unconditional income in Ukraine not only requires significant annual expenditure of financial resources, but can also lead to such negative consequences as decrease in economic activity, employment productivity, and lack of motivation to work [19]. Consider the main positive and negative aspects of the introduction of basic unconditional income in Ukraine (table 1).

However, despite the above-mentioned problematic issues, it could be argued that the people-oriented trends in today's global economy give hope for positive changes in the social sphere and labor market in Ukraine as well. We are talking primarily about the growing importance of the social significance and efficiency of the labor, importance of public development, and positive socio-economic transformations in the world for the generation of postmillennials, which is now entering the labor market. The results of the Bloomberg study [20] show that, in 2019, one of the world's population (32.0%) was already represented with Generation Z (born in 1995-2009). For example, almost 30% of Generation Z choose products from those manufacturers that reflect their values. In addition, according to the study by the British online

service Green Match, 40% of young buyers refused to buy or boycotted the brand for unethical, in their opinion, actions. The generation of social individualists focuses not on the scale of the brand, but rather on the emotional response created from the contact with it [21]. Generation Z workers consider themselves a harmonious part of the "world of work". Work is an important part of their lives that provides self-fulfillment and gives an opportunity not only to earn money, but also to embody their life values. They change jobs quickly and do not keep jobs that lack necessary opportunities for them.

Table 1 – Implementation of basic unconditional income in Ukraine: pros and cons

Effects	Positive	Negative
Socio-economic	Maintaining social stability, increasing confidence in the future. Poverty and inequality reduction. Higher level of involvement in social life, greater engagement in decision-making to help solve social problems.	The growth of ineffective and needy tendencies in society, the formation of a social stratum that cannot and/or does not want to work.
	Providing means of living for socially vulnerable, uncompetitive people in the labor market.	Lack of financial budget for large-scale implementation of basic unconditional income.
	Growing opportunities to start your own business, find a job that inspires and really benefits the society.	Decreased motivation to search for main and additional sources of income. Decreasing employment productivity.
	Expanding learning opportunities, including the use of modern online platforms.	Decreased motivation to learn and improve personal and professional characteristics. Gradual degradation.
Demographic	Partial improvement of the demographic situation due to the growth of social guarantees.	Increasing birth rates among social groups that are uncompetitive on the labor market.
	Increased mobility opportunities of citizens due to the general improvement in welfare.	Increased migration to the countries with a much higher level of basic unconditional income.
Political	Increased level of public trust in government, better social support of government projects and programs.	Increasing controversy at the international level due to different amounts of basic unconditional income in other countries, as a result of the current economic situation.

Speaking about the problems of employment of less competitive segments of the population, it should be noted that without the need to work to meet the basic minimum needs, a person can find many other opportunities that are both good for self-realization and useful for society (volunteering, participation in social projects, lifelong learning, spiritual development, upbringing of children, etc.). In the 21st century, work should be socially beneficial, so its emphasis is gradually shifting from economic to social efficiency. Therefore, the overcoming of economical predominance and solely economical outcomes of employment is a key step towards the highly developed society, based on human-centered, highly moral values).

In many countries around the world, people are pressured to work overtime because regular employment does not provide them with the necessary financial (and not only) resources and opportunities for self-realization. Consider the most common alternative types of employment in the digital economy, identified by Deloitte in the report "Deloitte Global Human Capital Trends" (table 2).

Table 2 – Alternative types of employment in the digital economy [11]

Type	Characteristic
Freelance	Freelance workers provide support to the core staff and are usually paid for an hour, day or other unit of time.
Gig employment	Gig workers are rewarded for individual tasks (or micro-tasks) while performing certain duties.
Crowd employment	Crowd workers compete for participation in the project, and often only those who have shown the best results are rewarded.

Such employees could be found through various online platforms. The main reason these people work on platforms is their need to earn extra money. Other reasons include the desire to work from home, higher earnings compared to offline job settings, and problem finding work in other areas. The main obstacle in finding a job in the offline setting is lack of jobs in certain areas and a too low salary [22].

A significant disadvantage of alternative types of employment is that, quite often, they require extra time besides regular work, which could be spent with the family, devoted to various hobbies and other activities that make life more meaningful and interesting.

In situations when labor is not considered solely as a source of income and livelihood, the following opportunities appear in terms of self-realization and implementation of activities useful for society (table 3).

Table 3 – Opportunities for self-realization and implementation of activities useful for society in the digital economy

Direction of self-realization	Opportunities for self-realization	Influence of digitization trends
Implementation of social projects	Ability to solve social problems, unite like-minded people, bring ideas to life.	Running social projects online opens up more opportunities for people to come together. In fact, only language skills, common interests and free time are needed.
Volunteering, participation in social projects	Possibility to provide society with beneficial activities, and assist people with their needs, if required. Additional opportunities for socialization. Opportunity to visit new countries, make new friends and meet like-minded people; initiate and implement various social projects.	In the digital economy, volunteer projects can bring people together from all over the world in order to get involved in addressing important public issues. In modern conditions, volunteer projects in both online and offline form is an important source of inspiration for many caring people, and at the same time a source of their increasing social productivity at the micro and macroeconomic levels.
Lifelong learning	With the increasing rates of knowledge obsolescence and the need to keep up with the new digital trends, continuous learning and development is becoming increasingly important.	Many online platforms with courses in almost any area of knowledge support the spread of lifelong learning. Even formal university education is changing its vector of development in favor of distance and online learning, which provides significantly better access to modern data.
Raising children and caring for the elderly	Currently, only those people who have financial support from other family members, or savings, are able to dedicate themselves to raising children. Caring for the elderly is also one of the important employment alternatives that contribute to the positive social tendencies. Quite often the attitude towards the elderly is an indicator of the compassion in society, and shows a good level of its social and economic development.	With the help of digital technologies and the spread of remote employment, the work-life balance can improve, and opportunities for self-realization will expand for those people who have dedicated themselves to raising children. In the context of digitalization, with the growth of online and phone communication, the in-person communication remains extremely important and cannot be replaced.

Different areas of self-fulfillment are harmoniously combined and developed by a person throughout lifetime. It could be said that the possibilities of human self-realization are as limitless as their intellectual abilities. A harmonious person needs self-realization in various areas. The best option is when work brings both income and satisfaction. However, very often people have interests that are not related to work and try to find self-realization in various areas that may be socially important, but do not bring income.

Conclusions. The global digitalization trends have already led to significant changes in the social sphere and labor market, that is primarily due to the growing share of online work and release of a significant number of employees from jobs that can be easily automated (simple routine work in manufacturing and office settings). In Ukraine, these trends are primarily manifested through the growing share of remote access jobs (work from home), and meetings using online platforms. Social stability issues related to the loss of jobs by the least competitive workers can be partially addressed by the introduction of basic unconditional income. The results of the analysis of socio-economic, demographic, and political aspects of its implementation in Ukraine show that there are currently not enough financial resources and socio-cultural preconditions to do so; the socio-economic and political situation remains difficult. A low level of income of many workers necessitates the search for alternative types of employment to obtain additional income, which leads to increased working hours, and aggravating the work-life balance. Both spread of digital technologies and transition of many types of work to online expand the previously existing opportunities for self-realization, provide greater opportunities for international business and social projects, promote distance employment worldwide, and expand educational opportunities at leading universities without significant financial costs.

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**ЦИФРЛЫҚ ЭКОНОМИКАДАҒЫ АДАМ МҮМКІНДІГІН КЕҢЕЙТУ КОНТЕКСТІНДЕГІ
ЖҰМЫСПЕН ҚАМТУДЫҢ БАЛАМАЛЫ ТҮРЛЕРІ (УКРАИНА ҮЛГІСІ БОЙЫНША)**

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**АЛЬТЕРНАТИВНЫЕ ВИДЫ ЗАНЯТОСТИ В КОНТЕКСТЕ РАСШИРЕНИЯ ВОЗМОЖНОСТЕЙ
ЧЕЛОВЕКА В ЦИФРОВОЙ ЭКОНОМИКЕ (НА ПРИМЕРЕ УКРАИНЫ)**

Аннотация. Широкое использование цифровых технологий и процессы автоматизации, которые происходят в условиях Четвертой промышленной революции, приводят к непрерывному сокращению потребности в персонале, поэтому в ближайшем будущем возможности продуктивной, достойно оплачиваемой, стабильной занятости будет иметь только наиболее конкурентоспособная часть трудоспособного населения. Проблему обеспечения социальной стабильности путем предоставления средств существования для широких слоев населения, расширение возможностей для самореализации и наиболее продуктивного использования трудового потенциала может частично решить введение безусловного базового дохода. Однако для многих стран мира, как свидетельствуют результаты проведенных экспериментов, это решение является достаточно дорогим и противоречивым. В этом контексте были определены основные положительные и отрицательные социально-экономические, демографические и политические аспекты внедрения базового безусловного дохода в Украине. К основным позитивным результатам имплементации базового безусловного дохода можно отнести: поддержание социальной стабильности, рост уверенности в завтрашнем дне; снижение бедности и неравенства; обеспечение средств существования для социально незащищенных, неконкурентоспособных лиц на рынке труда; расширение возможностей для обучения, открытия собственного дела, поиска работы, которая вдохновляет и имеет реальную пользу для общества; улучшение демографической ситуации за счет роста социальных гарантий; увеличение возможностей для мобильности граждан, обусловленное общим ростом благосостояния; возрастание уровня доверия к правительству, социальной поддержки правительственных проектов и программ. К негативным аспектам внедрения базового безусловного дохода относится: рост иждивенческих настроений в обществе, формирование общественного слоя, который не может и не желает работать; недостаток финансовых ресурсов в бюджете; снижение мотивации для поиска основных и дополнительных источников дохода, падение производительности труда; снижение мотивации к обучению и саморазвитию; рост уровня рождаемости среди социальных групп населения, являющихся неконкурентоспособными на рынке труда; рост миграции при введении значительно более высокого уровня базового безусловного дохода в других странах; усиление противоречий на международном уровне, что может быть связано с различными объемами базового безусловного дохода, на которые влияет текущая экономическая ситуация.

Низкий уровень доходов вызывает необходимость поиска альтернативных видов занятости для получения дополнительного дохода, что приводит к росту рабочего времени, ухудшению баланса между работой и личной жизнью. В данном контексте в статье исследованы альтернативные виды занятости: фриланс; гиг-занятость; крауд-занятость. Важными направлениями самореализации, осуществления деятельности, полезной для общества, а также перспективными направлениями использования имеющегося в обществе человеческого потенциала в цифровой экономике являются: реализация социальных проектов; волонтерство, участие в социальных проектах, обучение в течение жизни, воспитание детей, уход за пожилыми людьми и др. Различные направления самореализации гармонично сочетаются и развиваются человеком в течении жизни. Можно утверждать, что возможности самореализации человека также безграничны, как и возможности его интеллектуальной деятельности. Гармоничная личность нуждается самореализации в различных направлениях своей деятельности, наилучшим вариантом является тот, когда работа приносит как доход, так и удовольствие, но довольно часто люди имеют интересы, не связанные с трудовой деятельностью, и самореализуются в различных сферах, которые могут быть общественно важными, но не приносят дохода. Распространение цифровых технологий и переход многих видов труда в онлайн повышают имеющиеся ранее возможности самореализации, способствуют распространению дистанционной занятости в мировом масштабе, а также расширяют возможности получения образования в ведущих университетах без значительных финансовых затрат.

Ключевые слова: возможности самореализации, социально-трудовая сфера, цифровая экономика, базовый безусловный доход, альтернативные виды занятости.

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GROWTH FACTORS OF QUALITY AND PERFORMANCE OF THE STATE AUDIT

Abstract. The article analyzes the fundamentals of standardization in the field of state audit and its role in the activity of the supreme financial control bodies. The importance of standardization was confirmed in the preparation of proposals and recommendations, based on the results of control and expert-analytical activities by the supreme financial control bodies, with the aim of improving the management of public resources.

Expert-analytical activities significantly increase the efficiency of internal state auditors. It is one of the most important tools in the implementation of the functions and powers assigned to internal auditors under the Law. Today, there are many types and methods of audit and analytical procedures. In addition to them, computerized techniques were added, that help auditors to automate the analysis process and make it less costly and time-consuming.

Expert-analytical activities for bodies of internal state audit are not regulated by law. This means that the bodies of internal state audit do not conduct an expert-analytical event separately from the audit, as an independent event, in contrast to the bodies of external state audit. Expert-analytical activity for internal state audit bodies is one of the analysis tools for conducting audits, fixed in accordance with the functions of the state body under the Law.

Key words: state audit, analytical activity, internal state audit, state budget.

Introduction. Today, in the development of state audit in Kazakhstan, there is a tendency in the use of expert-analytical activities by internal state audit bodies. Expert and analytical procedures are actively and more often applied by the IAS of central state bodies and local executive bodies, which are part of the structure of internal state audit bodies.

This trend is explained by the fact that in recent years the state has been pursuing an active policy in the field of optimizing the costs of the state budget, in particular the costs of central government bodies and local executive bodies. In this regard, the internal audit services were required to expand the range and nature of their functions. In addition to the usual audit and control functions, an assessment of the effectiveness of the risk management system, the identification and investigation of fraud cases was added. But the size of the budget for internal audit either remained the same or was reduced at all. Under these conditions, the application and emphasis on expert-analytical activities are inevitable.

Methods. The methods used are general scientific and special, such as: a system analysis method; content analysis method; comparative analysis method; analysis and synthesis method; system approach method.

Results. Due to the fact that the expert-analytical activity of supreme state audit bodies in foreign countries is one of the main parts of the performance audit, and the authorized body of the internal state audit in the Republic of Kazakhstan does not conduct a full-fledged independent expert-analytical event, we decided to clearly demonstrate the use of expert-analytical activity on an example of performance audit of the activity of the Ministry of Education and Science of the Republic of Kazakhstan for 2018 [1].

Further, examples of the application of analytical procedures are calculated and shown, using the example of evaluating the effectiveness of budget programs.

1. The list of budget programs and their main indicators.

Budget program 002 “Training of specialists in technical and vocational organizations, after secondary education and the provision of social support to students”.

Funds in the amount of 2 519 888,0 thousand tenge were provided for the implementation of the budget program, execution amounted to 2 519 887,8 thousand tenge, or 100% of the plan. Unused balance - 0,2 thousand tenge

Budget program outcome indicators

During the implementation of the program, conditions were created for the organization of the educational process in accordance with state education standards, social support was provided to college students by paying state scholarships and monetary compensation for travel during the vacation period.

Direct results of the budget program have been achieved fully: the actual average annual contingent of students who gain knowledge on a state grant amounted to 4,761 people (with a plan of 4,287 people); according to the plan, the admission of students under a state grant amounted to 1,743 people; the average annual number of students receiving a scholarship and studying in technical and vocational fields, 3,557 people; the number of students receiving monetary compensation for concessionary travel - 4,172 people.

Final results are also achieved. The actual number of graduates was 1,128 people (with a plan of 960 people). Exceeding the planned indicator is connected with a change in the periods of study in previous years, as well as with the movement of the student contingent between specialties. Scholarships and travel compensations to students are paid on time and in full.

Performance indicators of the budget program.

The average expense for the preparation of one student within the plan amounted to 417 thousand tenge. The size of the scholarships of college students was 80% of the size of the state scholarships of university students or 12 188 tenge [2].

The dynamics of costs over the past three years is represented by the following data: in 2016 – 1 935 480,1 thousand tenge, in 2017 – 2 256 209,0 thousand tenge, in 2018 – 2 519 887,8 thousand tenge.

There are no receivables and payables.

Budget program 005 “Construction and reconstruction of education and science facilities”.

In 2018, funds in the amount of 8 873 003,0 thousand tenge were provided for the implementation of the budget program, execution amounted to 6 507 583,2 thousand tenge, or 73,3% of the plan. The unused balance of funds amounted to 2 365 419,8 thousand tenge, including: 9 532,2 thousand tenge as the amount of saved budget funds for public procurement; 2 355 887,6 thousand tenge - in connection with the lag behind the schedule of construction work, the failure of the contractors to submit documents confirming the validity of the payments, and litigation. Funds in the amount of 2,258,814,0 thousand tenge are planned to be used in 2019 due to the unpaid part of the registered obligations of 2018 in accordance with the Budget Code of the Republic of Kazakhstan.

Budget program outcome indicators

During the implementation of the budget program, the indicators of direct results were not achieved in full. Under the construction plan of 5 dormitories for universities, 2 dormitories were built and commissioned. On the construction of three dormitories, contractors have lagged behind construction schedules; objects are currently being accepted by working commissions.

The indicator has not been achieved on the creation and development of the educational and laboratory base of one university. On the construction of the educational and laboratory building of ENU named after L.N. Gumilyov contractor allowed a lag behind the schedule of construction and installation works.

Final results are also not fully achieved.

Provision of students with a place in the dormitory of the total number of students in need of it was 0,6% (with the plan of – 2,1%); the need of higher education institutions for the availability of a training and laboratory base is not provided (with the plan of – 14%). The deviation from the planned indicators is due to the lag of contractors behind the schedules for the construction of facilities.

The need for interregional professional centers for the training and retraining of technical and service workers for the oil and gas, manufacturing, fuel and energy and machine-building industries within the plan is 25% [3] .

No accounts payable.

Budget program 010 “Conducting republican school Olympiads, contests, extracurricular activities of national importance”.

In 2018, funds in the amount of 565 393,0 thousand tenge were provided for the implementation of the budget program, execution amounted to 565 392,6 thousand tenge, or 100% of the plan. Unused balance - 0,4 thousand tenge.

Budget program outcome indicators

In the framework of the budget program, the direct result has been achieved in full. In accordance with the plan, 133 events were held, including international and national olympiads, contests, competitions, conferences, exhibitions, seminars, and sports events.

The final result indicator was also fully achieved: an increase in the coverage of children participating in extracurricular activities of republican significance amounted to 1,46% according to the plan.

Quality indicator of the budget program.

The necessary conditions are provided for the development of the intellectual abilities and talent of gifted children, the comprehensive preparation of youth for participation in solving social development problems. The prestige of Kazakhstani school education abroad was enhanced through the achievements of Kazakhstani children at international events.

Cost data for three years: 2016 - 432 756,0 thousand tenge, 2017 - 539 554,0 thousand tenge, 2018 - 565 392,6 thousand tenge.

There are no receivables and payables.

The above budget programs of the Ministry of Education and Science of the Republic of Kazakhstan have a direct impact on socially significant indicators; in this regard, the criterion of social effectiveness will be higher than other criteria.

2. The calculation of the degree of effectiveness of the state body on a scale.

Evaluation of the audit of performance is carried out according to the following 3 types of effective criteria:

1) criterion A “Budgetary effectiveness”

2) criterion B “Economic efficiency”

3) criterion C “Social efficiency”

At the same time, three types of criteria are evaluated on the basis of profitability, productivity and productivity. The performance of government bodies will vary depending on the function of the public administration sector.

Sources of information in assessing the audit of the performance of a state body are the Strategic Plans of government bodies and reports on their implementation, information on the results of evaluations of the implementation of the Strategic Plan of government bodies, a consolidated balance sheet; information on the results of achieving the performance of budget programs and other sources of information.

1) Assessment by criterion A - calculation of budget efficiency

Estimation of budget efficiency is calculated taking into account the weight value

$$Azgo = (0,3 \times B + 0,7 \times D) \times 100\% \quad (9)$$

where B is an indicator characterizing how much qualitatively and in full the analysis of the strategic plan was carried out, the weight value is 0,3; D - An indicator characterizing whether the goals and objectives of the strategic plan have been achieved, the weight value is -0,7.

To calculate the coefficient of implementation of the objectives of the strategic plan, it is necessary to take into account:

1) indicators for direct results that do not have planned value for the reporting period;

2) if there is a problem with the lack of statistical data, it is necessary to use operational data;

3) if it is impossible to find operational data, direct results on the calculation of the coefficient of implementation of tasks are not allowed.

Table 1 – Summary information on the execution of the republican budget for 2018 on budget programs (thousand tenge)

No.	Budgetary Programme	Name	Plan for 2018	Actually executed	Completion	Deviation (+, -)
1	002	Training specialists in technical and vocational, post-secondary education organizations and providing social support to students	2519888,0	2519887,8	00	-0,2
2	005	Construction and reconstruction of objects of education and science	8873003,0	6507583,2	73,3	-2365419,8
3	010	Holding republican school olympiads, contests, extracurricular activities of republican significance	565393,0	565,392,6	100	- 0,4
		Total:	11958284,0	9592863,6	80,2	-2365420,4

Note: compiled by the author based on the source [1].

To calculate by the criterion the achievement of the goals and objectives of the strategic plan, it is necessary to know the characteristics of the dynamics (positive or negative) and the coefficient of achievement of the target indicator and direct result indicator.

$$Azgo = (0,3 \times B + 0,7 \times D) \times 100\% \quad (1)$$

where the value of B = 0,86; the value of D = 0,80.

$$Azgo = (0,3 \times 0,86 + 0,7 \times 0,80) \times 100\% = 0,818 \approx 81,8\% \text{ or } 12 \text{ points.}$$

Thus, criterion A = 12 points.

Determining the scope or direction in accordance with the strategic plan of the Ministry of Education and Science of the Republic of Kazakhstan.

$$\text{Thus, the total amount } Q_i = (0,93 + 0,75 + 1 + 0,75) / 4 = 0,86$$

Table 2 – detailed calculation of the achievement of quality and completeness of the strategic plan

No.	Scope (direction)	q ₁	q ₂	Q _i
1	Education	0,87	1,0	0,93
2	Preschool education	1,0	1,0	1,0
3	Secondary education	1,0	1,0	1,0
4	Technical or Professional	0,5	1,0	0,75
5	Higher education	1,0	1,0	1,0
6	Scientific and scientific-technical activity	0,5	1,0	0,75
7	Protecting the rights of children	1,0	1,0	1,0
8	Youth policy	0,5	1,0	0,75
	Total	0,72	1,0	0,86

2) Evaluation by criterion B - calculation of economic efficiency

Assessment by the criterion of "Economic efficiency" is calculated as the ratio of the percentage of achievement of the direct result (ADR) and the percentage of the actual realization of the allocated funds (ARAF) for the corresponding financial year.

Economic efficiency is defined as follows:

$$\text{Econ. perf. b/p} = \frac{\%ADR}{\%ARAF} \times 100\% \quad (2)$$

1) according to the budget program 002

the average value $(111,1 + 100 + 100 + 100) / 4 = 102,8\%$ or 30 points.

2) according to the budget program 005

average value $(0 + 54,6) / 2 = 27,3\%$ for the budget program 27,3% or 5 points

3) according to the budget program 010

average value 100% or 30 points

The average value for budget programs $(30 + 5 + 30) / 3 = 21,7$ points

Thus, criterion B = 21,7 points.

3) Assessment by criterion C - calculation of social efficiency

Assessment by the criterion of “Social Efficiency” is characterized as the percentage of achievement of the final result (AFR) divided by the percentage of actual realization of allocated funds (ARAF) for the corresponding financial year.

Social performance is defined as follows:

$$\text{Soc.perf. b/p} = \frac{\%AFR}{\%ARAF} \times 100\% \quad (3)$$

the average value for 002 budget program is 108,7% or 40 points; the average value for 005 budget program $(0 + 38,9 + 100) / 3 = 46,3\%$ or 5 points; the average value for 010 budget program or 40 points.

The average social performance score for all budget programs is calculated as the sum of all points for each budget program and the ratio of the amount received to the total number of budget programs.

The average value $(40 + 5 + 40) / 3 = 28,3$ points.

Thus, the criterion C = 28,3 points.

Performance Audit Final Assessment

3) Calculation of the final assessment of the effectiveness of the state body

Efficiency can be assessed on a 100-point scale. To calculate the total audit of the effectiveness of the body to be assessed, it is necessary to summarize the points according to all criteria.

The final score is calculated by the formula:

$$Q = T1 + T2 + T3 \quad (4)$$

It is necessary to find the total value of all the criteria

$$Q = (A 12 + B 21,7 + C 28,3) = 62 \text{ points}$$

The assessment was carried out on the basis of available data provided by the Ministry of Education and Science of the Republic of Kazakhstan.

Thus, the audit of Ministry of Education, I and Science showed 62 points and the possibility of application of the state body's activities and identified deficiencies in the sector of the economy, as well as the degree of efficiency as a whole for the period 2018 expressed as the average degree of efficiency [4-6].

Has the basis of the foregoing illustrative examples of analytical procedures have come to the conclusion that the expert-analytical activity is one of the critical activities of the state audit. The use of expert and analytical procedures can significantly increase and improve the quality of the audit, reducing the time spent by state auditors on conducting the audit.

If you focus on areas where the risk of not detecting errors is high, the time spent on checking on areas with low error rates will be reduced.

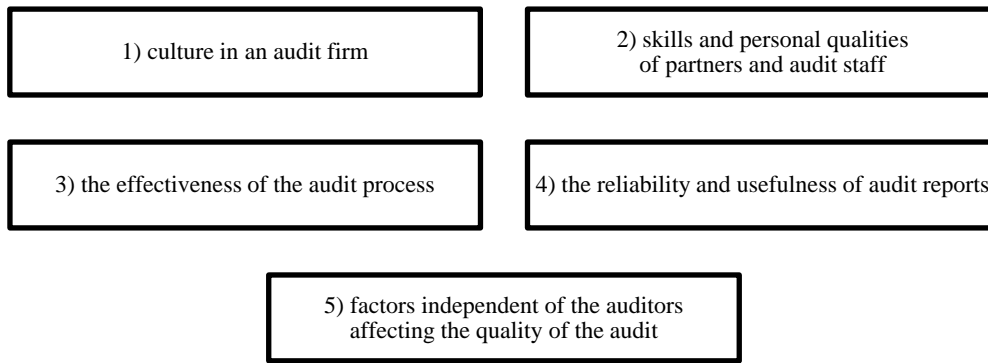
Discussion. The tasks of state audit bodies are to carry out activities related to the analysis, assessment and verification of the management of state resources and assets in order to ensure a dynamic increase in the quality of living conditions and the country's security.

In this direction, an important place is given to the quality of state audit. A well-conducted state audit guarantees the effective functioning of the state and society. From this it follows that each stage of the audit and each type of audit activity is necessary to be carried out with a high level of quality and efficiency [7-11].

Foreign scientists Knechel (2012), Stephens (2011), Bobiketal (2012) believe that the main factors in improving the quality and effectiveness of auditing may be the knowledge and skills that auditors possess, that is, professionalism.

Factors affecting the quality and effectiveness of the audit are identical for expert analytical activities. Consequently, the high level of professionalism of the audit team and the level of specialization in the audit have become an important factor in the quality of the audit and expert analysis [12].

In 2008, the Financial Reporting Council (FRC) of England identified and presented the main factors of audit quality and expert analysis (figure) [13].



Factors of audit quality and expert-analytical activity in accordance with the Council of financial reporting of England. Note: compiled by the author based on the source [13]

In 2018, the Institute of Internal Auditors of Kazakhstan conducted a survey among state auditors in order to identify the level of professional development and self-efficacy of auditors. A total of 232 state auditors were interviewed [14].

According to the results of the survey, she conducted a correlation and regression analysis of the influence of each factor on the quality of the audit.

Y - audit quality; X₁- motivation for learning; X₂- the possibility of training; X₃- organizational culture; X₄- profession and experience; X₅- confidence and effort; X₆- trend and performance.

To identify the tightness of the relationship between the variables, we conducted a correlation analysis using the analytical program GRETl (table 3).

Table 3 – The correlation matrix

Audit quality	Learning motivation	Training opportunity	Organizational culture	Confidence and effort	Trend and Performance	
1,0000	0,9510	-0,9241	0,9213	0,9762	0,9663	Audit quality
	1,0000	0,9533	0,4184	0,7956	-0,9091	Learning motivation
		1,0000	-0,4502	0,8441	-0,9459	Training opportunity
			1,0000	-0,5192	0,4241	Organizational culture
				1,0000	-0,8169	Profession and experience
				1,0000	0,5137	Confidence and effort
					1,0000	Trend and Performance
Note: compiled using the GRETl program based on data [15].						

The matrix of correlation coefficients on the Chedokka scale shows that the highest correlation of audit quality is observed with the factor X₄- profession and experience (r = 0,97). Profession and experience are the basis for conducting a state audit.

The second no less strong correlating factor with the quality of the audit is the X₁- motivation for learning. The correlation value is 0,95. Since the relationship is direct, the quality of the audit will increase with the growth of training motivation.

Also, the quality of the audit correlates with the X₆- trend and performance factor, whose correlation coefficient is 0,96. The increase in audit quality is proportional to the growth of trend and productivity: the greater the productivity of the auditor, the greater the quality of the audit.

With the factor X₃ – organizational culture, the quality of the audit has a very close relationship. The correlation coefficient is 0,92. Such a high connection can be explained by the fact that the quality of the audit directly depends on the organizational culture of the audit event: the higher the level of organizational culture of the auditors, the greater the quality of the audit.

With the factor of X₅ – confidence and effort, the quality of the audit has a high connection, which is 0,92, with the factor the X₂ – possibility of training, the quality of the audit has the same high, but

feedback with a coefficient of -0,92. These two indicators depend on the personal qualities of the state auditor.

Hence, according to the source data, a functional relationship exists with all factors. Checking the data for normal distribution revealed that the null hypothesis is rejected.

High correlations can lead to multicollenarity in the model.

In order to avoid multicollenarity and bring the data to a stationary form, we transform the initial data by calculating the chain growth rate.

A new correlation matrix is constructed (table 4).

Table 4 – Correlation matrix

Audit quality	Learning motivation	Training opportunity	Organizational culture	Confidence and effort	Trend and Performance	
1,0000	0,5210	-0,3441	0,4813	0,6162	0,2863	Audit quality
	1,0000	0,9533	0,4184	0,7956	-0,9091	Learning motivation
		1,0000	-0,4502	0,8441	-0,9459	Training opportunity
			1,0000	-0,5192	0,4241	Organizational culture
				1,0000	-0,8169	Profession and experience
				1,0000	0,5137	Confidence and effort
					1,0000	Trend and Performance
Note: compiled using the GRETL program based on data [16].						

The resulting converted data corresponds to the law of normal distribution. Highly correlated with the value (+, - 0,7) are absent. For conducting multiple regression analysis, all 6 factors were preserved.

The determination coefficient in the analysis is 0,678, that is, 82% of changes in the quality of the audit with variable attributes, and 18% are unaccounted factors. The total correlation coefficient R- squared is 0,67, indicating the presence of a close relationship between the productive and factor characteristics.

Check the regression equation for adequacy:

1) the actual Fisher test is 78,2, which exceeds the tabular value: $F_{actual} > F_{table} (2,93)$;

2) the actual student criterion exceeds the critical value, which indicates the significance of the model:

a) $t_{actual} = 15,07 > t_{table} = 0,0001$;

b) $t_{actual} = 22,13 > t_{table} = 0,0001$;

3) The Darbin - Votsan criterion is 2,04 above the critical value (the critical value is 1,34): $2,04 > 1,34$, no autocorrelation.

Table 5 – Multiple Regression Analysis

Independent variable	β	t (Stat)	P- value	R-squared	Multi.R	R-square (speed)	F
Audit quality	0,495						
Learning motivation	0,254	4,153	0	0,678	0,823	0,640	78,2
Training opportunity	-0,038	-0,413	0,446				
Organizational culture	0,095	2,726	0,273				
Profession and experience	0,338	5,346	0				
Confidence and effort	0,009	0,426	0,754				
Trend and Performance	0,209	3,681	0				
Note: compiled using the GRETL program based on data [16].							

In all cases, the normal distribution of factors is confirmed, due to the fact that the Shapiro- Wilk criterion is greater than the p-value, the null hypothesis of the normal distribution is accepted.

Conclusion. Thus, the correlation - regression analysis confirmed the factors that most affect the quality of the audit. According to regression statistics, the significance of six factors was confirmed. According to the results of the analysis, the multiple regression equation was compiled:

$$Y = 0,495 + 0,254 X_1 - 0,038 X_2 + 0,095 X_3 + 0,338 X_4 + 0,009 X_5 + 0,209 X_6$$

The quality of the audit will increase by 0,254 units with an increase in the motivation of training by 1 unit, while the remaining indicators remain unchanged. The quality of the audit will decrease by 0,038 units with an increase in the possibility of training by 1 unit while the remaining indicators remain unchanged. The quality of the audit will increase by 0,095 units with an increase in the culture of audit organization by 1 unit, while the remaining indicators remain unchanged. The quality of the audit will increase by 0,338 units with an increase in the level of professionalism and experience by 1 unit, while the remaining indicators remain unchanged. The quality of the audit will increase by 0,009 units with an increase in effort and confidence by 1 unit with the remaining indicators unchanged. The quality of the audit will increase by 0,209 units with an increase in the level of trends and labor productivity by 1 unit, while the remaining indicators remain unchanged.

Thus, from the correlation and regression analysis, it follows that the quality and effectiveness of expert analysis and audit as a whole are influenced by factors: motivation for training, the ability to learn, work culture, profession and experience, effort and confidence, trend and productivity.

To date, Kazakhstan has adopted all the main regulatory documents, laws, standards governing the activities of state audit and financial control bodies. But the issues of conducting an expert-analytical event are not yet fully understood [17-19].

In connection with the experience of foreign countries, where a state audit is formed as an institution in which expert and analytical work is carried out by audit bodies during the performance audit, we recommend to clearly distinguish between the types of expert and analytical activities used in the performance audit and in the course of a separate independent event.

In view of the fact that there is a problem with the openness of the state audit bodies, we propose allowing the members of the expert community, independent experts and rating agencies to discuss the results of the state audit and normatively fix this decision in the Law. If the above organizations take an active part in improving the system of state audit and financial control of the country, this will lead to the absence of the need for additional expert analytical work of state audit bodies.

Another problem in conducting an expert-analytical event is the lack of clear distinctions in terms of expert-analytical activity and expert-analytical event. We propose to distinguish between these concepts and fix them in the Law.

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МЕМЛЕКЕТТІК АУДИТ САПАСЫ МЕН ТИІМДІЛІГІНІҢ ӨСУ ФАКТОРЛАРЫ

Аннотация. Мақалада мемлекеттік аудит саласындағы стандарттау негіздері және оның жоғары қаржы бақылау органдарының қызметіндегі рөлі талданады. Мемлекеттік ресурстарды басқару жөніндегі қызметті жетілдіру мақсатында жоғары қаржы бақылау органдары бақылау және сараптамалық-талдау іс-шараларының нәтижелері бойынша ұсыныстар мен ұсынымдарды дайындаудағы стандарттау маңыздылығы расталды.

Сараптамалық-талдау қызметі Ішкі мемлекеттік аудиторлар қызметінің тиімділігін едәуір арттырады. Ол заң бойынша ішкі аудиторларға жүктелген функциялар мен өкілеттіктерді іске асыру кезінде маңызды құралдардың бірі болып саналады. Бүгінде аудиторлық және талдау процедураларының көптеген түрлері мен әдістері бар. Оларға қосымша компьютерленген техника да қосылды әрі бұл аудиторларға талдау үдерісін автоматтандыруға және аз шығын кетіріп, еңбектің қажеттілігін арттыруға көмектеседі.

Ішкі мемлекеттік аудит органдары үшін сараптамалық-талдау қызметі заңмен регламенттелмеген. Демек, ішкі мемлекеттік аудит органдарының сыртқы мемлекеттік аудит органдарынан айырмашылығы дербес іс-шара ретінде аудиттен бөлек сараптамалық-талдамалық шара өткізбейді. Ішкі мемлекеттік аудит

органдары үшін сараптамалық-талдау қызметі заң бойынша мемлекеттік орган функцияларына сәйкес бекітілген аудиттерді жүргізуде талдау құралдарының бірі болып саналады.

Зерттеу пәні – мемлекеттік аудиторлардың өзіндік тиімділігі мен кәсіби дамуының мемлекеттік аудит сапасына әсері. Зерттеу шеңберінде мемлекеттік аудит тиімділігін арттыру бойынша практикалық ұсыныстарды әзірлеу мақсатында аудиттің кәсіби дамуы, тиімділігі мен сапасы арасындағы өзара байланысты зерттеу міндетін алға қойдық. Аудит сапасы, аудиторлардың кәсіби дамуы мен өзіндік тиімділігі арасындағы өзара байланысты анықтау үшін Қазақстанның 20% мемлекеттік аудиторларының арасында сауалнама жүргізілді және алынған деректер негізінде дисперсиялық, регрессиялық, корреляциялық талдау жасалды. Авторлар мынадай гипотезаларды негізге алды: а) аудиторлардың жоғары тиімділігі аудит сапасына оң әсер етеді; б) ұйымдастыру мәдениеті аудиторлардың кәсіби дамуының негізгі факторы; в) кәсіби даму мен өзіндік тиімділігі арасында тікелей өзара байланыс бар; г) кәсіби даму аудит сапасына тікелей әсер етеді. Талдау нәтижелері аудит сапасына әсер ететін елеулі факторлар кәсіби даму (ұйымдастыру мәдениеті мен оқыту мүмкіндіктерін қоса алғанда) және өзіндік тиімділігі (мамандығы мен тәжірибесін, сондай-ақ жұмыс үрдістері мен нәтижелерін қоса алғанда) туралы қорытынды жасауға мүмкіндік берді.

Түйін сөздер: мемлекеттік аудит, талдау қызметі, ішкі мемлекеттік аудит, мемлекеттік бюджет.

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ФАКТОРЫ РОСТА КАЧЕСТВА И ЭФФЕКТИВНОСТИ ГОСУДАРСТВЕННОГО АУДИТА

Аннотация. В статье анализируются основы стандартизации в сфере государственного аудита и ее роль в деятельности высших органов финансового контроля. Подтверждена важность стандартизации при подготовке предложений и рекомендаций, подготовленных по результатам контрольных и экспертно-аналитических мероприятий высшими органами финансового контроля, в целях совершенствования деятельности по управлению государственными ресурсами.

Экспертно-аналитическая деятельность значительно повышает эффективность деятельности внутренних государственных аудиторов. Она является одним из важнейших инструментов при реализации функций и полномочий, возложенных на внутренних аудиторов по закону. На сегодняшний день существует множество видов и методов аудиторских и аналитических процедур. В дополнение к ним добавились и компьютеризованные техники, которые помогают аудиторам автоматизировать процесс анализа и сделать его менее затратным и трудоемким.

Экспертно-аналитическая деятельность для органов внутреннего государственного аудита законом не регламентирована. Значит, органы внутреннего государственного аудита не проводят экспертно-аналитическое мероприятие отдельно от аудита, в качестве самостоятельного мероприятия, в отличие от органов внешнего государственного аудита. Экспертно-аналитическая деятельность для органов внутреннего государственного аудита является одним из инструментов анализа при проведении аудитов, закрепленных согласно функциям государственного органа по Закону.

Предмет исследования – влияние самоэффективности и профессионального развития государственных аудиторов на качество государственного аудита. В рамках исследования нами ставилась задача изучить взаимосвязи между профессиональным развитием, самоэффективностью и качеством аудита с целью выработки практических рекомендаций по повышению эффективности государственного аудита. Для выявления взаимосвязи между качеством аудита, профессиональным развитием и самоэффективностью аудиторов был проведен опрос среди 20% государственных аудиторов Казахстана и на основании полученных данных осуществлен дисперсионный, регрессионный, корреляционный анализ. Авторы исходили из следующих гипотез: а) высокая самоэффективность аудиторов положительно влияет на качество аудита; б) организационная культура основной фактор профессионального развития аудиторов; в) имеется прямая взаимосвязь между профессиональным развитием и самоэффективностью и г) профессиональное развитие прямо влияет на качество аудита. Результаты анализа позволили сделать вывод о том, что существенными факторами, влияющими на качество аудита, являются профессиональное развитие (включая организационную культуру и возможности обучения) и самоэффективность (включая профессию и опыт, а также тенденции и результаты работы).

Ключевые слова: государственный аудит, аналитическая деятельность, внутренний государственный аудит, государственный бюджет.

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WAYS TO IMPROVE THE ORGANIZATION OF LOGISTICS MANAGEMENT AT ENTERPRISES

Abstract. The relevance of logistics and increasing interest in its study are explained by the possibilities that increase the efficiency of Materials Science Systems, which reveal the use of the logistics method. Logistics reduces the time intervals from the purchase of raw materials and semi-finished products to the delivery of finished products to the consumer, contributes to a sharp reduction in inventory. The use of logistics speeds up the process of obtaining information and improves the level of Service.

As foreign experience shows, logistics occupies a strategically important place in modern business.

Many professionals who have achieved success in this field move to higher positions in the management of the company. Currently, the traditional functional areas of logistics in leading firms are combined into the basis of a common information and computer platform, creating a system of Strategic Innovation (Innovation). The logistics service is comprehensive. This includes transport, warehouse, inventory management, personnel Management, Information System Organization, commercial activities, etc. Each of these functions has been thoroughly studied and described in the relevant industry order. The novelty of the logistics approach is the basic relationship. The purpose of the logistics method is the continuous management of material flows.

The introduction of logistics management methods in entrepreneurial practice allows many firms to reduce all types of stocks of production, equipment and products sold, accelerate the turnover of working capital, reduce production costs, reduce the costs associated with distribution, and ensure full satisfaction of consumers with goods and services. From this point of view, the relevance of the research work can be traced. In this regard, this study is relevant and relevant.

Scientific novelty and practical significance - development of proposals for improving logistics at enterprises of the Republic of Kazakhstan.

Key words: organization, logistics management, improvement, logistics efficiency, economic efficiency.

Introduction. In trade theory, there are several directions for the development of organizational forms of infrastructure objects of the commodity market. These include concentration, specialization, and universalization, and combination.

We have proved that the logistics system brings high efficiency to market development. Currently, structural changes are taking place in the economy of Kazakhstan in the field of purchase, production and sale of products.

But this process should be given a systematic character focused on logistics. In a market economy, the management of material resources and related flows of all resources in industrial and commercial enterprises by logistics methods is an objective necessity, which ensures competitive advantages in the world market.

The prospects for the new industrial policy are characterized by the effect of integration obtained by low costs and high-quality customer service. From this diagram, we can see that logistics creates conditions for achieving high efficiency, taking advantage of the existing opportunities for organizing the economy, effective contacts between economic organizations. In trade logistics, improving the logistics operation gives a system-wide result [1].

Logistics can also be used in the infrastructure of the commodity market, which is extremely necessary for the effective functioning of all economic entities participating in this market. Now we will look at improving the infrastructure of the commodity market through logistics integration in the form of the following images.

Methods. The paper uses methods of modeling and comparative analysis. The methods of the «tree» of goals and expert assessments were used to solve individual tasks. The information and empirical base of the research is the normative legal acts of the regional and municipal levels; official data of the Republican and regional bodies; methodological, scientific, educational and reference literature, materials of the Internet, as well as the research conducted by the authors.

Methodological research is a General method of scientific knowledge-analysis and synthesis, Content-Media analysis of sociography, system-comparative method that allows to determine the Genesis, sequence and functioning of the stages of development of the meat market, the attractiveness and effectiveness of adapting foreign experience in the management of the development of municipal institutions.

Research and development work in the field of development and effective adaptation of the mechanism for building logistics at the enterprise.

Results and discussion. The implementation of logistics signs leads to the implementation of synergistic efficiency. Currently, synergy determines interdependence in logistics systems, which increases the overall efficiency of independent subsystems or elements together with the sum of their efficiency in an individual independent operation. Now we will show the effectiveness of the logistics system in the form of graphs.

If we expand the figure 1 below, then the infrastructure elements of the commodity market will be in the list of organizations that need to interact in this logistics system. We show the following main features of logistics integration::

1.logistics coordination is the optimization of the entire process of product distribution, from the purchase of goods to delivery to consumers.

2.integration of material flow management and management with management integration.

Along with the range of services provided to customers of trading enterprises, there will be a single technology of material flows, which will be transformed into technological logistics.

Adaptation of the logistics system to the changing conditions of the internal and external environment of trade logistics, which will become adaptive logistics.

Сауда логистикасының барлық элементтерін ұтымды ұйымдастыру, олардың өзара әрекеттесуін қамтамасыз ету, бұл ұйымдық логистикаға айналады.

Let's look at the types of logistics integration shown in the figure:

Internal integration is carried out in three directions:

A) technological integration, which is the development of a single technology of material flow of commercial enterprises. It is the material basis of trade logistics within the company and reflects the technical and technological relationship of the main logistics operations. Technological integration includes the following conditions: establishing a rational procedure for importing goods; timely quantitative and qualitative acceptance of goods; effective use of rolling stock and lifting machines; effective organization of work of transport and warehouse workers; the actual functioning of Transport for the delivery of goods to consumers; the use of advanced types of container and cargo packaging systems; reducing the costs associated with logistics operations; improving the quality of customer service of the company.

B) functional integration, which is the creation of an integrated management system for material and information flows. It combines the efforts of various support units of a trading company in managing material flows.

C) integrated integration as a synthesis of technological and functional integration.

Intra-company integration allows you to manage the material flows of a trading company, but is not able to influence environmental factors.

2. intersectoral integration is carried out in three directions:

A) on the basis of combining the interests of competitive trading enterprises, we see it as a method of consolidation.

B) by combining the logistics forces of independent but interconnected trading enterprises.

C) mixed integration, combining horizontal and vertical integration.

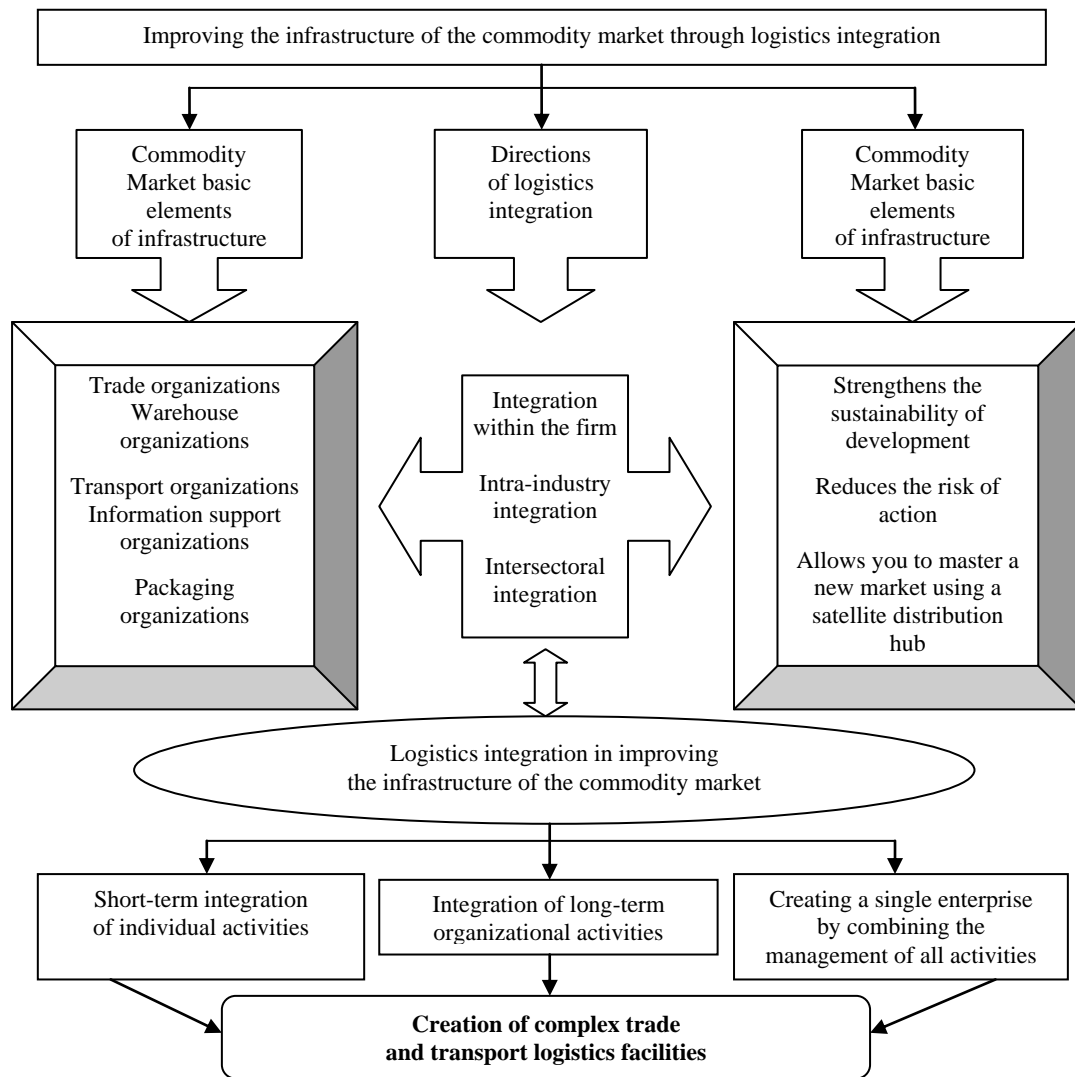


Figure 1 – Creation of logistics facilities in order to improve the infrastructure of the commodity market

I. intersectoral integration is carried out in three directions: regressive, progressive and conglomerate, but associations in such industries should be regulated by antitrust laws. This is done in order to effectively organize the movement of material flows between the producer, processing and supplier industries [2].

The essence of logistics integration is to combine actions at the enterprise. The form of such associations varies, mainly depending on the goals, financial, technical and other capabilities of the enterprise. In general, the objects of logistics integration can be represented in the following three forms:

1. combining individual or multiple types of services, including planning, transportation, procurement, implementation, and the like, including short-term (until the end goal is achieved) such activities;

2. integration of organizational and functional activities, such as warehouses, transport services and other organizational support units, is planned for a long time;

3. unification of management of all activities and creation of a single enterprise, i.e. centralization of intermediary activities based on the economic interest of related enterprises in improving the efficiency of interaction.

Enterprises and firms are interested in effectively solving joint problems that they cannot solve together. The relationship between joint ventures can be either a bilateral economic agreement or a full accession to the unification of a full activity without documents [3]. Often, in order to implement this direct and horizontal integration, there must be a single body that monitors, coordinates and directs these

actions. This body may be more suitable for joint activities or may be established under the leadership of another governing body. An organization created to coordinate the market with price, supply, innovation efficiency, etc. it should regulate the activities of these integrated enterprises.

Thus, the merger of enterprises can be carried out in three different forms of ownership:

1. in a separate form of ownership, this is the creation of the above - mentioned organizations, the main condition of which is that the management organization should be interested in improving the efficiency of joint ventures, that is, being profitable for this enterprise as well.

2. the state in the form of ownership, in which the state can act as a governing body that can create conditions for the effective functioning of enterprises that pay taxes to cover its budget deficit, i.e. the interests of the state for the development of this industry.

3. the most effective way is to create a management organization in a mixed form of ownership, since both private entrepreneurs and the state strive to effectively solve problems to achieve their final goals, and state support is provided.

On the basis of these associations, it is necessary to create integrated trade, transport and logistics facilities. Today, the internal infrastructure of the commodity market is several times behind the infrastructure of developed countries. Currently, mixed multimodal cargo terminals are excluded in this sense. Previously built warehouses, wholesale bases, warehouses are currently only 30-40% operational, most of them are left unattended. At the same time, enterprises must maintain a large stock of finished products in order to ensure the continuity of their work and maintain their own transport, which increases the costs of the enterprise and negatively affects the price of the product.

In the case of Kazakhstan, we can now create a logistics center, which is mainly called a logistics center, because there is still not enough understanding of the essence of logistics in firms, and the agreement of firms takes a lot of time, and coordination and meeting of firms through administrative methods is necessary. convince each other and the need to log in to the logistics system.

Now this logistics center should be opened near the chambers of Commerce in each region or near a special Center, which should be located in each regional center as part of local central authorities. This center can be financed by indirect taxes, as a result of which they appear in the field of trade. This is often an excise tax.

In most cases, 10% of the total time was spent on the production of commercial products in the production and consumption cycle, and the remaining 90% was spent on transport, storage and intermediary operations. Container cargo processing is combined in special Integrated Cargo Processing Centers-terminals that form a single global logistics network. The developed logistics base is a regional development complex. For the development of social and market infrastructure abroad, the mechanism of Special Economic Zones created in industrial and trade and transport hubs to account for commodity flows and Investments is widely used. Today, multimodal transport accounts for 50% of all cargo volumes in the world, while in Kazakhstan and the CIS countries it is less than 2%. Cargo transportation, which is widely used in our country, is a medieval method of small transport used in very backward countries and cannot meet the needs of the population [4].

The following Figure 2 shows the ways of financing and the activities of logistics centers.

Coordinated transport has the following advantages over conventional transport:

1. saving and rational use of fuel and energy resources;
2. favorable conditions for the use of vehicles and national transport infrastructure, effective management of the transport network and new transport technologies;
3. relatively low cost of combined transport, which is a convenient condition for using national resources;
4. contributes to increasing the competitiveness of exports and the development of foreign trade;
5. simplifies customs procedures and saves time for filling out documents;
6. increasing the volume of insurance for the movement of goods;
7. prevention of foreign capital interference to the detriment of national carriers.

Thus, we will show ways to integrate the infrastructure of the commodity market through the logistics of product distribution, but today the implementation of this process in our country requires state support, since the State plays a huge role in creating a body that manages logistics integration, training specialists to ensure the effective construction of the logistics system. its high-quality operation.

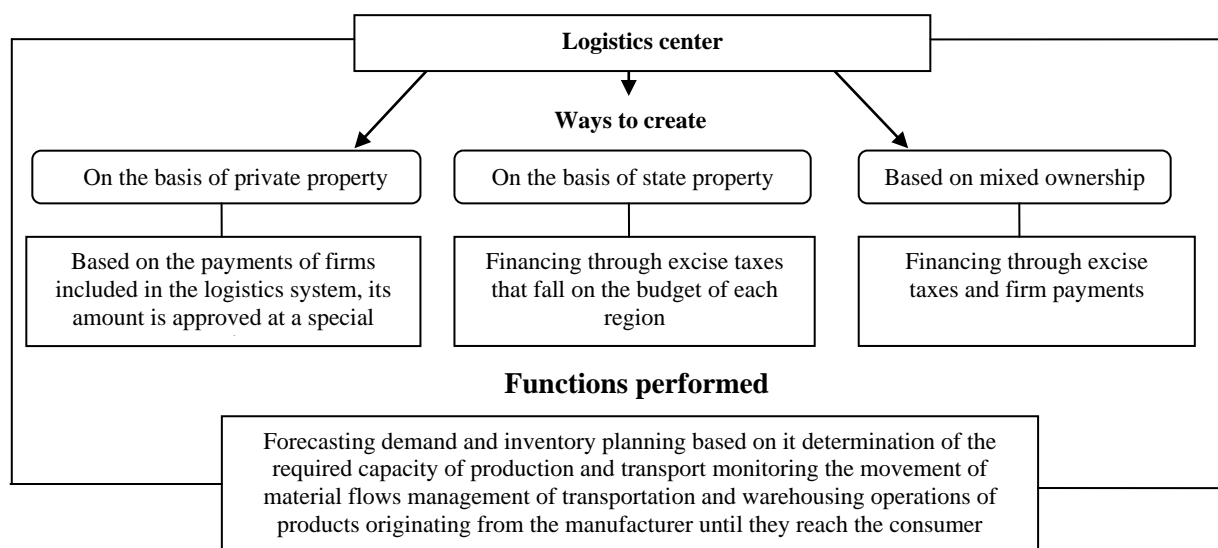


Figure 2 – Ways to create a logistics center

Modern logistics is Computer-Integrated Logistics. The state of logistics infrastructure in the world is a factor that activates exports in the development of the market, investment attractiveness and any territory. Transport, warehousing, trade and services will be integrated and developed. Reliable trade and transport infrastructure is a solid foundation for the economic integration of the regions, a necessary factor against the disintegration of the State [5].

Therefore, in many foreign countries, the development of trade and transport and related information infrastructure is under strict state control, which is carried out not only in the form of direct budgetary funds, but also through organizational and economic regulation and coordination of legality.

Thus, for the rapid growth of the economy of Kazakhstan on the basis of market relations, it is necessary to create maximum logistics trade-transport and transport systems and networks that accelerate the delivery of goods from producers to the end user. Analysis and systematization of data on this issue leads to the following solutions:

1. various firms tend to further improve e-commerce methods in their activities;
2. the technology of the Internet network is even higher than the improvement of reliable protection for the implementation of commercial activities on the network;
3. the market of Kazakhstan has not yet been conquered by e-commerce, without taking into account the impact of Western trade, has a very high priority for this type of activity.;
4. internet technology is much more than improving reliable protection for the implementation of commercial activities on the network;
5. Logistics can also be used in the infrastructure of the commodity market, which is necessary for the effective functioning of all economic entities participating in this market. Now let's look at improving the infrastructure of the commodity market through logistics integration in the form of the following diagram.
6. the need for integration is inherent in all industrial and commercial enterprises, regardless of the type of territorial and sectoral structure. The current state of development of the economy of Kazakhstan requires the creation of conditions for the integration of industrial, commercial enterprises and companies serving the market infrastructure into an integrated system. The main reason for this association is the geographical distance between raw materials and consumers, which creates conditions for increasing costs that are not related to production.

7. by adopting the infrastructure of the commodity market through the logistics of the distribution of goods, we will show the ways of this integration, but today the implementation of this process in our country needs state support, since the State plays an important role in the creation of a management body for logistics integration, training specialists to ensure the effective construction of the logistics system and its high-quality functioning.

Our country does not need to repeat the logistics systems and concepts used in other foreign capitalist countries. Taking into account their experience, our potential and the specifics of the country, we must quickly implement modern logistics approaches and a system of market structures in domestic business. It is widely used in JIT, KANBAN, MRP, DRP, ROP, QR, CR, AR, LEAN PRODUCTION, etc. It would be advisable to introduce and improve the concepts taking into account the specifics of enterprises of the Republic of Kazakhstan [6].

An important place for Kazakhstan is occupied by local features of the reconstruction of its large territory, including local transport factors: transport communications, transport and freight forwarding enterprises in the district, transport hubs, terminals, etc. each region has a large group of enterprises operating in the economy. those that perform any logistics functions: transport companies, wholesale intermediaries, banks, transport and Storage Complex, Cargo Terminal, etc.

Summary and Conclusion. Effective customer service, coordination and management of transport and logistics activities by many transport and logistics companies and intermediaries cannot be accidental on the ground. Due to the introduction of modern logistics management technologies that provide local material and information flows, bringing them closer to international standards, the high quality of transport and logistics services, the socio-economic development of individual regions and the unifying potential of these systems, the efficiency of customer service will increase. The current situation in the country's economy requires the creation of a new, fundamentally new cargo flow management system based on terminological technologies and logistics principles of trade turnover. The strategy for the formation of logistics services of the local network should be based on the creation of a network of cargo handling and cargo collection terminals and multi-purpose multimodal terminal complexes, thanks to Universal Information support and telecommunications, as well as logistics centers that manage and coordinate their work with carriers, freight forwarders and other logistics partners. The local macro-logistics system should provide consumers with technological forwarding, storage, cargo handling, customs and service services that meet international standards at the production technological level and the versatility and service capability of customer logistics [7].

First of all, it is important to improve the logistics support system for multimodal transport corridors.

Logistics support of transport corridors in the local macro-logistics system of Kazakhstan provides:

-increasing the level of employment by solving socio-economic problems of the regions, creating new jobs and attracting investment; increasing revenues to the city budget due to the functioning of the macro-logistics system and the expansion of the market for consumer transport and logistics services.

- approach to international standards by improving the quality of transport and logistics services to consumers, introducing modern integrated logistics technologies for the quality of Service and developing the local production and technical base of logistics services;

-attracting foreign investment and partners to the emerging macro-logical system of foreign economic relations, which provides a high level of transport and logistics services for export-import operations in accordance with international standards. Improving the competitiveness of Kazakh carriers and logistics companies in the global intermodal transport market through transport corridors;

- restoration, supervision and effective formation of a system of monitoring the transport and logistics services market through a system of services under the control of the executive bodies of logistics centers and the certification center of transport and logistics companies;

-reducing the negative impact of transport on the environment by rational formation of local material and transport flows, choosing the optimal route of transport, rational selection of rolling stock and technological transportation in accordance with international standards.;

- implementation of domestic and international exchange and banking activities in this area;

- creation of a single regulatory framework and a system of guarantees for domestic and foreign transport and logistics companies;

- increase the efficiency of transport in the region through logistics coordination and support of its operation through multimodal and intermodal transport.

Under certain conditions, logistics must adhere to a long-term developed and concentrated growth strategy based on national diversification and the search for new markets. They use our transport and communication services. This strategy will help reduce prices for automotive construction, tourism, service systems, road and capital construction, and domestic products [8].

In the coming years, other promising directions for the development of logistics in Kazakhstan will be applied to its organization and improvement of industrial enterprises of domestic production systems, improvement of technological complexes and economic sectors in domestic and material and technical relations.

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КӘСІПОРЫНДА ЛОГИСТИКАНЫ БАСҚАРУДЫ ҰЙЫМДАСТЫРУДЫ ЖЕТІЛДІРУ ЖОЛДАРЫ

Аннотация. Логистиканың өзектілігі және зерттеуге қызығушылықтың артуы логистикалық әдісті қолдануды ашып көрсететін материалтану жүйесі жұмысының тиімділігін арттыратын мүмкіндіктер арқылы түсіндіріледі. Логистика шикізат пен жартылай фабрикаттарды сатып алуға және дайын өнімді тұтынушыға жеткізуге дейінгі уақыт аралығын қысқартады, қордың күрт төмендеуіне ықпал етеді. Логистиканы пайдалану ақпарат алу үдерісін жылдамдатады және қызмет көрсету деңгейін жақсартады.

Шетелдік тәжірибе көрсеткендей, заманауи бизнесте логистика стратегиялық маңызды орын алады.

Бұл салада жетістікке жеткен көптеген мамандар компанияны басқарудағы жоғары лауазымдарға ауысады. Қазіргі уақытта жетекші фирмалардағы логистиканың дәстүрлі функционалды салалары ортақ ақпараттық және компьютерлік платформа негізіне біріктіріліп, стратегиялық жаңашылдық (инновация) жүйесін құруда. Логистикалық қызмет жан-жақты келеді. Бұған көлік, қойма, қор басқару, қызметкер басқару, ақпараттық жүйелерді ұйымдастыру, коммерциялық қызмет және т.б. жатады. Бұл функциялардың әрқайсысы тиісті салалық тәртіпте кеңірек зерттелген және сипатталған. Логистикалық тәсілдің жаңалығы – негізгі қарым-қатынас. Логистикалық әдістің мақсаты – материалдық ағынды үздіксіз басқару.

Кәсіпкерлік тәжірибеде логистикалық менеджмент әдістерін енгізу көптеген фирмаларға өндіріс, құрал-жабдықтар мен сатылымдағы өнім қор түрлерін азайтуға, айналым қаражатын жеделдетуге, өндіріс шығынын азайтуға және тұтынушыларды тауар әрі қызмет түрлерімен қамтамасыз етуге мүмкіндік береді. Осы тұрғыдан алғанда зерттеу жұмысының өзектілігін айқын байқауға болады.

Ғылыми жаңалығы мен тәжірибелік маңыздылығы – Қазақстан Республикасының кәсіпорындарында логистиканы жетілдіру бойынша ұсыныстарды әзірлеу.

Түйін сөздер: ұйымдастыру, логистиканы басқару, жетілдіру, логистикалық тиімділік, экономикалық тиімділік.

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ПУТИ СОВЕРШЕНСТВОВАНИЯ ОРГАНИЗАЦИИ УПРАВЛЕНИЯ ЛОГИСТИКОЙ НА ПРЕДПРИЯТИЯХ

Аннотация. Актуальность логистики и повышенный интерес к ее изучению объясняются возможностями повышения эффективности функционирования систем материаловедения, раскрывающих применение логистического метода. Логистика сокращает временные интервалы до закупки сырья и полуфабрикатов и доставки готовой продукции потребителю, способствует резкому снижению запасов.

Зарубежный опыт показывает, что в современном бизнесе логистика занимает стратегически важное место.

Многие специалисты, добившиеся успеха в этой сфере, переходят на более высокие должности в управлении компанией. В настоящее время традиционные функциональные сферы логистики в ведущих фирмах

объединяются в основу общей информационной и компьютерной платформы, создавая систему стратегических инноваций (инноваций). Логистическое обслуживание является всеобъемлющим. Сюда относятся транспорт, склад, управление запасами, управление персоналом, организация информационных систем, коммерческая деятельность и др. Каждая из этих функций глубоко изучена и описана в соответствующем отраслевом порядке. Новизна логистического подхода заключается в основном общении. Цель логистического метода – непрерывное управление материальными потоками.

Внедрение методов логистического менеджмента в предпринимательскую практику позволяет многим фирмам сокращать все виды производственных, инструментальных и сбытовых товарных запасов, ускорять оборачиваемость оборотных средств, сокращать издержки производства, сокращать затраты, подлежащие распределению, обеспечивать полное удовлетворение потребителей товарами и услугами. С этой точки зрения можно проследить актуальность исследовательской работы. В связи с этим данное исследование является значимым и актуальным.

Научная новизна и практическая значимость – разработка предложений по совершенствованию логистики на предприятиях Республики Казахстан.

Ключевые слова: организация, управление логистикой, совершенствование, логистическая эффективность, экономическая эффективность.

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FOREIGN EXPERIENCE IN IMPROVING THE EFFICIENCY OF THE SYSTEM OF STATE REGULATION OF INNOVATION ACTIVITIES

Abstract. Therefore, the transition to an innovative economy requires the development of a network of regional innovation systems. At the same time, the regional innovation policy should be aimed at the formation of regional innovation clusters as the basis of the innovation system of the region, where the best conditions for the innovation process are located. Of particular interest are regions with high scientific potential (as a rule, they include scientific fences and a number of academic towns and other territories with high scientific potential), as they have a significant stock of developments ready for commercialization. It is on the basis of such territories that it is necessary to develop regional innovation clusters.

Despite the fact that the problem has been studied and the high level of attention, many of its aspects remain unresolved. Many authors have pointed out the limited possibilities of using classical methods of evaluating investment projects for innovation, and thus the proposed alternatives have not been widely used.

The practical and actual significance of the problems of management and evaluation of innovative projects and the use of the most effective methods for this purpose, determined the choice of the dissertation topic, its content, goals and problems.

The practical significance of Makala is in the development of management algorithms and evaluation methods for innovative projects. The algorithm includes intra-stage project evaluation and methodological justification of the manager's decision-making in the implementation of the project at each stage and ensuring the need to adjust the strategy. In addition, the analysis of the main barriers to practical implementation was carried out and recommendations were developed to eliminate them. The developed method includes all the prerequisites for successful application in the specific activity of the region.

Key words: state regulation, innovation, innovation potential, efficiency, adaptation of foreign experience.

Introduction. For Kazakhstan, the formation of innovation infrastructure is of particular importance, since science is concentrated only in a few regions, and within the framework of the planned economy, this component of the innovation system is practically absent and it is necessary to start everything from scratch.

To date, Kazakhstan has not achieved the planned growth in all areas of innovation activity. This is largely due to a change in the economic situation in the country against the background of the introduction of sanctions, a slowdown in the pace of structural progress in the innovation sphere, which leads to lagging behind the leading countries. These circumstances indicate that there are a number of unresolved problems in the domestic innovation system [1].

For further research, it is necessary to look at the innovative infrastructure of the regions, identify their features, advantages and disadvantages, and determine what features affect the harmonious and effective development of the region [2].

The concept of regional innovation systems linking innovation and spatial development is in the process of active formation, as evidenced by the lack of generally accepted rules and terms, despite the large number of publications in this area. At this stage, it is necessary to identify a certain set of rice development patterns in Kazakhstan's regions, which are characterized by a certain specificity, the calculation of which is necessary when choosing methods for further rice development, including methods of state support for innovations that are adequate to the specifics of the regional innovation system. Recently, the creation of conditions for sustainable innovative development of the economy is associated with the formation of an innovative ecosystem.

It describes the modern model of innovative development of the economy of a region or country and is essentially an actual version of early concepts, the first and most important of which is the theory of the national innovation system.

In the context of modern economic competition, territories that provide the most favorable conditions for the creation and implementation of new scientific and technical ideas, the introduction of promising technologies and developments benefit. Therefore, the study of the problems of developing regional innovation infrastructure, which creates conditions for generating innovations and improving production facilities that are in demand by the customer and the market, has now become particularly relevant.

Methods. The paper uses methods of modeling and comparative analysis. To solve individual tasks, we used the methods of the «tree» of goals and expert assessments. The information and empirical base of the research is normative legal acts of regional and municipal levels; official data of Republican and regional authorities; methodological, scientific, educational and reference literature, Internet materials, as well as research conducted by the authors.

Methodological research is a General method of scientific knowledge-analysis and synthesis, Content-Media analysis of sociography, system-comparative method that allows to determine the Genesis, sequence and functioning of stages of development of state regulation of innovative development in the country as a whole.

Research and development work in the field of development and effective adaptation of foreign experience in managing the development of municipal institutions.

Results and discussion. In the world practice, various types of tax incentives are used that stimulate innovation:

- provision of a tax credit, i.e. transfer of tax payments in terms of costs, from profit to innovative goals;
- «tax holidays» for income over several years from the implementation of innovative projects»;
- preferential taxation of dividends of legal entities and individuals received on shares of innovative organizations;
- reduction of the tax rate on income focused on custom and combined Research and development activities;
- links for providing discounts taking into account the priority of projects being implemented;
- preferential taxation of profits obtained as a result of the use of patents, licenses, know-how and other intangible assets that are part of private ownership;
- Reduction of income tax on the cost of equipment transferred to research institutes, universities and other innovative organizations;
- exclusion of services related to innovation financing, contributions from charitable foundations from taxable income;
- transfer of part of the profit to the next preferential taxation, special accounts of the Innovation Organization in the case of use for innovative purposes.

Currently, there are three types of innovative activities of developed countries:

- 1) awareness of leadership in science, implementation of large-scale target markets, covering all stages of the scientific and production stage, with a significant share of scientific and innovative value in the defense sector (USA, England, France);
- 2) creation of a favorable innovation environment in the rationalization of the entire structure of the economy (Germany, Sweden, Switzerland), awareness of the spread of news;
- 3) ensuring coordination of activities of various sectors in the field of Science and technology, readiness for the achievements of the world scientific and technical progress, orientation to stimulating innovations through the development of innovative infrastructure.

Let's look at the experience of organizing innovation activities on the example of several countries.

Features of supporting innovation activities in the United States

Institutions of state regulation of innovation activities in the United States, which:

- American Science Foundation (oversees basic research);
- American Scientific Council (oversees industry and universities);
- NASA (National Space Agency);
- National Bureau of standards;
- National Institute of Health;
- Ministry of Defense;
- National Center for industrial research;
- National Academy of Sciences;
- National Technical Academy;
- The American community in contributing to the development of science.

Many structures are financed from the federal budget. The state encourages the creation of venture firms and research centers. According to the proposal of the US National Science Foundation, the most profitable venture firms can be fully or partially funded from the federal budget for the first 5 years.

Highly scientific and effective research is fully funded by the state, due to strong international competition, risk, complexity of high costs.

According to the National Science Foundation of the United States, the share of small businesses in the innovative period has increased from research work to scientific and technical growth. Over the past two decades, small and medium-sized firms (with employees of up to 500 people) have received *жаңа* 2.5 per employee, or *шығ* 2.5 per project, more than large corporations (10,000 people).

As in other countries of the technological core, in the United States, investment funds operate venture firms («risky» capital firms) and «spin-off» firms (special laboratories and government research centers, independent institutes, separated from universities, firms-«Descendants») [3].

The analysis of the organization of financing of large-scale investment projects shows that in the industrialized countries of the West there is a continuous diversity of project financing schemes [4]. These drawings can be grouped by different symbols.

The state actively finances «spin-off» firms through large non-profit research centers and universities, which are constantly separated from these firms and concentrated among them. In addition, it is necessary to note the practice of free issuance of licenses for the commercial use of products that are the property of the federal government and are patented in the course of budgetary research.

An important element of direct support for innovation processes is the formation of the state innovation infrastructure. The state can create consulting centers and central innovation distribution networks that provide innovative business services.

The state creates conditions for the formation of the innovation market (information about state publications, exhibitions, exchanges, fairs, etc.) and, as an example, acts as its agent in the sale and purchase of licenses [5].

Government agencies require forecasting and monitoring of innovation trends in the country and abroad, but it is still the search for effective advanced technologies for large-scale implementation. Since it is difficult for private organizations to assess the possible effectiveness of innovations implemented on a general economic scale, state expertise of innovative projects occupies a significant place.

Innovative organizations are provided with benefits for paying for public services - communications, heat, electricity, etc. There are also measures of spiritual support: awarding state awards to outstanding scientists and innovators, awarding honorary positions, promoting innovative methods of economic management, using innovative products and services, visiting leading innovative organizations with the state leadership, supporting the self-organization of the scientific and technical community, participation of representatives of scientific and technical intelligentsia at important state events, etc. [6]

Among the measures of comprehensive regulation, it is necessary to note tax incentives. Preferential taxation of income is carried out by reducing the tax base, which is obtained by deducting from tax payments, reducing tax rates.

A distinctive feature of the state innovation policy in the United States is the low «departmental» concentration of decisions on the implementation of innovative projects (for example, very high in Japan)

and processing. In order to develop innovation activities in the United States, the Research and development activities was adopted in 1984. In the United States, great attention is paid to the maintenance of State Innovation statistics, expertise and forecasting of innovative projects.

Here, mechanisms for the development of domestic and international competition have been developed, and anti-trust legislation has been working for more than 100 years. It is not surprising that this country ranks first in the world in terms of competitiveness [7].

Public administration of innovation policy in Japan

The Ministry of Internal Trade and industry plays a key role in the implementation of innovation activities here. A long-term program of innovative development of the country will be formed and applied research will be stimulated to purchase licenses abroad. Replacing the displacement of foreign competitors from existing markets due to the high quality and cheapness of goods, a serious problem is the formation of new markets for themselves, while maintaining high quality and low prices of new goods.

The long – term goal of public policy in Japan is to transform from an «imitator» to a "inventor" country that develops technologies. Priority areas are information systems, mechanotronics, biotechnology, and new materials.

The state not only determines the general and sectoral strategy for the development of foreign trade and industry, but also does not have at its disposal a sufficiently large arsenal of methods and equipment that allow us to refine this strategy [8]. In addition to influencing the development of export and export production by traditional economic and administrative methods, such as comprehensive state assistance to exporters, assistance in their sales activities, direct subsidies, preferential lending and tax insurance, etc., Japanese government agencies also widely use indirect methods:

A) targeted allocation of financial resources provided by private banks and their accumulation in priority areas;

B) assistance to enterprises in acquiring advanced foreign technologies;

C) conducting observations for scientific and technical exchange with foreign countries.

The Japanese model of scientific and technical growth, integration of production and science, predicts the construction of new Technopolis-cities, which will be grouped in Research and development activities and scientific-intensive industrial production.

According to the American expert on Japanese technopolists Sh.Tatsuno, the strategy of technopolists is the transition of the high – tech level to the activities of new spheres of activity, and it also means the intelligence of the entire Japanese economy.

State regulation of innovation trends in Japan is also characterized by protectionist policy in promoting new products, the provision of tax and credit benefits for Research and development activities financing, high import customs tariffs, and indicative planning of Research and development activities. The Japanese government is taking measures to develop international integration and cooperation.

For example, there is an agreement on the American-Japanese partnership in the field of Science and technology. As a result of active innovation activity, Japan ranks first in the world in terms of life expectancy, economic growth rates in industrialized countries, efficiency of resource use, and GDP per capita. The leading countries of the European Union are Germany, England, and France.

The European Union has the following features: high cost of land, labor and Natural Resources; respect for historical traditions, professionalism, healthy lifestyle, culture, education, informatization and high technological level of production; high population density; state regulation of prices for important food products; certification of products, application of international and European standards in the management and production of products; indicative planning of innovation activities; development of scientifically intensive sectors of the population; high level of concentration in the production Association. As a result, these countries maintain a high standard of living [9].

The European Union pays great attention to the revival of innovation activity. The main directions of the innovation policy of the European Union include:

- development of a single antimonopoly legislation;
- application of an accelerated equipment wear system;
- Preferential taxation of Research and development activities;
- promotion of small scientific-intensive business;
- direct financing of enterprises to stimulate innovation in the framework of innovative technologies;

- promotion of cooperation between university science and firms that produce scientifically-intensive products.

The basis of the innovation policy of the European Union is the «plan for the development of international infrastructure for technology transfer and innovation», adopted in 1985. The main purpose of this document is to facilitate and accelerate the process of implementing the results of scientific research of finished products at the national level. «One section of the plan» «cooperation between countries in the field of innovation» provides for the formation and creation of a specific infrastructure for the implementation of innovations at the regional level – consulting services for the management of innovations and the implementation of technologies. The second part of the plan is aimed at coordinating the implementation of innovation policy. The third is the creation of a system for Standardization and uniqueness, the formation of a patent system, the transfer of information on technologies and innovations. The fourth is the implementation of measures to increase the innovation potential of developed countries (Greece, Ireland). The promotion of innovation activities in the European Union is carried out according to the principles adopted in world practice.

The experience of the United States, Korea, Japan, Germany and other developed countries shows that the project management system is a powerful tool for overcoming the economic crisis and solving major scientific, industrial and social problems. It is this method that serves as a management tool in conditions of instability and uncertainty, development systems and changes in conditions of unstable tax system, the emergence of private investors and owners, the refusal of the state to continuously manage the production and economic activities of enterprises, lack of resources and weak control over price growth, incomplete improvement of legislative issues, etc. [10].

By the beginning of the twenty-first century, in countries with traditional market economies, project management, with the goal of completing them on time, ceased to be a means of systematic management and the pace of work performed.

Summary and Conclusion. Project management, after-sales service, suppliers, manufacturers were like the corporate voice of the customer/customer, which stimulated the optimization of all efforts on the project/product adopted by the team. This approach, in addition, allows you to determine (and reduce) previous costs other than the project with a high level of accuracy.

Companies and experts working in this field have formed the necessary professional structures and created the «world of Project Management», which includes national and international organizations – investment, industrial, construction, consulting and engineering firms, where congresses and symposiums are held, magazines, books and textbooks are published, and there is its own market for software.

The largest international organization in the field of project management is IPMA (International Project Management Association) - an International Association in project management that unites 20 national societies of Europe, as well as other countries.

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ИННОВАЦИЯЛЫҚ ҚЫЗМЕТТІ МЕМЛЕКЕТТІК РЕТТЕУ ЖҮЙЕСІНІҢ ТИІМДІЛІГІН ЖОҒАРЫЛАТУДЫҢ ШЕТЕЛ ТӘЖІРЕБИЕСІ

Аннотация. Инновациялық экономикаға көшу өңірлік инновациялық жүйелер желісін дамытуды талап етеді. Бұл ретте өңірлік инновациялық саясат инновациялық процесс үшін ең қолайлы жағдай жасалатын өңірдің инновациялық жүйесінің негізі ретінде өңірлік инновациялық кластерлерді қалыптастыруға бағытталуы тиіс. Жоғары ғылыми әлеуеті бар өңірлер ерекше қызығушылық тудырады (әдетте, оған ғылыми қоршау мен бірқатар академиялық қалашықтар, жоғары ғылыми әлеуеті бар басқа да аумақтарды жатқызуға болады), өйткені онда коммерцияландыруға дайын әзірлемелердің елеулі қоры кездеседі. Дәл осындай аумақ базасында өңірлік инновациялық кластерлерді дамыту қажет.

Мәселенің зерттелуіне көбірек көңіл бөлінсе де, оның түрлі аспектілері шешілмеген күйде қалып отыр. Көптеген авторлар инновацияға арналған инвестициялық жобаларды бағалаудың классикалық әдістерін қолданудың шектеулі мүмкіндіктерін көрсеткендіктен, ұсынылған баламалар кеңірек қолданылмады.

Инновациялық жобаларды басқару және бағалау мәселелерінің тәжірибелік және өзекті мәні және осы мақсатқа орай тиімді әдістерді қолдану диссертация тақырыбын, мазмұнын, мақсаты мен мәселелерін шешуді анықтады.

Мақаланың тәжірибелік мәні – инновациялық жобалармен басқару алгоритмі және бағалау әдістерін әзірлеу. Алгоритм жобалардың кезеңшілік және менеджердің әр кезеңде жобаны іске асыру жөнінде шешім қабылдауының әдістемелік негізделуі және стратегия түзету қажеттілігін қамтамасыз етеді. Бұдан басқа, тәжірибелік енгізуде негізгі кедергілерге талдау жүргізілді және түзету бойынша ұсыныстар әзірленді. Әзірленген әдіс аймақтың нақты қызметінде табысты қолдануға барлық алғышарттарды қамтиды.

Түйін сөздер: мемлекеттік реттеу, инновация, инновациялық әлеует, тиімділік, шетелдік тәжірибені бейімдеу.

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ЗАРУБЕЖНЫЙ ОПЫТ ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ СИСТЕМЫ ГОСУДАРСТВЕННОГО РЕГУЛИРОВАНИЯ ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТИ

Аннотация. Переход к инновационной экономике требует развития сети региональных инновационных систем. При этом региональная инновационная политика должна быть направлена на формирование региональных инновационных кластеров как основы инновационной системы региона, в которых будут заложены лучшие условия для инновационного процесса. Особый интерес представляют регионы с высоким научным потенциалом (как правило, к ним можно отнести научные ограждения и ряд других территорий, академгородков и других территорий с высоким научным потенциалом), так как они имеют значительный запас готовых к коммерциализации разработок. Именно на базе таких территорий необходимо развивать региональные инновационные кластеры.

Несмотря на изученность проблемы и наличие повышенного внимания, многие ее аспекты остаются нерешенными. Многие авторы указывали на ограниченные возможности применения классических методов оценки инвестиционных проектов на инновации. Таким образом, предлагаемые альтернативы не получили широкого применения.

Практическое и актуальное значение вопросов управления и оценки инновационных проектов и использование наиболее эффективных для этих целей методов определило выбор темы диссертации, ее содержания, цели и постановки проблем.

Практическая значимость научной статьи, заключается в разработке алгоритма управления инновационными проектами и методов оценки. Алгоритм включает в себя внутриэтапную оценку проектов и методическую обоснованность принятия менеджером решений по реализации проекта на каждом этапе и обеспечение необходимости корректировки стратегии. Кроме того, проведен анализ основных препятствий практического внедрения и выработаны рекомендации по их устранению. Разработанный метод, содержит все предпосылки для успешного применения в реальной деятельности региона.

Ключевые слова: государственное регулирование, инновации, инновационный потенциал, эффективность, адаптация зарубежного опыта.

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IMPROVING THE MECHANISM OF STATE REGULATION OF INNOVATION ACTIVITIES IN TURKESTAN REGION

Abstract. The importance of innovation in ensuring the development of a modern economy has been recognized in Kazakhstan not only in the works of specialists, but also in the position stated by the state. However, from understanding the importance of innovation in the context of economic development to understanding its real significance in the economic development of the country, and even more so - to develop an effective policy that ensures the active use of innovation to ensure economic and social progress, a very difficult path runs.

Regulation of innovation in a modern market economy is a complex system of state, public and corporate institutions that serve and regulate innovation processes in order to ensure the fullest use of their potential. A set of institutions and organizations that cover all stages and areas of the innovation process, and currently forms a national innovation system in developed market economies.

The trend of transition to an innovative way of development and the formation of a national innovation system is currently an important direction in economic science. This makes it particularly important to theoretically understand the essence of the innovation process in the economy and ways to improve the effectiveness of state regulation of innovation.

Thus, the development of a mechanism for activating innovation activities within the framework of the state regulation system is one of the most acute socio-economic problems. The obvious relevance, great practical significance and lack of development of the indicated problem led to the choice of the topic of the dissertation research, its goals and objectives.

In the scientific article, the conditions for effective innovation activity of economic entities are identified and based on them, recommendations are developed to improve the mechanism for increasing innovation activity within the system of state regulation of innovation activity of the Kazakh economy.

Key words: state regulation, innovation, innovation potential, efficiency, adaptation of foreign experience.

Introduction. Currently, one of the main factors determining the need for the development of innovative activities of scientific, production and intermediary enterprises and organizations of the region is their adaptation to changing economic conditions and stable dynamics of supplier and consumer markets. Taking this situation into account should contribute to the creation of innovative structural complexes that ensure the development of industrial relations and improvement of the socio-economic situation of the population of the region on the basis of stimulating the innovative activity of PTI.

Methods. The paper uses methods of modeling and comparative analysis. To solve individual tasks, we used the methods of the «tree» of goals and expert assessments. The information and empirical base of the research is normative legal acts of regional and municipal levels; official data of Republican and regional authorities; methodological, scientific, educational and reference literature, Internet materials, as well as research conducted by the authors.

Methodological research is a General method of scientific knowledge-analysis and synthesis, Content-Media analysis of sociography, system-comparative method that allows to determine the Genesis,

sequence and functioning of stages of development of state regulation of innovative development in the country as a whole.

Research and development work in the field of development and effective adaptation of foreign experience in managing the development of municipal institutions.

Results and discussion. However, currently, in many regions, there is a situation when the demand of the market and consumer groups for innovative products (services, technologies) is not presented in the existing offer on the regional market. The main reason for this situation is that the innovation activity management structures operating in it are not able to create favorable conditions for the development of new methods and technologies, as well as for the introduction of new products and services into production.

There are several mechanisms for regional stimulation of innovative development:

Unused features. The peculiarity of the current situation is that the country has significant fundamental and technological developments, a unique scientific and production base, but these developments cannot solve them. The most pressing problems and, accordingly, not required. It is also necessary to improve the legislation regulating all issues arising in relation to intellectual property.

Government innovation programs as the basis of innovation policy. There are many different programs mentioned below. This mechanism is widely used.

Additional measures to support regional innovations. Creating favorable working conditions, providing a resource base, promoting product promotion and information support are the main areas of activity of regional authorities that contribute to innovative development.

A number of organizational and economic measures that contribute to regional innovative development have been tested in the world practice [1-3]:

- implementation of special target programs at the national, regional and local levels;
- direct state subsidies and targeted financing of regional authorities;
- tax incentives aimed at stimulating regional innovative development;
- formation of scientific, technological and innovative parks;
- creation of small innovative business incubators;
- creation of Centers for the transfer of technologies from the public sector to industry under the auspices of the state and local executive bodies;
- Organization of management consulting for entrepreneurs
- other measures.

The most effective mechanism for stimulating the development of innovations in the regions can be called coordinated actions of the Government, Business, Science, Education, financial organizations and mass media. All over the world, regions are considered as the first step in innovative activities in the development of the entire country.

Regional self-government bodies should implement the following measures to support inventive and innovative activities on the ground:

- to deduct the amount of tax paid by the taxpayer during the sale of products, works and services, the price of which is reduced in comparison with the price in the previous tax period due to the use of inventions and other intellectual property objects in products, works and services in the amount of losses incurred by the taxpayer [4];
- exemption from the payment of the share of tax on the profits of enterprises and organizations that fall under the regional tax received during the first five years due to the use of Kazakhstani inventions and other intellectual property objects in their production.

Thus, despite the rich experience of introducing and maintaining an innovative type of economy in other countries, it is necessary to solve the issue of stimulating the innovative development of the economy in the Republic of Kazakhstan, both by borrowing foreign experience from individual regions, as well as the entire country.

Measures of state support for innovative development implemented in the Turkestan region are widespread.

Support is aimed at providing residents and remote residents with the following types of services:

- rental of office space;
- services of the project Support Department;

- consulting services;
- Accounting services;
- legal services.

Shagyn Zhane Orta kasipkerlik subektileri ushin onirlik engineering ortalyktaryn Kuru Zhane olardyn kyzmetin kamtamasyz or iske asyryluda.

Damudyn innovatsiyalyk Zholy boynsha kozgalys Eldin zhinaktalghan innovatsiyalyk aleuetin tiimdi iske asyru Zhane ony Odan AR ulgaitu, Innovatsiyalyk protsesterdi baskarudyn parmendi tetigin Kuru ushin kolayly zhagdaylar bolgan kezde Gana mumkin bolady.

Innovatsiyalardy endiru natizhelerin bagalaua zhuyelik tasildemenin negizgi tuzhyrymdamasi bolyp tabylatyn, innovatsiyalyk zhobalardyn ishki sharuashylyk tiimdiligini bagalau adisteri, 1 - kestedeki korsetilgen.

Table 1 – Innovationalardyn ishki sharuashylyk tiimdiligini bagalaudyn usynylatyn adisteri

Recommended evaluation methods	Activities
Assessment of market attractiveness of innovations	Determining the effectiveness of innovations by their commercialization in selected market segments
Assessment of the overall readiness of the enterprise to implement innovations	Analysis of the amount of resources that can be used for the implementation of the project [5]
Assessment of opportunities for implementing innovations in the enterprise	Analysis of the volume of additional financial and economic costs required by the enterprise for the implementation of innovative projects in selected market segments
Efficiency of investment in innovation	Determination of performance indicators of enterprise investments in new or improving technologies
Impact of innovations on the enterprise economy	Analysis of the impact of innovative changes on the formation of economic indicators of peasant activity of the enterprise [6]

In our opinion, the concept of a systematic approach to evaluating the results of implementing the proposed innovations takes into account not only the development of external indicators, such as commercial indicators of investment efficiency in innovations, but also internal indicators, such as economic opportunities for the development of the enterprise [7].

To date, Kazakhstan has not achieved the planned growth in all areas of innovation activity. This is largely due to a change in the economic situation in the country against the background of a slowdown in the pace of structural progress in the innovation sphere, which leads to lagging behind the leading countries. These circumstances indicate that the domestic innovation system has a number of unresolved problems. For example, the indicator that characterizes activity in the field of patenting has negative dynamics.

The proposed methods for evaluating the effectiveness of these projects and the structural relationships between the stages of implementation of innovative projects are fully defined in table 2. At the first stage, there is a selection of ideas for an innovative product based on the principle of maximum attractiveness.

In turn, the work carried out will determine the necessary level of readiness of the enterprise, the necessary resources for the effective implementation of the project. Next, it is necessary to determine the determined amount of resources required for the implementation of the project, the additional amount of them that the enterprise has, and compare them accordingly.

In addition, we can note insufficient support for the activities of industry business associations, the system of additional education and a low level of effectiveness of mechanisms for the development of Technology Commercialization and high-tech exports.

One of the main tasks of innovative development of the country is to create conditions for increasing the innovative activity of the business environment. Understanding the importance of this problem determines the need for further research in the field of innovation activity to optimize the mechanisms of its stimulation [8].

Table 2 – Stages of innovative projects and methods for evaluating their effectiveness

Project stages	Economic problems	Recommended methods	Necessary initial information
Research	Formation of an idea	Methods for assessing the market attractiveness of innovations	Symbols of consumer actions: the volume of purchases made with them and their number.
Constructive	Reading the purchasing opportunities of potential consumers. Creating an experienced version	Methods for assessing the possibility of implementing an innovative project by an enterprise	Volume of sales and planned cost of innovation products
		Methods for assessing additional costs for the implementation of an innovative project	The amount of funds allocated for research and development activities
Commercial	Test launch of a new product into production	Methods for evaluating the effectiveness of costs associated with the implementation of the project	Specific weight of personnel covered by research and development activities
Distribution	Formalize the consumer's opinion about the new product	Methods for assessing the impact of an innovative project on various areas of the enterprise's work	Property for research and development activities

The state remains the main source of funding for innovative projects. State participation in innovation activities can include both direct financial support with centralized funds and the creation of conditions for using the market mechanism for attracting funds [9].

One of the most important problems is the imperfection of the regulatory framework regulating innovation activities. Due to the lack of a single consolidating law on innovation activities at the federal level, there is a fragmentation of legal norms in the field of innovation, their fragmentation by normative legal acts of various legal force, which do not exclude legislative contradictions and complicate law enforcement practice.

Personnel problems also occur in the innovation infrastructure. The qualifications of scientific and pedagogical personnel do not always deserve high marks, and there is also an obsolescence of employees of the innovative sphere.

There are problems with engineering and technical personnel. It is believed that this is due to a decrease in the level of engineering education and a decrease in the prestige of engineering work [10].

A very important problem in the organization of Personnel Support in science is «mental retardation». After the collapse of the USSR, a large-scale emigration of Soviet scientists abroad began. Since 1990, more than 10 thousand candidates and doctors of science have left the country. Currently, there is an obsolescence not only of personnel, but also of technological capacities. Along with the construction of new technoparks, scientific laboratories and equipment become unusable and put into operation, which, in turn, «slows down» the creation and promotion of innovations. The innovation activity of organizations implementing technological, organizational and marketing innovations has been gradually declining since 2011.

An important process is the sale of high-tech products. Most enterprises of the high-tech sector do not have an organized sales chain. Kazakhstani enterprises are still weak to focus on the international market, they do not have trading experience and cannot successfully compete with foreign firms.

The strategic goal should be to achieve the long-term competitiveness of the Turkestan region on a national and global scale based on the development of the knowledge economy by creating innovations and creating and providing the necessary conditions for modernizing production:

- Improving the quality of life of the population of Turkestan region;
- Increasing the investment attractiveness of the Turkestan region;
- Organization of new jobs in innovative industries and organizations that provide services in the innovative sphere;
- increase the level of income;
- increase in budget revenues by increasing the added value of products and services with the introduction of innovative results;
- promotion of high-tech and environmental innovations to foreign markets.

The strategy is aimed at solving the following tasks:

- increasing human potential in the field of Science and education;
- technologies and innovations;
- creating a demand for innovations;
- increase innovation activity and the emergence of new high-tech and innovative companies;
- formation of a favorable innovation climate for the purpose of commercialization of scientific and (or) scientific and technical results;
- formation of a balanced, steadily developing research and development sector that ensures the expansion of knowledge, their competitiveness in national and global markets;
- expansion of bilateral and multilateral interregional and international cooperation;
- Development and improvement of the efficiency of innovation infrastructure in the territory of Turkestan region;

- formation of a system of information support for innovation activities.

When implementing the strategy, it is necessary to adhere to the following basic principles:

- identify problems and find ways to solve them using a complete set of innovative tools;
- systematic interaction of the state, business and science in identifying priority areas of innovative development, as well as in the process of their implementation;
- create a system of incentives and conditions for technological modernization of the economy based on improving the efficiency of companies using the entire range of tariff, customs, tax, and antimonopoly regulation measures;
- ensuring investment and personnel attractiveness of innovation activity;
- orientation to the highest international standards when evaluating innovative business and innovation infrastructure;
- encourage competition in the knowledge generation sector as the main motivation for innovative behavior;
- coordination of regional budget, tax, foreign economic and socio-economic policy as a - necessary condition for solving the main tasks of innovative development.

Systematic planning of innovation activities allows us to radically improve the state of the financial infrastructure of the innovation industry, stimulate the development of institutions and means of financing, stimulate private investors, and give an impetus to the development of innovation activities.

The solution to the problem of increasing the number of innovations introduced is the creation and development of an innovative infrastructure in the regions integrated into the system of holistic and regional economic management. In many Kazakhstan regions, individual innovation infrastructure facilities are being created and even successfully operated, but a model in which all innovation infrastructure facilities of the region operate in an organic unity and have a single effective management system is very rare. In this regard, there is a need for the formation and theoretical justification of a mechanism for managing the regional innovation infrastructure, which can be used both in the design of the management system and in the most innovative infrastructure of the region. The proposed model reflects the general principles of the emergence and action of innovation infrastructure management and can be considered in relation to the macro-and micro-levels of innovation activity. Consequently, the subjects of the proposed scheme are the state, regional authorities, the Chamber of Commerce and industry, public organizations (associations), etc. maybe.

The object of management is the regional innovation infrastructure itself, for which it is necessary to create a management system that meets the basic requirements of adequate and effective management in terms of target installations, complexity, scale, potential. Thus, as a result of the influence of external and internal factors caused by the subject of management itself, a certain management structure is formed, which motivates the subject to set certain goals and objectives. The formulation of the main goal is a defining moment that affects all subsequent actions. After all, the development priorities and the innovation program itself are chosen depending on the goal set. In this case, the purpose of managing the innovative infrastructure of the region is to bring the innovative infrastructure of the region in line with the needs of its innovative development.

At the same time, the algorithm for creating an innovation infrastructure management system in the region is revealed by dividing the necessary actions into stages, each of which is characterized by the specifics of the tasks being solved.

The following main tasks are solved:

- economic and organizational mechanisms and adequate tools to ensure the functioning of regional innovation infrastructure will be determined;
- the necessary management and coordination institutions (for example, coordination centers, specialized committees and departments of regional administrations, corporate structures, Technopark zones, etc.) will be created;
- assess the real resource capabilities of local budgets and the possibility of attracting extra-budgetary funds for the implementation of priority innovative projects for the region;
- a system for monitoring the implementation of the chosen innovative regional strategy is being formed;
- in the region, the possibility of adjusting the course of work related to the creation of a system for increasing innovation infrastructure will be provided.

The next element of the management mechanism of the innovative infrastructure of the region is the principles.

The principle of efficiency is the rapid and adequate adoption of management decisions, the absence of lag in the course of production processes.

The principle of cost-effectiveness is the optimal distribution of management labor, the absence of duplication of functions, and the reduction of costs for performing management functions.

The principle of functional suitability is a guarantee of reliability, ensuring management and control at all levels, and following the goals and strategy of the organization.

The principle of adaptation is the ability to quickly transform in accordance with a variable production process .

Functions and methods include planning as the next element of the regional innovation infrastructure management mechanism.

Planning is one of the main elements of managing the innovative infrastructure of the region. Innovation infrastructure planning is a computational system aimed at selecting and justifying the goals of innovation development in the region and preparing the necessary solutions for their unconditional achievement. The planning system of innovation infrastructure in the region includes a set of various plans that interact with each other and are aimed at implementing the main functions and tasks of planning.

The organization of innovation infrastructure is determined by the task of innovation activities adopted at this stage of the region's development. Accordingly, the transition of the organization should lead to a change in the innovation infrastructure. Motivation of innovation activity should inevitably be considered as a constantly implemented process, which can be represented as a set of interrelated elements that mutually conditioned each other and characterize the motivational mechanism of innovation activity as a whole. Control over the functioning of the innovation infrastructure of the region is carried out by evaluating the results of work, as well as monitoring the progress of the implementation of the innovation infrastructure.

Of particular importance in the management of regional innovation infrastructure are the effects that can be both obvious and implicit (external).

The success of the functioning of the innovative infrastructure of the region is assessed from different points of view, but most often the main indicators are indicators of socio-economic development of the region as a whole, as well as its individual districts and enterprises. These indicators characterize the socio-economic impact of the region from the creation and «maintenance» of innovative infrastructure facilities. But these estimates can be recognized as conditional, since in multi-factor socio-economic systems, for example, in the region, many components contribute to the final result, and it is difficult to objectively «isolate» the contribution of one of the factors, such as the effectiveness of innovation infrastructure.

As a solution to this problem, the socio-economic consequences of the functioning of innovation infrastructure in the region can be divided into obvious and implicit (external) factors.

Summary and Conclusion. The obvious effects obtained through innovation activity are reflected in the number of innovations introduced in the region, as well as in the aggregate economic benefits from their application (cost savings, additional income, etc.). They are as follows:

- promotes the development of Kazakhstan's science by providing funding for promising scientific developments;
- increase the innovation potential by introducing and disseminating advanced technologies, progressive forms of innovation activity and business, new methods of production management and organization;
- provides an increase in production volumes and an increase in product competitiveness and is therefore considered as a «smart» tool for supporting economic growth;
- optimizes the sectoral and territorial structure of the economy, supports the most efficient industrial enterprises; as well as replenishes budgetary and extra-budgetary funds with tax and other revenues, contributes to the expansion of interregional economic ties.

Unclear (external) effects of the functioning of innovation infrastructure in the region are manifested in changes in the values of socio-economic and environmental indicators of the region's development, which cannot be directly related to the results of innovation activities. For example, the introduction of a new innovative product into production clearly increases GRP in the amount of added value obtained during production and sales. But in addition, the volume of production at mixed enterprises will increase, the production of substantive goods and complementary products will change, share costs will be reduced due to the introduction of new technologies, new jobs will be created, costs for environmental activities will be reduced, etc. all this will affect GRP, but indirectly and requires a separate detailed approach.

The main task of the management mechanism is to create an open and effective innovation infrastructure that is fully integrated into the region's economy. The creation and consistent formation of conditions for the effective functioning of innovation infrastructure will ensure, on the one hand, the transfer of knowledge, their distribution and transformation of competing technologies for the entrepreneurial environment, and on the other - the orientation of the research environment to meet the emerging innovative needs of production and society development.

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ТҮРКІСТАН ОБЛЫСЫНДА ИННОВАЦИЯЛЫҚ ҚЫЗМЕТТІ МЕМЛЕКЕТТІК РЕТТЕУ ТЕТІГІН ЖЕТІЛДІРУ

Аннотация. Қазіргі экономиканың дамуын қамтамасыз етудегі инновациялық қызметтің маңызы Қазақстанда тек мамандар жұмысында ғана емес, мемлекет ұстанымынан да танылады. Алайда экономиканың қалыптасу жағдайында инновация маңыздылығынан бастап, елдің экономикалық дамуындағы мәнін түсіну, сонымен қатар, экономикалық және әлеуметтік прогресті қамту үшін инновацияларды белсенді қолдануды қамтамасыз ететін тиімді саясат әзірлеудің жолдары қиын.

Қазіргі нарықтық экономика жағдайында инновациялық қызметті реттеу – олардың әлеуетті мүмкіндіктерін барынша толық пайдалануды қамтамасыз ету үшін инновациялық процестерге қызмет көрсететін және реттейтін мемлекеттік, қоғамдық және корпоративтік институттардың күрделі жүйесі. Инновациялық процестің барлық кезеңі мен салаларын қамтитын институттар мен ұйымдардың жиынтығы қазіргі уақытта дамыған нарықтық экономикада ұлттық инновациялық жүйені құрайды.

Дамудың инновациялық жолына көшу үрдісі және ұлттық инновациялық жүйені қалыптастыру бүгінде экономика ғылымындағы өзекті бағыт болып саналады. Бұл экономикадағы инновациялық процесс мәнін

теориялық түсінуді, инновациялық қызметті мемлекеттік реттеудің тиімділігін арттыру жолдарын ерекше маңызды етеді.

Осылайша мемлекеттік реттеу жүйесі шеңберінде инновациялық қызметті жандандыру тетігін әзірлеу өзекті әлеуметтік-экономикалық мәселенің бірі болып саналады. Өзектіліктің айқын болуы, тәжірибелік маңыздылық және аталған мәселенің дамымауы диссертацияның зерттеу тақырыбын, оның мақсаты мен міндеттерін таңдауға септігін тигізеді.

Ғылыми мақалада шаруашылық жүргізуші субъектілердің тиімді инновациялық қызметінің шарттары анықталды және соның негізінде Қазақстан экономикасының инновациялық қызметін мемлекеттік реттеу жүйесі шеңберінде инновациялық белсенділікті арттыру тетігін жетілдіру жөнінде ұсынымдар әзірлеу жолы негізге алынды.

Түйін сөздер: мемлекеттік реттеу, инновациялар, инновациялық әлеует, тиімділік, шетелдік тәжірибені бейімдеу.

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СОВЕРШЕНСТВОВАНИЕ МЕХАНИЗМА ГОСУДАРСТВЕННОГО РЕГУЛИРОВАНИЯ ИННОВАЦИОННОЙ ДЕЯТЕЛЬНОСТИ В ТУРКЕСТАНСКОЙ ОБЛАСТИ

Аннотация. Значение инновационной деятельности в обеспечении развития современной экономики получило признание в Казахстане не только в работах специалистов, но и в позиции, заявленной государством. Однако от осознания важности инновационной деятельности в условиях становления экономики до понимания её реального значения в экономическом развитии страны, а тем более – до выработки эффективной политики, обеспечивающей активное использование инноваций для обеспечения экономического и социального прогресса, пролегает весьма нелегкий путь.

Регулирование инновационной деятельности в условиях современной рыночной экономики – это сложная система государственных, общественных и корпоративных институтов, обслуживающих и регулирующих инновационные процессы, чтобы обеспечить наиболее полное использование их потенциальных возможностей. Совокупность институтов и организаций, охватывающих все стадии и сферы инновационного процесса, и образует в настоящее время в развитых рыночных экономиках национальную инновационную систему.

Тенденция перехода на инновационный путь развития и формирование национальной инновационной системы на сегодняшний день является актуальным направлением в экономической науке. Это делает особенно важным теоретическое осмысление сущности инновационного процесса в экономике, путей повышения эффективности государственного регулирования инновационной деятельности.

Таким образом, разработка механизма активизации инновационной деятельности в рамках системы государственного регулирования является одной из наиболее острых социально-экономических проблем. Очевидная актуальность, большая практическая значимость и недостаточность разработки обозначенной проблемы обусловили выбор темы диссертационного исследования, его цели и задачи.

В научной статье выявлены условия эффективной инновационной деятельности хозяйствующих субъектов и на их основе разработаны рекомендации по совершенствованию механизма повышения инновационной активности в рамках системы государственного регулирования инновационной деятельности казахстанской экономики.

Ключевые слова: государственное регулирование, инновации, инновационный потенциал, эффективность, адаптация зарубежного опыта.

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MECHANISMS FOR ENSURING THE COMPETITIVENESS OF BUSINESS STRUCTURES IN THE AGRICULTURAL SECTOR

Abstract. Neither the development of the world economy nor the availability of raw materials can guarantee the stability of economic development and a high level of social welfare. Now Kazakhstan faces the task of accelerated development of national economy sectors that give a multiplicative effect (the share of agricultural products in the country's GDP should grow 5 times by 2050), including the agro-industrial complex of Kazakhstan has a great potential to become a new driver of economic development. Therefore, the agro-industrial complex of Kazakhstan needs sustainable development of export-oriented agricultural production that is competitive on the world market.

Despite the solution of many theoretical and applied problems reflected in the works of these authors, a General approach to the classification of organizational reserves for improving the efficiency of production of scientific-intensive products is not currently formed, and the issues of forming a mezzanine for identifying and using, and evaluating the level of production efficiency require further improvement.

The purpose of the research is to develop theoretical, scientific, methodological and practical provisions for the formation of a production management system of innovative potential based on improving the competitiveness of the agricultural industry, aimed at ensuring food security in Kazakhstan.

The article shows that the innovative type of economic development requires the development of a competitive innovative potential product, the implementation of the principles of continuous improvement, the search and use of the organization of production for its effective production. The necessity of forming mechanisms for identifying and using organizational reserves to increase the efficiency of production of innovative potential products is also determined. This opened up the possibility of creating and developing conditions conducive to the mobilization of domestic reserves.

Key words: sustainable development, competitiveness, agro-industrial complex, entrepreneurship, development mechanism, efficiency.

Introduction. In the areas of regulation of agricultural development, ensuring structural shifts, we can distinguish several important areas of regulation. First, it is necessary to significantly improve the mobility of the main factors of production. Labor on agricultural land, capital, immobility of land itself are important obstacles, such as the rational placement of reserves, to increase the rural economy, as well as the timely supervision of market forces in changes in the impact of economic efficiency.

Secondly, the increase in the mobility of factors of production is associated with the development of the sphere of services provided on agricultural land. It is not surprising that the increase in the level of Service is indeed an economic factor in the development of the rural economy, which contributes to the supply and demand of Labor [1, 2]. The development of infrastructure and the removal of administrative barriers will have a positive impact on the mobility of labor, capital and land.

Thirdly, the increase in the rate of production in the rural economy created the question of regulation of the ecological component of the rural economy. Environmental Protection and its improvement are

important for improving rural conditions, as well as for the development of recreation areas, tourism and other areas of sabotage of the rural economy [3].

Fourth, in the measure of the development of the intensity of production, there is a distorted regulation of market forces. Excessive subsidies exceed the necessary amount of support in the agricultural sector, which indicates that the state cannot intervene. Excessive support from the state will lead to competition, restructuring, and ultimately to the detriment of the rural economy.

In this regard, another criterion for the classification of state regulatory measures is the step of influence on production and trade [4]. The same criteria are registered in the liberalization trade and the World Trade Organization (WTO) agricultural agreement, which was used in Uruguay. There is no influence or influence in the production of minimal step and trade under the name of the "green box". The criterion for this green box is specified in the 2nd determinant in the agricultural agreement. This has an immutable meaning, such measures are not subject to transfer from consumers, there is no price quality in maintaining production, and there is no attachment to the type or volume of products, domestic or world prices, factors of production. Specific criteria for special measures are set and must be observed.

Methods. The paper uses methods of modeling and comparative analysis. To solve individual tasks, we used the methods of the «ree» of goals and expert assessments. The information and empirical base of the research is normative legal acts of regional and municipal levels; official data of Republican and regional authorities; methodological, scientific, educational and reference literature, Internet materials, as well as research conducted by the authors.

Methodological research is a General method of scientific knowledge-analysis and synthesis, Content-Media analysis of sociography, system-comparative method that allows to determine the Genesis, sequence and functioning of the stages of the mechanism of development of business structures in the agricultural sector.

Research and development work in the field of development and effective adaptation of foreign experience in managing the development of municipal institutions.

Results and discussion. For the further development of the agricultural economy of the Turkestan region, large amounts of domestic and foreign investment should be received in various entrepreneurial projects. From our point of view, investments are investments or goods in various forms and are directed to production services in order to increase capital or value added.

In the economic literature, public, private, mixed and foreign investments are distinguished. However, the desire for domestic investment is less expressed. If we are talking about attracting investments, first of all, the formation of a favorable external environment for foreign investment is taken into account [5,6].

The reasons for attracting foreign investment are: the creation of new jobs, the development of new technologies, know-how and methods of organizing production management and innovative processes, due to the improvement of the country's balance of payments, stabilization of the macroeconomics.

Innovation management (innovation) is related to investment processes. The better the management and news structure, the more attractive the project will be for potential investors.

Foreign investments loans received from an international financial organization also consist of loans, grants, and material assistance received from other countries from interstate agreements. Domestic investments consist of state funds, i.e. related state funds attracted from other funds (loans, financial assistance, temporary assistance, etc.).

Japan is one of the developed countries, which limits the inflow of direct and indirect investment and creates conditions for attracting domestic investment in the first place for the creation of new scientific technologies, know-how and qualitatively new industries on a large scale. Japan, in turn, has severely restricted purchases of foreign licenses in order to create a technically advanced export base. The volume of foreign investment in the percentage of Foreign and domestic investments in Japan is still relatively small. In this regard, due to the inflow of investments in new multi-science technologies in the Republic of Kazakhstan, it is important to equip it at the expense of internal and external investments.

World practice has shown that foreign direct investment in comparison with other types of economic assistance differs in its advantages. Another example is Argentina, which has an open economic policy, which led to the pre-revolutionary conditions and economic crisis of the International Monetary Fund in order to attract and maintain transparency in foreign investment.

According to world experience, a well - thought-out and effective policy in attracting foreign capital is a mechanism for ensuring sustainable economic growth of the country. If this not only ensures the growth of manufacturing industries, but also includes investment, processing and science-based industries, then the attracted investments are suitable for the benefit of the country. At the same time, to give an example, according to the experience of Saudi Arabia, recognized as the richest country in the world, attracting only foreign investment is not recognized enough, which stops the development of the level of processing with the sale of raw materials.

As a result of this policy, Saudi Arabia's internal state revenue amounted to 3 300 billion. more than\$.

The state should implement its own regulatory and management functions for investment in the following areas [7]:

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basalar.

The methodology for assessing the competitiveness of agricultural products is implemented through the following specific chain.

1. Market Analysis (Study of the market, the needs of potential buyers, the forecast of the demand of the population, the consideration of possible competitors, including foreign suppliers) with the aim of justifying the basis for comparing the requirements of products in their selection, of course, the competitiveness of products. The possibility of selling in a given market can only be determined by comparing commodity producers with each other [8].

2. Determination of the list of parameters based on comparison and Evaluation (Technical, Economic, as well as regulatory), their quantitative expression and determination of weighting.

3. Calculation of empty indexes for each parameter individually (natural, points, percentages, shares, weights, etc.) or taking into account selected indicators.

4. Calculation of the integral indicator of product competitiveness.

5. Election of very serious factors and measures to increase the competitiveness of agricultural products for their implementation.

When determining the competitive parameters of goods, it is necessary to determine the part that the consumer characterizes the properties of the product, and the next part-to take into account the economic situation. They can be both standard (hard) and free (soft) parameters.

It is recommended that after the definitions of the hierarchy of parameters, the one that takes the greatest weights is the first plan.

The product competitiveness (K_k) (integrated) is determined using the formula of composite parametric indices, according to which simple indices are calculated:

$$K_k = \frac{K_i}{\Pi},$$

where K_i - sum of individual competitiveness coefficients; Π - number of individual coefficients.

Individual competitiveness coefficients are determined by the ratio of the actual competitiveness of a product indicator that has a similar indicator operating in the market. If the integral coefficient is 1, 2 or higher, the product (product) can compete high, if 1, 2 to 1, the product is uncompetitive, if less than 1, the probability of competitiveness is low. If the efficiency indicator of the farm's product shows 20% or more, it will be able to compete in the sales market.

On the issues of commodity competition, the following models of economic development are considered: planned, market and combined, characterized by a combination of market and planned economy.

The issues of competition of the agro-industrial complex in the Republic will be even more acute, so the level of constructive decisions required by the state to justify an effective domestic and foreign policy in specific regions should be determined.

- The competitiveness of the national agro-industrial complex is determined by the following main factors;

- new technologies and investments based on the level of science;
- the level of investment based on «human capital»;
- the level of favorable economic conditions for innovation;
- liberalization of foreign economic relations [9];
- formation of an open economy based on the rules of international trade;
- high quality of products in accordance with the relevant international certification,
- economic freedom of the economy;
- state guarantees for the protection of property and capital funds of agricultural enterprises [10].

New intensive and high technologies play an important role in the growth of production efficiency and the formation of product competitiveness, which means that almost 80% of quality and competitiveness are created in the production sector, that is, at the stage of technological formation of product properties, and accordingly, as a result, the norm of consumer prices is formed. 20% of the quality is formed in the production, packaging and storage processes of agricultural products, etc.

Therefore, the development of «human capital» and investment in science the reorientation of investment in technology of agricultural products requires a level of increasing competitiveness.

Currently, the growth of the economy of the agro-industrial complex is determined by the level of Science and education and technical conditions that ensure the creation of conditions for the accumulation, analysis and application of new knowledge and the dissemination of new knowledge for the purposes of production and technology development. This will depend on the speed of innovation processes that have formed the impetus for the implementation of new technological solutions.

The competition of the national agro-industrial complex is determined by conducting an effective economic competition based on an independent agricultural policy in the domestic and foreign markets.

The level of competitiveness of the agro-industrial complex is determined by the degree of food freedom; the balance of domestic food supply and demand in the market; investment and rapid technological processing; improving the quality of agricultural products; increasing the standard of living and social stability of the population.

On the part of the economic position, the level of competitiveness in the agro-industrial complex is determined as follows: the intensification of production; the amount of investment in science and technology; the volume of sales of products; including exports; labor productivity; the capacity of Science and reserves; the level of transparency of the economy; the dynamics of the national currency exchange rate; trade and balance of payments.

To realize the existing potential in the agricultural sector of the Republic, it is necessary to concentrate the work of three main levels of economic management - macro - (state), meso - (regional and sectoral), micro-level (enterprises) on the basis of solutions of a single program to improve the competitiveness of the agro-industrial complex.

- The main directions should be:
- maximum attraction of all types of capital to the agricultural sector;
- extension of national investments in science and education;
- formation of a transition to high-speed technologies;

- development of a high-performance machine system;
- formation of a new market mentality and economic thinking of agricultural producers;
- strengthening the role of capital;
- improving the targeted orientation of the economic environment;
- acceleration of the transition of agricultural production to Information Technologies.

Improving the competitiveness of agricultural products for Kazakhstan is determined based on two main positions. First, the issue of increasing production from local raw materials to the export of products (according to the program developed in the Republic) is raised. Secondly, it is necessary to ensure the demand for the development of own production, which can compete in the domestic market of products, by replacing imports.

In this regard, it is time to develop an organizational and economic mechanism that ensures the competitiveness of agricultural enterprises (figure 1).

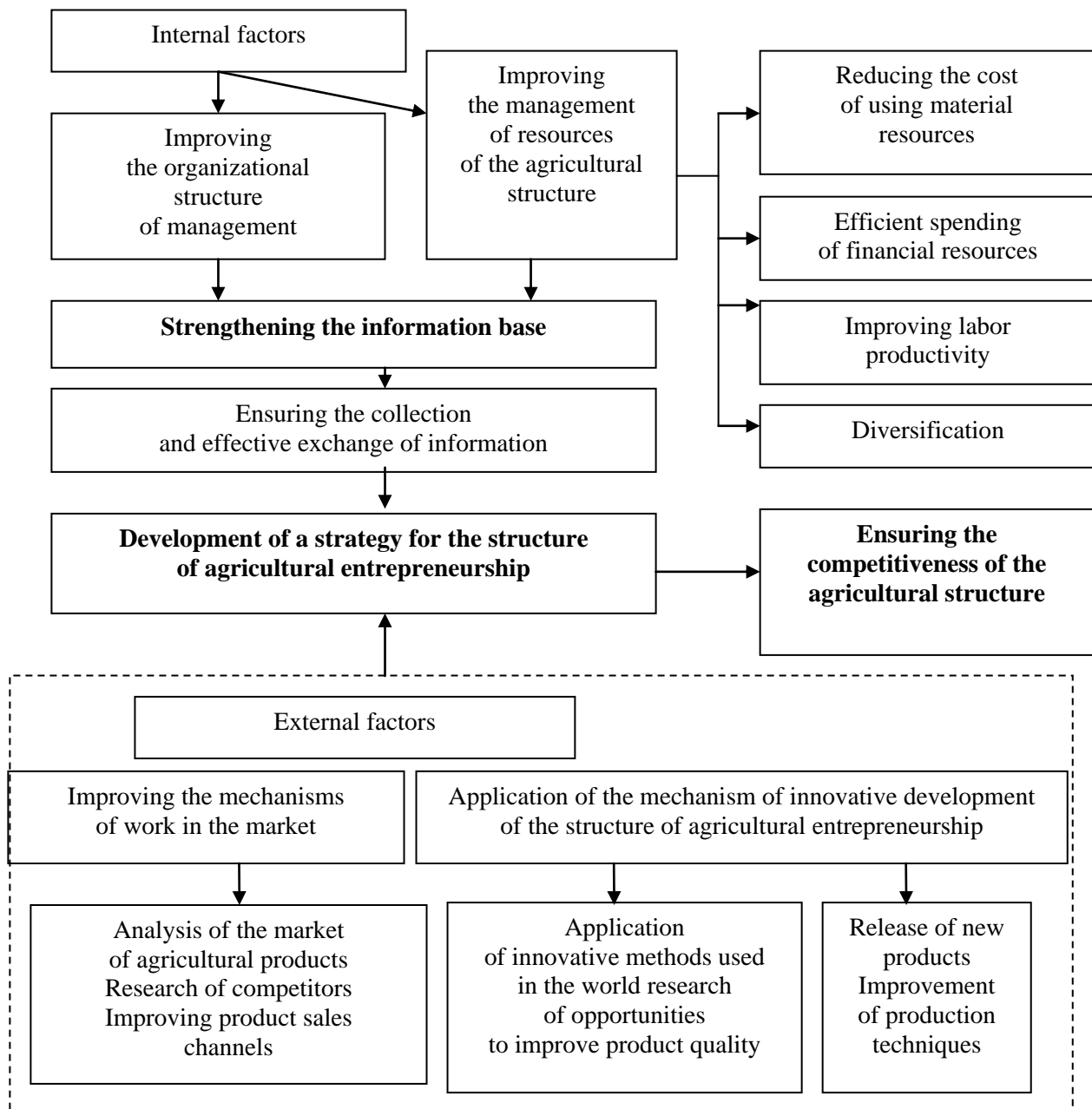


Figure 1 – Organizational and economic mechanism that ensures the competitiveness of agricultural enterprises

Increasing the competitiveness of products depends on the following conditions:

- coordination of increasing competitiveness with the goals of macroeconomic policy of the state;
- focus on specific solutions and targeted improvement of agricultural policy on the competitiveness of products in the interconnection of food markets with targeted improvement of economic indicators for the development of agro-industrial complexes.

- search for internal reserves of commodity producers to reduce production costs;
- the field of marketing and activity of marketing research, marketing and marketing of agricultural products in the new market.

The development or progress of production of work is inextricably linked with the search for opportunities to increase labor productivity by reducing labor retention, creating conditions for optimal transmission of each resource used in the production process. Therefore, production work (creativity) can be characterized as increasing its productivity, as well as creating conditions for the maximum transmission of all factors used in production, while minimizing seizures. The productivity of production work is realized through the stages of technological implementation.

The main role in the development of production work is played by the production technological process. It is divided into rigid and flexible. A special characteristic of the rigid production technological process is the use of technological production devices focused on serial production as much as possible. Rigid technological processes are aimed at stable production of large volumes of products in the absence of systematic changes in the design of the manufactured product.

A special characteristic of the process of rigid production technologies is the use of technological production devices focused as much as possible on mass production. Rigid technological processes are aimed at stable production of large volumes of products in the absence of systematic changes in the design of the manufactured product.

Summary and Conclusion. The situation presented by us identifies 6 (six) interrelated issues in achieving this goal:

1. Achieving the level of diversity of activities of horizontally integrated and indirectly diversified organizations in the agro-industrial complex, ensuring the achievement of the goals of their formation and the formation of their competitive advantages.

2. Distribution of the placement of production funds of organizations (primarily capital) determined between sales markets and economic activities in order to maximize the efficiency of their use.

3. Optimization of complex stages of sales and retraining of finished products, the possibility of horizontal integration of the production stage and the formation of resource transfer and the relationship of levels of production and specialization, integration and combination of implemented economic activities.

4. Obtaining synergistic effects of interaction between types of economic activity through indirect (mixed) and direct (extended) integration and its other stages (stages).

5. Develop and implement a joint strategy of the organization that ensures the achievement of the goals of its activities.

6. Changes in the institutional (ownership) and structural (structure of the source of capital, organizational structure of management) of the organization's activities, which, in turn, stimulate the achievement of a comprehensive strategy for its diversification and integration in the conditions of the external environment and the distribution of its capabilities.

From our side, the institutional and structural conditions of the organization as a factor of diversification and integration of the effectiveness of their activities, forms of economic activity of the organization, methods of creating added value, are determined in accordance with the actual internal and external conditions of formation, by targeted regulation of the diversity of activities of horizontally integrated and indirectly diversified organizations in the agro-industrial complex.

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АГРАРЛЫҚ СЕКТОРДА КӘСІПКЕРЛІК ҚҰРЫЛЫМДАРДЫҢ БӘСЕКЕГЕ ҚАБІЛЕТТІЛІГІН ҚАМТАМАСЫЗ ЕТУ МЕХАНИЗМДЕРІ

Аннотация. Әлемдік экономиканың дамуы да, шикізат ресурстары да экономиканың даму тұрақтылығы мен қоғамның әл-ауқатының жоғары деңгейінің кепілі бола алмайды. Қазір Қазақстан алдында халық шарушылығының мультипликативті нәтиже беретін салаларын жедел дамыту міндеті тұр (елдің ІЖӨ-дегі ауыл шаруашылығының өнім үлесі 2050 жылға 5 есеге өсуі керек), оның ішінде ҚР АӨК экономикалық дамудың жаңа драйвері болуға лайықты үлкен әлеуетке ие. Сондықтан Қазақстанның АӨК алдында әлемдік нарықта бәсекеге қабілетті, экспортқа бағдарланған ауылшаруашылық өндірісті тұрақты дамыту қажет.

Аталған авторлар еңбектерінде көптеген теориялық және қолданбалы міндеттер шешілсе де, қазіргі уақытта ғылыми сыйымды өнім өндірісінің тиімділігін арттырудың ұйымдық резервтерін жіктеудің ортақ тәсілі қалыптаспаған, анықтау мен пайдалану механизмін қалыптастыру, өндіріс тиімділігінің деңгейін бағалау мәселелері арықарай жетілдіруді талап етеді.

Зерттеу мақсаты – Қазақстанның азық-түлік қауіпсіздігін қамтамасыз етуге бағытталған аграрлық саланың бәсекеге қабілеттілігін арттыру негізінде инновациялық әлеуетті өндіріс басқару жүйесін қалыптастыру жөніндегі теориялық, ғылыми-әдістемелік және практикалық ережелерді дамыту.

Мақалада экономика дамуының инновациялық типі бәсекеге қабілетті инновациялық әлеуетті өнім жасап шығаруды талап ететіндігі, тиімді өндіру үшін өндіріс ұйымдастыруды үздіксіз жетілдіру, іздестіру және пайдалану қағидаларын іске асыру тетігі көрсетілген. Инновациялық әлеуетті өнім өндірісінің тиімділігін арттырудың ұйымдық резервтерін анықтау мен пайдалану механизмдерін қалыптастырудың қажеттілігі анықталған. Сол арқылы өндіріс ішіндегі резервтерді мобильдеуге ықпал ететін жағдайды қалыптастыру мен дамытуға мүмкіндік берілгені баса көрсетілген.

Түйін сөздер: тұрақты даму, бәсекеге қабілеттілік, агроөнеркәсіптік кешен, кәсіпкерлік, даму тетігі, тиімділік.

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МЕХАНИЗМЫ ОБЕСПЕЧЕНИЯ КОНКУРЕНТОСПОСОБНОСТИ ПРЕДПРИНИМАТЕЛЬСКИХ СТРУКТУР В АГРАРНОМ СЕКТОРЕ

Аннотация. Ни развитие мировой экономики, ни наличие сырьевых ресурсов не могут служить гарантией стабильности экономического развития и высокого уровня благосостояния общества. Сейчас перед Казахстаном стоит задача ускоренного развития отраслей народного хозяйства, дающих мультипликативный эффект (доля сельскохозяйственной продукции в ВВП страны к 2050 году должна вырасти в 5 раз), в том числе АПК РК обладает большим потенциалом, достойным стать новым драйвером экономического развития. Поэтому АПК Казахстана необходимо устойчивое развитие экспортоориентированного сельскохозяйственного производства, конкурентоспособного на мировом рынке.

Несмотря на решение многих теоретических и прикладных задач, нашедших отражение в трудах упомянутых авторов, в настоящее время не сформирован общий подход к классификации организационных резервов повышения эффективности производства наукоемкой продукции, требуют дальнейшего совершенствования вопросы формирования антресоли выявления и использования, оценки уровня эффективности производства.

Целью исследования является развитие теоретических, научно-методических и практических положений по формированию системы управления производством инновационного потенциала на основе повышения конкурентоспособности аграрной отрасли, направленной на обеспечение продовольственной безопасности Казахстана.

В статье показано, что инновационный тип развития экономики требует разработки конкурентоспособного инновационного потенциального продукта, реализации принципов непрерывного совершенствования, поиска и использования организации производства для его эффективного производства. Также определена необходимость формирования механизмов выявления и использования организационных резервов повышения эффективности производства инновационной потенциальной продукции. Тем самым была открыта возможность формирования и развития условий, способствующих мобилизации внутрипроизводственных резервов.

Ключевые слова: устойчивое развитие, конкурентоспособность, агропромышленный комплекс, предпринимательство, механизм развития, эффективность.

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WAYS TO IMPROVE THE ECONOMIC MECHANISM FOR INCREASING THE COMPETITIVENESS OF MINING ENTERPRISES IN THE TURKESTAN REGION

Abstract. Increasing the competitiveness of enterprises in the world and domestic markets will make a huge contribution to the effective development of the country as a whole based on strategic analysis. It should be noted that the competitiveness of enterprises of this industry and their products depends not only on the conditions of the world market, but also on the degree of Organization of production of enterprises within the country. An important source of solution to this problem is the support of the state in the implementation of effective methods of industry management, new approaches to the organization of production, achievements of Science and scientific and technological progress in production.

In the context of limited opportunities of society, despite the maximum support of the state, it remains a serious problem to increase the resource potential of enterprises based on strategic analysis, increase the material and technical level, its industrialization, and use of intensive innovative technologies in the near future. Thus, all of the above determined the relevance of the topic of the scientific article and its importance in the development of the country's economy.

At the same time, despite the high relevance of the issue and the depth of scientific research, there is a lack of systematic approach and a lack of comprehensive consideration from a modern economic point of view. Also, in many theoretical aspects, only individual studies are devoted to the methodological and practical aspects of the formation of market conditions. Therefore, in order to replace it, there is a need to solve the issues of improving the economic efficiency of industrial enterprises by improving the economic mechanism for increasing the competitiveness of enterprises.

Key words: economic mechanism, competitiveness, improvement, economic efficiency, industry.

Introduction. In connection with the transition to a market economy, the importance of improving the competitiveness of enterprises and the efficiency of their economic activities has increased. Despite the large number of studies devoted to this topic, the issue of increasing competitiveness is always relevant.

The study of the competitiveness of an enterprise as an economic category should begin with the consideration of the concept of «competition». Competition, being one of the specific conditions for the functioning of the market, is an economic process of interaction, struggle for the needs of solvent demand consumers and production, an effective state of production and marketing of products between individual producers and suppliers of goods and services.

In the economic Dictionary of A. N. Azrilia, competition is an effective sphere of capital injection, a sales market, a struggle between commodity producers for a source of raw materials, and a mechanism for spontaneous regulation of social production. In the dictionary of E. E. Rumyantseva, the concept of

competition is given as a type of negative interaction of one element of the system aimed at displacing another element from the competition Field [1].

To determine the economic content of the concept of «competition», we often consider three approaches: functional, structural, and functional.

Historically, the first way to determine competition is behavioral. In principle, A. Smith equated competition with «a real struggle between sellers for a more profitable position of selling their goods». Neoclassical theory, adhering to the behavioral approach, defines the content of competition as a struggle for rare economic benefits.

According to the structural approach, the content of competition is determined by the type of market and the conditions that occur in it. «Competition is the presence of a large number of independent buyers and sellers in the market, the ability of buyers and sellers to freely enter and exit the market».

Methods. The paper uses methods of modeling and comparative analysis. The methods of the «tree» of goals and expert assessments were used to solve individual tasks. The information and empirical base of the research is the normative legal acts of the regional and municipal levels; official data of the Republican and regional bodies; methodological, scientific, educational and reference literature, materials of the Internet, as well as the research conducted by the authors.

Methodological research is a General method of scientific knowledge-analysis and synthesis, content-Media analysis of sociography, system-comparative method that allows to determine the Genesis, sequence and functioning of stages of development of the meat market, attractiveness and effectiveness of adaptation of foreign experience in managing the development of municipal institutions.

Research and development work in the field of development and effective application of the mechanism to improve competitiveness.

Results and discussion. The analysis of the definition of competition in the market of an enterprise involves the attitude of consumers to a particular enterprise and the result. Based on the conceptual approaches to the formation of an economic mechanism for increasing the competitiveness of the enterprise, which were mentioned in the previous products of the work, we have identified these factors as follows.

1. external factors consisting of measures of state economic and administrative regulation;
2. internal factors of the enterprise's development related to the use of potential opportunities aimed at ensuring sustainable development and increasing its competitiveness.

According to the results of SWOT analysis, the management environment for the production and sale of vegetable oils is presented by the author in the form of two main components – external (factors of formation) and internal (factors of development), which form a market space in their own way, under the influence of macroeconomic factors (exogenous) and internal organizational features, which depend on the activity of the management object and entrepreneurial capacity.

The microenvironment of the Enterprise includes: consumers of vegetable oils and their processing products; suppliers that provide grain producers with various resources, determine the rhythm and efficiency of production and sale; domestic industry competitors and exporters who actively enter foreign markets; intermediaries – subjects of the vegetable oil market that contribute to the promotion, sale and distribution; entities that have a real and potential interest in the functioning of the vegetable oil industry.

The macro-environment of the Enterprise includes: socio-demographic, economic, institutional, technological, natural-geographical, cultural-educational and informational factors. Studying the internal factors of development of grain-producing enterprises, the author grouped them in the following directions: market conjuncture-vegetable oils, supply and demand for their products, prices, balance of resources of certain types of vegetable oils and their use; organizational structure of management-the composition of economic entities of the market, the number of suppliers and buyers, in the trade, intermediary and commercial structure, the structure of Public Procurement; competitive environment – the organizational share of individual structures in the volume of grain sales (purchases), the weight of imports of imported products; Regulatory and legal conditions of the industry's functioning; the state of production and market infrastructure; economic efficiency of production and sale of grain crops-production cost, sales price, revenue, profit, profitability, raw material costs for the production of one unit of final product, financial condition of enterprises of the grain-producing industry, systematization-allows us to assess the production potential of oilseeds, compliance with the needs of producers of vegetable oil products and the formation of new socially significant needs [2].

As practice shows, factors can contribute not only to increasing the competitiveness of the enterprise, but also to its reduction. Usually, the enterprise carries out its activities in different social and economic conditions, as a result of which the level of use of factors is not the same. Therefore, in our opinion, the lack of full use of competitive factors creates opportunities that are not taken into account, that is, there are auxiliary sources of increasing the competitiveness of the enterprise.

By auxiliary sources of an enterprise, we mean the capabilities of an enterprise that have not been fully used in order to increase its competitiveness, associated with reducing the cost of ensuring its functioning directly at production and in a competitive market.

The peculiarity of such auxiliary sources and their occurrence, in our opinion, should be taken into account that they are involved in the process of functioning of the enterprise as a result of the interaction of all its elements.

It should be noted that the reserve funds, which are not stable in composition, mean the emergence of new progressive technologies, new products, production processes and methods of enterprise management, qualified specialists, new types of auxiliary sources, as well as the need to identify and study them.

After analyzing the level of competitiveness carried out at the studied enterprises, we turn our attention to internal factors that affect increasing competitiveness, that is, the full use of the enterprise's own capabilities.

At the same time, we identified the following as the most important factor:

- investment attractiveness;
- pricing policy;
- effective management;
- personnel and technical potential of the enterprise.

In our opinion, the competitiveness of an enterprise and ways to increase it, as a form of its own and borrowed capital, affect its attractiveness. At the same time, competitive determination serves as the main indicator that determines the future significance of cash flows, their stability and predictability, and the level of entrepreneurial risk. In this regard, the more competitive an enterprise is in the market, the more attractive it will be for investment, and its position in the future will be more stable.

There is a sharp competition among grain producers. At present, the population has begun to learn to choose vegetable oils produced by local producers. In recent years, the reconstruction and modernization carried out by grain producers has contributed to an increase in production volumes and an expansion of the range of products, and the impact on the formation of sales markets allows us to set acceptable shipping prices. This requires an effective pricing policy of the enterprise.

The main difficulty arises in connection with the sale of manufactured products. It is necessary to maintain its place in the market and its buyers. This is a very serious problem not only for small enterprises, but also for large economic entities. The competitiveness of grain enterprises in Kazakhstan in foreign markets depends, first of all, on the compliance of the quality of their products with high world standards, environmental and sanitary requirements.

Consumer preferences in relation to domestic cereals and foreign vegetable oils also play an important role here. While the choice of consumers in the domestic market is significantly influenced by the price level, the importance of price competitiveness of such goods in the foreign market is secondary. Kazakh vegetable oils of the European quality level, but at a high price, cannot compete in the markets of developed countries due to anti-dumping restrictions. At present, first of all, it is necessary to increase their competitiveness in the domestic market. Based on the conducted studies, vegetable oils, whose quality has improved, are usually more expensive than imported goods, primarily goods from Russia and Ukraine [3].

The main problem in achieving competitiveness is the decline in prices for such goods, which is extremely important in the context of changing low – capacity demand of the population.

An expensive pricing strategy can only be used if the product has a high priority for buyers in this market segment, certain qualities that attract the consumer.

Only if this condition is met, the enterprise will be able to more fully meet the requirements of a certain group of consumers at the price with added value, which is a «reward» due to the sale of its products in this segment of the market compared to the average market price.

Setting prices for its products at the price level of competitors (neutral pricing strategy) does not allow an enterprise to not only refuse to use prices in order to increase the company's market share, but also reduce its market share in prices.

As the manufactured goods show, the implementation of the process of continuous production development is a new approach to solving the problems of increasing the competitiveness of domestic grain producers. This means that in addition to planning the production program, it also includes tactics for conducting the innovation process.

In this regard, first of all, it is necessary to reorganize the methods of organization and management of production in order to improve the quality and productivity of products. It is necessary to create new management resources at all levels in order to increase and combine the quality of production, efficiency and flexibility. Secondly, the production and sale of products, increasing revenue and improving the financial situation. If an attempt is made to increase profits only by reducing production costs, then sooner or later the enterprise will leave this area of business, because even when using all the opportunities, there is a limit to reducing the level of production costs. Therefore, it is necessary to increase profits by increasing sales. And to do this, the company must be able to offer the consumer goods of high quality or with some new properties, while maintaining a stable volume of previous production costs and price levels. However, this can be achieved by conducting market research, with the help of which you can find out the real wishes, tastes, opportunities of the consumer, as well as by following the tactics of continuous improvement of even already manufactured products.

However, an increase in sales volume requires an increase in production, and the volume of production is provided by increasing labor productivity, on the one hand, and attracting additional funds to production, on the other.

According to the author, the factors of technique and technology are very important in the formation of labor productivity at the enterprise level. As you know, one of the main factors of labor productivity growth in the long term is the introduction of achievements of Science and technology in production and management. Innovative changes are considered as the basis and tool for the competitiveness of both an individual enterprise and an industry as a whole. A high level of equipment and technology, along with an increase in the quality of manufactured products, leads to a reduction in the cost of its production. (for example, resource-saving technologies).

In recent years, among the factors contributing to the growth of labor productivity, the importance of human resources in achieving an increase in the efficiency of production activities has increased. How effectively the company uses its human resources will depend on the final result of its future activities and opportunities to expand the consumer market [4].

In our opinion, the above factors contribute to the growth of sales volumes and revenues of Kazakhstani grain producers, as a result of which the level of competitiveness increases, i.e. sustainable development.

Among the many relations of the economic environment that affect the development of the enterprise, the most important is competition. Competition forces enterprises to reduce production costs, maintain the previous price level permanently or improve the quality of products, improve sales, etc. by successfully selling their products and striving for profit.

As the results of the above analysis show, in the conditions of the economy of Kazakhstan, demand is one of the most important factors affecting the competitiveness of the enterprise. It not only determines the nature of competitiveness, but also determines the living conditions of Kazakhstani enterprises. In this case, taking into account the openness of the economy of Kazakhstan, it should be noted that Kazakhstan's products should be in demand both in the domestic and foreign markets.

Ensuring high competitiveness implies the implementation of activities that cover all areas of the enterprise's activities: production, search, commercial, social and other types. In the process of their development, in a competitive struggle, the comparative advantages of the enterprise, various aspects of production or activity should be analyzed. For this purpose, each enterprise should develop its own competitive strategy.

In the course of the conducted research, we would like to note the importance of bringing the goal of the enterprise and its internal capabilities (production and resource potential) in line. This is achieved through the restructuring of enterprises aimed at eliminating unprofitable industries, replacing old

technologies with advanced and resource-saving innovative ones. As a result, production costs should be reduced and sales of products should increase.

The implementation of the enterprise's transformation requires the creation of an effective production and technological model with the use of certain funds.

Restructuring is a comprehensive optimization of the enterprise's operating system based on the requirements of the external environment, including methods of quality management, reengineering of business processes, information technologies and systems, which contributes to improving management, improving the efficiency and competitiveness of production and manufactured products. The main component that ensures the competitiveness of the enterprise:

- quality of products and services;
- marketing and sales strategy;
- qualification of personnel;
- technological level of production;
- the tax environment in which the enterprise operates;
- availability of funding sources.

Restructuring is a highly effective market tool for increasing the company's competitiveness [5].

An effective production and technological model formed during the reconstruction should lead to an increase in the market share of new products produced by the enterprise, the solvency of the enterprise and the profitability of production.

Thus, due to the production of innovative products, in conditions of increasing competitiveness, all the resources of the enterprise are used with maximum productivity and its profit is greater than that of its main competitors. This means that at the same time in the market of goods and services, the enterprise is in a stable position, and its products are in stable demand.

However, in life, this situation is variable, that is, it is constantly in motion and in development. Development, in turn, is inextricably linked with the emergence of new, advanced technologies, the emergence of new competitors, changes in the tastes and desires of consumers, an increase or decrease in demand for goods produced by the enterprise, changes in economic and political conditions for the development of production and the sale of goods. In this regard, the conditions for the production and sale of goods should also change.

The economic mechanism for increasing the competitiveness of the enterprise in the domestic food industry should be aimed at using the results of scientific and technological progress and choosing an effective competitive strategy of the enterprise.

STP is introduced in order to use new technologies in improving the quality indicators of products, updating the production base, improving services and services, influencing market demand, changing the nature of competition, organizational and managerial aspects of increasing competitiveness. Scientific and technological progress, taking into account the constant changes in the requirements of competitiveness and revaluation of its level, ensures the production of new goods with high technical and economic characteristics.

Due to the fact that the competitiveness of goods is a highly variable value, its components (qualitative and quantitative) are rapidly changing. The resources of manufacturing firms are not to seize the old commodity markets or displace competitors from them. Using the achievements of the NTP, it is necessary to spend it on providing the buyer with a new product.

It was determined that the development of the future of the economic activity of the grain producer, as a result of which an innovative policy aimed at increasing its competitiveness, technical and technological renewal of its production potential, will contribute.

At the same time, the economic potential of vegetable oil enterprises in the country is high. Currently, many enterprises independently carry out activities for the management of production, development and formation of economic and technical and technological policies, restructuring, restoration and modernization. In order to increase the future competitiveness of enterprises in this industry, it is necessary to develop strategic directions of activity using innovations aimed at scientific and technical advantages, management with the organization of production or market needs [6].

Special attention should be paid to innovations that take into account the strengths of competitors, make it possible to produce products that are based on the needs of the market and are in demand.

Among the factors hindering the development of innovation at the enterprise, the author refers to the following:

- high degree of wear and tear of equipment and low technological level of their operation;
- high prices for fuel and energy resources;
- high loan interest rate;
- lack and poor quality of research developments;
- lack of funding for innovation processes;
- shortage of qualified specialists;
- lack of an economic mechanism for implementing innovative projects [7].

The increase in the competitiveness of the industry and the enterprise, in our opinion, has a positive impact on: the first – the conquest of the market, using all its competitive advantages; the second – the adaptation of the enterprise's activities to the conditions of the market economy and the direct protection of its individual elements.

Increasing competitiveness and generating additional profits is possible only if the business is organized efficiently, and this can only be achieved at the expense of the following:

- development of an effective marketing strategy (product positioning, pricing, marketing and advertising policy, service, warranty, creating favorable conditions for the buyer);
- reduction of costs (optimization of financial flows, reliable reporting, reduction of defects, increase of labor productivity);
- optimization of information flows;
- support for conducting corporate cultural events;
- adjustment of business processes;
- adjustment of organizational structures.

It is possible to more effectively ensure the competitiveness of the enterprise through the use of innovative mechanisms in the development and implementation of commodity, price communication and sales huts of the enterprise. In the context of globalization of the economy and acute competition, the volume of production is not determined by the volume of production, only the volume of possible sales can serve as the basis for the development of a production program, i.e. strengthening the responsibility of Marketing Management accents in order to create appropriate legal, economic and organizational conditions for the production of a certain volume of products, creating an assortment, improving the quality and ensuring its rapid delivery to the consumer, food security, financial stability, social and political stability of interacting entities in the market (stimulating sales, rational optimization of commodity movement channels, accurate research and analysis, pricing).

As the results of the study show, the organization of production and sale of grain crops: socio-economic (growth of production; complication of socio-economic ties; strengthening of integration and cooperation; transition to intensive farming; discrepancy in the level of production and consumption of grain crops; high level of internal and external competition), organizational and technical (use of bioclimatic potential; irreplaceable main means of production; seasonality of production) and specific (in the context of food safety and security, priority of vegetable oils, rapid return of costs; competitiveness on the world market).

Organizational (regulation, rationing, organizational and methodological instruction) and economic (subsidies, subventions and investments, lending, pricing, taxation, customs and tariff measures, insurance) methods of management of the production and sale of vegetable oils are carried out through administrative (legislative regulation and regulation on the basis of authority), system of Standards, Organization of marketing, licensing and control and inspection activities in the form of regulatory documents, establishing a clear procedure for their organization, social incentives for labor) and must be protected from the interests of commodity producers, Economic Freedom [8].

Control adjustments that reduce the negative aspects of factors and enhance the effect of stimulating aspects require the availability of necessary information, its technical support in terms of urgent collection, processing and analysis. However, the course of identifying the problems of management of production and sales of vegetable oils and development processes indicates the poor quality of market research at enterprises in this industry, the lack of interconnectedness and incompatibility of Strategic and tactical measures, and the lack of the ability to predict the situation even in the short term.

Another important aspect of the development of enterprises in this industry is the consolidation of forces on the basis of cooperation and integration. But the beginning of the reform of property relations in Kazakhstan was accompanied by a weakening of the regulatory framework for managing economic processes, a violation of equal relations and economic interests of technologically closely related agribusiness enterprises, the lack of market interaction between oilseeds and the processing industry, the relationship of integrated structures has undergone radical changes.

As a way out of the current situation, the author proposes to look for an alternative form of Organization of production and sale of vegetable oil products of integrated formations on the basis of common methodological principles, in the form of a targeted comprehensive program to increase the competitiveness of the enterprise, improve the economic mechanism: search – collection, processing, accumulation and analysis of actual data on the market conditions of vegetable oils; creation and improvement of a system of Information, advertising and economic and mathematical support for information and management activities; assistance in the development of organizational and investment projects and programs, formation of new forms and channels of grain sales; development of scientific, methodological and consulting-business plans, legal, tax, financial issues.

Assessment of various risks and benefits; provision of services for organizing and conducting research in the field of management and marketing; management and marketing in the production of growth oils. Organization of development of programs and training plans, methodological manuals and other training materials, supervision of participation in the development of regulatory legal acts regulating production and sales activities based on regulatory, market research of vegetable oils, standards for commodity characteristics of vegetable oils, new methods of quality control and certification.

Defining the strategic synergistic development program at the level of strategic units of business and determining the overall potential of the main strategy, which are key elements of the management of vegetable oil enterprises: price, assortment, sales and communication parts. The state creates the necessary institutional framework for the development of the market and private business activities. And private firms, seeking to make a profit, create the financial resources necessary for the implementation of social services imposed on the state. Such relations between the state and the market contribute to the emergence of a process of mutual support for economic growth and transformation.

In this regard, the author proposes to introduce restrictions on powers between representatives of different authorities to improve the effective economic mechanism for the production and sale of grain crops, the purpose of which is to increase the competitiveness of the enterprise: ensuring food security and independence of the country at the national level, creating a modern legislative framework and an effective financial and credit system, accounting and control over the targeted use of financial resources; at the regional level, the development of production and market infrastructure in the vegetable oil market, its regulation, maximum satisfaction of the population's demand for high-quality products, development and renewal of the material and technical base of vegetable oil production; financing of municipal programs at the level of local structures, promoting the development of private investment, providing personnel, maintaining the ecological purity of vegetable oil production and establishing powers to protect the natural environment [9].

The optimal management system in the agro-industrial complex consists of several stages of functional activity, the main goal of which is the analysis of market opportunities and the choice of a system of goals aimed at reducing risks, ensuring food security in the region and full use of production capacities of grain-producing enterprises, as a result, increasing the competitiveness of the industry, improving the standard of living and livelihoods of the population, long-term planning and implementation of measures aimed at creating conditions for sustainable economic development of rural areas [10].

In favor of the theoretical foundations and practical recommendations of the world and domestic management, we can recommend the «integrated growth strategy» as an effective strategy for the development of management of the production and sale of grain crops, on the basis of which it is possible to create integrated marketing tools that improve the quality level of services of all economic entities, reduce dependence on changes in the conjuncture of the oilseeds market, strengthen control over the scattered structures of the distribution system. The integrated growth strategy for the production and sale of grain crops includes four main parts: assortment pricing, sales and communication pricing.

The improvement of the assortment policy involves balancing the commodity supply of oilseeds and vegetable oils with the needs of consumers and will be carried out in two main areas: the first, full satisfaction of domestic regulatory demand only at the expense of domestic production, the second, partially by carrying out the following tactical measures with the preservation of part of imports: sustainable production of oilseeds based on optimization of acreage, increasing crop yields, ensuring innovative sowing technologies; improving the use of oilseeds and reducing costs for the production of final product units; increasing the supply of oilseeds and vegetable oils; improving the quality of oilseeds processing based on the introduction of new resource-saving technologies, modern equipment, and a quality management system [11].

Improving the pricing policy will allow commodity producers to have a stable profit necessary for ensuring the continuous production process, and for consumers-products in the required volume and appropriate assortment, and will require the implementation of the following tactical measures: improving the organizational and economic mechanism for the development of innovative and continuous production processes in integrated devices of the region; developing a set of measures to make the price disparity more flexible; assigning cereals to the group of socially significant goods; raising the issue of reducing the margin in retail trade in the region; making changes to the procedure for public procurement in the agricultural raw materials and food market; developing a regional sectoral program to achieve sustainable production of oilseeds and the development of the vegetable oil market; creating regional reserves and insurance funds of vegetable oils; providing protectionist support by regional authorities to agricultural producers; organizing scientific research on the effectiveness of grain production; development of a methodology for determining cumulative profitability standards for simple and increased reproduction in the region [12].

Since the process of transition of vegetable oil from producer to consumer is associated with its physical movement and transfer of ownership from one person to another, the improvement of sales policy from the point of view of management and marketing means the creation of an effective mechanism for the functioning of the regional wholesale food market (Kan) of vegetable oils, based on the use of modern logistics system and information and marketing technologies, the harmonization of the interests of sellers and buyers, the introduction of new types and methods of movement of goods, the improvement of the activities of channels of movement of goods.

Summary and Conclusion. Studying the state mechanism for influencing the competitiveness of industrial enterprises, we can say the following:

1.in market conditions, the state is not distinguished by the function of direct management of competitiveness, but it implements such regulatory measures through the use of legislative acts, government resolutions, economic and other regulatory mechanisms. It follows that, in our opinion, the task of the state is to create favorable conditions for strengthening the competitiveness of the economy, its structural divisions, and economic entities.

2.the influence of the state on the process of increasing competitiveness is carried out within the nation and in External directions. These two directions will be closely intertwined. However, we consider the internal direction primary. At the same time, the international level of competitiveness of the national economy is determined through foreign economic relations.

3.increasing competitiveness is carried out at the level of producers of goods provided with personnel, who have the appropriate rights, entrepreneurial initiative, are engaged in solving the problem of competitiveness. The competence, goal-oriented and business skills of manufacturing firms, as well as their internal potential, depend on their ability to effectively use the opportunities created by the state to achieve their goals, even in adverse environmental conditions, and their competitiveness [13].

The experience gained in the system of economic mechanisms for the development of economic entities, the conclusions of foreign and domestic economists, as well as ways to increase the level of competitiveness, competitiveness of an industrial enterprise in the course of system analysis, were divided into the following groups.

The use of ways to increase the competitiveness of any industrial enterprise should take into account the interests of the region where this enterprise is located and be based on its potential. In this regard, two main approaches can be distinguished as the most promising ways.

The first approach is aimed at creating conditions for the formation of competitive industries and is based on state regulation of the competitiveness of the enterprise as the goals and objectives of economic policy, which implies the implementation of the formation of a balanced, balanced national economy system of the country capable of successfully functioning in market conditions.

The second approach is based on the concentration of investment resources in priority areas of industrial production in order to meet the needs of the regional market for consumer goods and services [14].

Thus, we came to the conclusion that the regions should be perceived as the main task of regulatory and governing bodies in the near future, sources of increasing the competitiveness of enterprises.

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ТҮРКІСТАН ОБЛЫСЫНДАҒЫ ӨНДІРУШІ КӘСПОРЫНДАРДЫҢ БӘСЕКЕГЕ ҚАБІЛЕТТІЛІГІН АРТТЫРУДЫҢ ЭКОНОМИКАЛЫҚ МЕХАНИЗМІН ЖЕТІЛДІРУ ЖОЛДАРЫ

Аннотация. Кәсіпорындардың әлемдік және ішкі нарықта бәсекеге қабілеттілігін арттыру тұтастай стратегиялық талдау негізінде еліміздің тиімді дамуына ірі үлес қоспақ. Аталған сала кәсіпорындар мен өнімінің бәсекеге қабілеттілігі әлемдік нарық конъюктурасымен қоса, ел ішіндегі кәсіпорындардың өндірісті ұйымдастыру деңгейінің дәрежесіне де тәуелді болып келетінін айтып өткен жөн. Мәселені шешудің маңызды көзі – мемлекет тарапынан саланы тиімді басқару әдістерін, өндірісті ұйымдастырудың жаңа тәсілдерін, ғылым мен ғылыми техникалық прогресс жетістіктерін өндіріске енгізуде қолдау көрсетудің нәтижесі мол болмақ.

Қоғам мүмкіндіктерінің шектеулілігі жағдайында мемлекет барынша қолдау көрсетсе де, стратегиялық талдау негізінде кәсіпорындардың ресурстық әлеуетін өсіріп, материалдық-техникалық деңгейін арттыру, индустрияландыру, қарқынды инновациялық технологияларды болашақта пайдалану үлкен мәселе күйінде қалып отыр. Жоғарыда айтылғанның барлығы ғылыми мақала тақырыбының өзектілігі мен ел экономикасының дамуындағы маңыздылығын анықтады.

Сонымен қатар, мәселенің аса өзектілігі мен ғылыми зерттеу тереңдігіне қарамастан, жүйелі көзқарастың жеткіліксіздігі қазіргі заманғы экономикалық тұрғыдан жан-жақты қарастырылмаған. Сондай-ақ көптеген теориялық сипаттағы жекелеген зерттеулер ғана нарық жағдайында қалыптасудың әдіснамалық және тәжірибелік аспектілеріне арналған. Сондықтан оның орнын толықтыру үшін кәсіпорындардың бәсекеге қабілеттілігін арттырудың экономикалық механизмін жетілдіру арқылы өндірістік кәсіпорындардың экономикалық тиімділігін арттыру мәселелерін шешу қажеттілігі туындайды.

Түйін сөздер: экономикалық механизм, бәсекеге қабілеттілік, жетілдіру, экономикалық тиімділік, өнеркәсіп.

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ПУТИ СОВЕРШЕНСТВОВАНИЯ ЭКОНОМИЧЕСКОГО МЕХАНИЗМА ПОВЫШЕНИЯ КОНКУРЕНТОСПОСОБНОСТИ ДОБЫВАЮЩИХ ПРЕДПРИЯТИЙ ТУРКЕСТАНСКОЙ ОБЛАСТИ

Аннотация. Повышение конкурентоспособности предприятий на мировом и внутреннем рынках будет способствовать эффективному развитию страны в целом на основе стратегического анализа. Следует отметить, что конкурентоспособность предприятий данной отрасли и их продукции зависит не только от конъюнктуры мирового рынка, но и от степени организации производства предприятиями внутри страны.

Важным источником решения этой проблемы станет поддержка со стороны государства в внедрении эффективных методов управления отраслью, новых подходов к организации производства, достижений науки и научно-технического прогресса в производство.

В условиях ограниченности возможностей общества, в то же время, несмотря на максимальную поддержку государства, на основе стратегического анализа остается большой проблемой наращивание ресурсного потенциала и повышение материально-технического уровня предприятий, его индустриализация, использование интенсивных инновационных технологий. Таким образом, все вышесказанное определило актуальность темы научной статьи и ее значимость в развитии экономики страны.

Вместе с тем, несмотря на высокую актуальность проблемы и глубину научного осмысления, недостаточный системный подход и современный экономический подход не рассматриваются всесторонне. Также во многих теоретических характеристиках только отдельные исследования посвящены методологическим и практическим аспектам их становления в условиях рынка. Поэтому для ее восполнения возникает необходимость решения вопросов повышения экономической эффективности производственных предприятий путем совершенствования экономического механизма повышения конкурентоспособности предприятий.

Ключевые слова: экономический механизм, конкурентоспособность, совершенствование, экономическая эффективность, промышленность.

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IMPACT OF THE COVID-19 CORONAVIRUS PANDEMIC ON THE FINANCIAL STABILITY OF THE BANKING SECTOR IN KAZAKHSTAN

Abstract. The coronavirus pandemic has led to the closure of the country's borders and social isolation of the population, which affected the decrease in loans allocated by banks to the population and business. Despite the increase in net profit by bankers, negative trends are being traced in this segment of the financial market under the influence of the coronavirus pandemic. The current crisis really has no analogues in world history, or we simply do not know about them (if, for example, the civilization that is now present on the planet Earth had predecessors). It is not like the previous ones by its very nature. Previous crises have always been based on a kind of long-term economic imbalance, but today (although with all the signs of the latter) we are faced with the coronavirus pandemic - an event whose scale and consequences turned out to be difficult to predict in principle. For this reason, no one really had the opportunity to prepare for what was happening. Temporary regulatory easing and a decrease in macroprudential markups will allow banks to gradually adapt to the situation and maintain financial stability. It is very important that banks and other financial institutions use indulgences to stabilize their financial position and lend to the economy, and not to pay dividends to owners and bonuses to management.

Key words: pandemic, banks, financial stability, decline, crisis, lending.

Introduction. Today we face economic shocks that could be worse than those we witnessed during the global financial crisis. The coronavirus pandemic is a shock of a completely different kind. Never before has the modern economy stopped instantly. Week after week, many workers lost jobs and wages. Restaurants, hotels and planes were empty. And consumers and businesses are currently facing sharp declines in income and potentially widespread bankruptcy.

The pressure on the banking system is mounting and larger debt defaults are inevitable.

At the moment, a wide range of industries have already been affected by the pandemic in many developed and developing countries, due to disruptions in supply chains, a drop in demand as a result of quarantine restrictions and the implementation of cross-sectoral effects. In his speech, the Head of State K-Zh. Tokayev pointed out the difficult situation in connection with the COVID-19 pandemic, which practically paralyzed the social and economic life of many countries. He drew attention to a sharp decline in economic activity around the world and a record drop in commodity prices with significant negative consequences for countries that export such goods. The President noted that thanks to the measures taken, the state managed to prevent the uncontrolled spread of the virus, to maintain stability in society and business activity.

Main part. The Agency of the Republic of Kazakhstan for the Regulation and Development of the Financial Market, in the implementation of the instructions of the President of Kazakhstan, has taken a number of measures to support the population and entrepreneurship during the period of the state of emergency. On behalf of the President of the Republic of Kazakhstan, the National Bank, together with the Agency of the Republic of Kazakhstan for the Regulation and Development of the Financial Market, has developed a program of concessional lending to small and medium-sized businesses. For the implementation of this Program, 600 billion tenge is allocated to small and medium-sized businesses and individual entrepreneurs through the placement of conditional deposits in second-tier banks. The business support mechanism is implemented by providing second-tier banks with preferential loans to replenish working capital to small and medium-sized businesses, individual entrepreneurs affected by the introduction of a state of emergency, for up to 12 months at a rate of no more than 8% per annum.

Impact of the Covid-19 Coronavirus Pandemic on the Financial Resilience of the Banking Sector The COVID-19 pandemic has caused an unprecedented crisis in human resources and health. The measures required to contain the spread of the virus triggered an economic downturn. At the moment, there is huge uncertainty about its depth and duration. The latest edition of the Global Financial Stability Report shows that the financial system has already been hit hard and a further worsening of the crisis could affect global financial stability. Amid uncertainty about the economic impact of the pandemic, volatility has spiked, in some cases to levels last seen during the global financial crisis. Banks plan to issue loans with increased attention to the stability of the borrowing sector. Banks restrict lending and raise deposit rates to increase liquidity. Almost all banks have suspended or postponed the implementation of large projects to the next year, as the banking sector is expected to slow down lending and increase provisions.

A constellation of developed countries was a benchmark for Kazakhstan, however, the situation in these countries is also unstable. One of the steps taken in the eurozone is the dissolution of the liquidity buffer is possible if the current payments of customers are sufficient to service the bank's own liabilities and the flight of depositors is not expected. In the eurozone, a general decision was made to abandon banks' compliance with the short-term liquidity ratio. Previously, it was intended for banks to fully cover stress churn without any external support.

The European Central Bank announced that banks are not required to have a liquidity buffer indefinitely. Accordingly, his decision was duplicated in Italy, Spain, Germany and France. Turkey announced the termination of the liquidity ratio by the end of 2020. The Swiss Financial Market Supervision Authority has allowed the liquidity buffer to be spent as needed without formal violations. In order to minimize liquidity risk, the FRS canceled the mandatory reserve requirements, and the Central Bank of Turkey - reduced the required reserves for obligations in foreign currencies. The Bank of England and the UK Prudential Regulatory Authority considered that the monetary policy measures and liquid assets of the largest banks are enough to do without special decisions.

Elimination of liquidity requirements has a short-term effect. The same short-term liquidity ratio is focused on accumulating a buffer, which is enough for one month of outflow of client funds. As it is spent, the burden on maintaining the banks' current liquidity is transferred to the central bank. It will keep banks afloat either by buying out relatively liquid assets or by refinancing to ensure uninterrupted customer payments. If the banks fully spend their liquid assets, the latter can be transferred to an artificial respiration apparatus - direct unsecured loans from the central bank. Unable to issue a comprehensive guide to "pandemic" adjustments, the Council shifted responsibility to national financial regulators. Accordingly, the European Central Bank, the European Banking Authority, the European Securities Market Oversight Authority, the Office of the Superintendent of Financial Institutions of Canada, the Swiss Financial Market Supervisory Authority, and the UK Prudential Regulatory Authority drew the attention of banks to the possibility of not fully completing accounting reserves. Signs of stress have also emerged in major short-term funding markets, including the global market for U.S. dollars. Volatility has spiked, in some cases to levels last seen during the global financial crisis, amid the uncertainty about the economic impact of the pandemic. With the spike in volatility, market liquidity has deteriorated significantly, including in markets traditionally seen as deep, like the U.S. Treasury market, contributing to abrupt asset price moves.

To preserve the stability of the global financial system and support the global economy, central banks across the globe have been the first line of defense. First, they have significantly eased monetary policy by cutting policy rates in the case of advanced economies to historic lows. And half of the central banks in

emerging markets and lower income countries have also cut policy rates. The effects of rate cuts will be reinforced through central banks' guidance about the future path of monetary policy and expanded asset purchase programs.

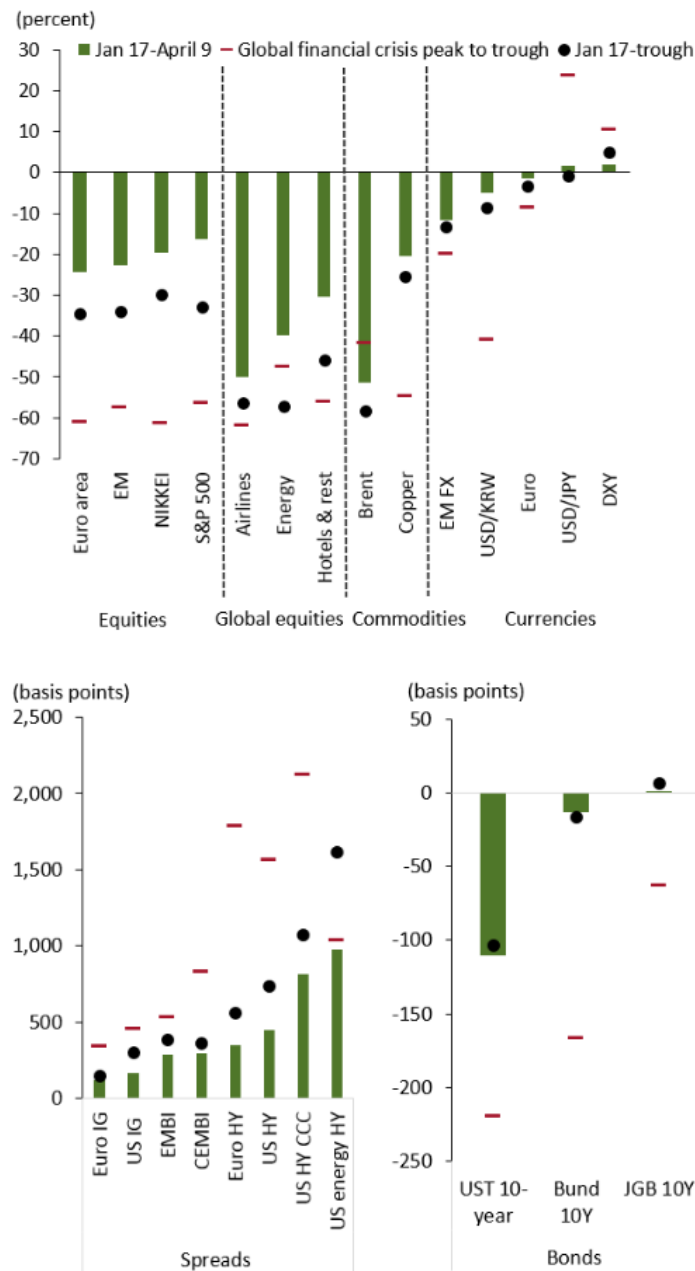


Figure 1 – Change in asset prices

Second, central banks have provided additional liquidity to the financial system, including through open market operations.

Third, a number of central banks have agreed to enhance the provision of U.S. dollar liquidity through swap line arrangements.

And finally, central banks have reactivated programs used during the global financial crisis as well as launched a range of new broad-based programs, including to purchase riskier assets such as corporate bonds. By effectively stepping in as “buyers of last resort” in these markets and helping contain upward pressures on the cost of credit, central banks are ensuring that households and firms continue to have access to credit at an affordable price.

To date, central banks have announced plans to expand their provision of liquidity including through loans and asset purchases by at least \$6 trillion and have indicated a readiness to do more if conditions warrant.

As a result of these actions aimed at containing the fallout from the pandemic, investor sentiment has stabilized in recent weeks. Strains in some markets have abated somewhat and risk asset prices have recovered a portion of their earlier declines. Sentiment continues to be fragile, however, and global financial conditions remain much tighter compared to the beginning of the year.

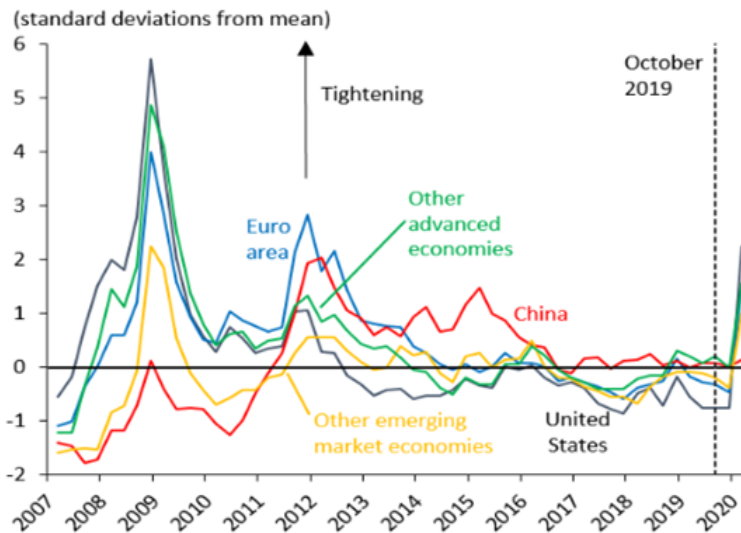


Figure 2 – Investing

All in all, the sharp tightening of global financial conditions since the COVID-19 outbreak together with the dramatic deterioration in the economic outlook has shifted the one-year-ahead distribution of global growth massively to the left. This points to a significant increase in downside risks to growth and financial stability. There is now a 5 percent likelihood (an event that happens once every 20 years) that global growth will fall below -7.4 percent. For comparison, this threshold was above 2.6 percent in October 2019.

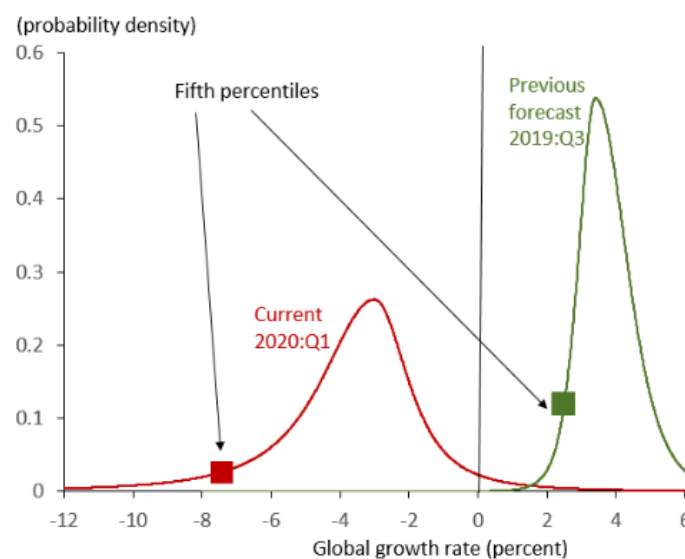


Figure 3 – Global risks

As so often happens at times of financial distress, emerging markets risk bearing the heaviest burden. In fact, emerging markets have experienced the sharpest portfolio flow reversal on record—about \$100 billion or 0.4 percent of their GDP—posing stark challenges to more vulnerable countries.

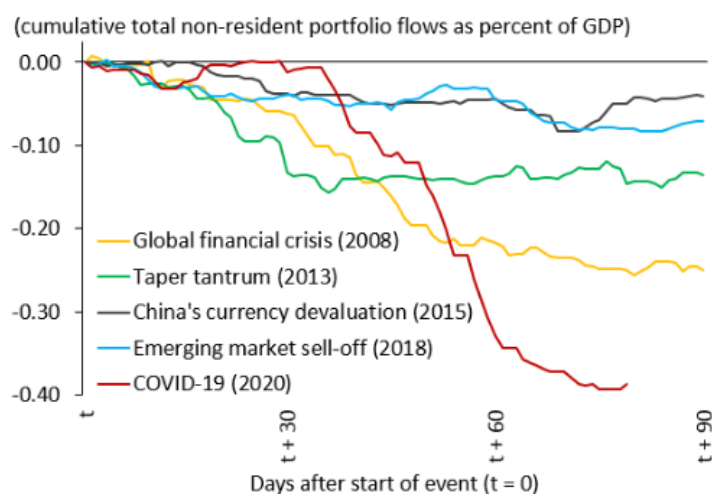


Figure 4 – Financial crises

The global spread of COVID-19 may require the imposition of tougher and longer-lasting containment measures actions that may lead to a further tightening of global financial conditions should they result in a more severe and prolonged downturn. Such a tightening may, in turn, expose financial vulnerabilities that have built in recent years in the environment of extremely low interest rates. This would further exacerbate the COVID-19 shock. For example, asset managers facing large outflows may be forced to sell into falling markets thus intensifying downward price moves. In addition, levered investors may face further margin calls and may be forced to unwind their portfolios; such financial deleveraging may aggravate selling pressures.

Central banks will remain crucial to safeguarding the stability of global financial markets and maintaining the flow of credit to the economy. But this crisis is not simply about liquidity. It is primarily about solvency at a time when large segments of the global economy have come to a complete stop. As a result, fiscal policy has a vital role to play.

Together, monetary, fiscal, and financial policies should aim to cushion the impact of the COVID-19 shock and to ensure a steady, sustainable recovery once the pandemic is under control. Close, continuous international coordination will be essential to support vulnerable countries, to restore market confidence, and to contain financial stability risks. The IMF is ready to assert the full weight of its resources – first, to help protect the world’s most vulnerable economies, and, for the long term, to strengthen the eventual recovery.

The pandemic in Kazakhstan has affected all areas of business to varying degrees. As part of the study, 50 business leaders from 14 sectors of the economy were interviewed, data was collected in April this year. The greatest adaptability to the prevailing conditions of the pandemic was shown by companies that, before the introduction of quarantine measures, had their own online platforms and well-established Internet services. According to the researchers, 58% of respondents noted that the conditions of the pandemic forced them to reconsider the paradigm of their business for the future.

As the impact of the pandemic on economic activity expands, credit risks begin to materialize: in April, the number of credit restructurings by both corporate borrowers and the population sharply increased. Some borrowers will not be able to restore their financial position, and banks will be forced to write off loans. A slowdown in lending may adversely affect economic recovery, which in turn may lead to an additional increase in credit risks (credit channel). Banks may not yet have noticed serious problems on their balance sheets, but it is quite obvious that we are still at the very beginning of the crisis. Whatever scenario the situation continues to develop, the current pandemic will force the state and business to seriously reconsider their strategic priorities and tactics themselves. Although the banks may not yet have

noticed serious problems on their balance sheets, it is quite obvious that we are still at the very beginning of the crisis. Whatever scenario the situation continues to develop, the current pandemic will force the state and business to seriously reconsider their strategic priorities and tactics themselves. The disposable income of a significant part of the population of Kazakhstan will decline, and this will lead to an increase in problem debts, primarily on unsecured consumer loans. The quality of loans will deteriorate along with the weakening of the financial position of borrowers.

“The high level of uncertainty about the future development of the pandemic and the likelihood of re-imposing restrictive measures in the future” will slow economic recovery. And “the growing number of debts overdue by consumers and firms may increase the pressure on the financial sector.” Restarting businesses will help ease the economic crisis, but many businesses may find it difficult to resume production due to interruptions caused by extended downtime.

The banking system of Kazakhstan has been in a protracted crisis for many years - this is evidenced by the high level of problem loans, the bankruptcy of small and medium-sized banks, and the significant amount of state aid that banks in Kazakhstan receive quite regularly. The banking system has approached a new round of the crisis with a significant supply of capital and liquidity - this should mitigate the negative impact of the crisis and allow most banks to survive difficult times.

In a crisis, both individuals and legal entities, that is, businesses, take out, as a rule, less loans. Therefore, a decrease in the profit of the banking sector in the first and second quarters is expected. At the same time, the banking sector of Kazakhstan as a whole has good liquidity and is fairly well capitalized. At the same time, the measures taken to support (deferral for clients of individuals and legal entities, loans for SMEs at reduced rates) will give banks time for a “respite” and somewhat soften the blow, but do not completely protect them from the need to recognize asset impairment.

In addition, banks may face renewed competition from shadow banks and emerging digital market players that have begun to challenge traditional banking business models even before the pandemic. In the short term, digitalization will increase competitive pressures and limit the profitability of existing banks by further lowering barriers to entry and exit in the financial services market. However, its long-term impact is less certain; it will depend on the structure of the market that will eventually take shape. One option: A handful of dominant platforms (some of the current digital giants plus a few incumbent players who have survived the transformation) will control access to the fragmented customer base that exists across different financial ecosystems.

In this case, customers will register their requests on one of the platforms, and financial service providers will compete to satisfy them. The level of competition between platforms and the level of customer service will depend on the cost of moving from one ecosystem to another: the higher it is, the less competitive the market will be.

Banking regulators have already adapted to the post-pandemic world by softening the schedule for introducing new capital requirements. But the digital revolution will require them to balance the need to foster competition and innovation with the need to protect financial stability.

Expert recommendations for improving the functioning of the banking sector:

– Regulators should make it clear that capital and liquidity buffers must support continued bank lending without negatively impacting bank governance. Banks have accumulated these buffers well in excess of the Basel minimum standards to cope with liquidity pressures and loss of earnings from uncollected loan payments.

– Supervisors should clearly indicate to banks the need to proactively restructure their loan portfolios for those borrowers and sectors that have been hit hard by a severe but temporary shock. They should also remind banks of flexible credit risk management and accounting standards for impaired loans in such situations. Accounting authorities have stepped in to help educate auditors on how such changes should be viewed after the economy begins to recover. Не скрывать потери. Их приходится нести банкам, инвесторам, акционерам и даже налогоплательщикам. Прозрачность помогает подготовить все заинтересованные стороны; сюрпризы только ухудшают их ответную реакцию, что было доказано во время кризиса 2008 года.

– Clarify the legal and regulatory interpretation of support measures. A preliminary clarification of how banks and regulators should interpret fiscal measures, including measures aimed directly at

borrowers, loan guarantees, deferred payments, direct transfers and subsidies - in addition to any existing Basel Capital Adequacy guidelines.

– Encourage ongoing dialogue between supervisors and banks, especially in this unprecedented situation of telecommuting with peers, clients and supervisors. In key areas such as liquidity and creditor positions, reporting requirements tend to increase during a crisis, but given operational irregularities, it may be advisable to defer other reporting requirements that are less critical to assessing financial health.

– Carry out international coordination. Banking is a global business. Broad coordination between national regulators at the international level is essential. This crisis will eventually pass, and it may take some time to recover from its consequences, but maintaining the integrity of the international framework will be critical to trust in the global financial system and its integrity. International bodies such as the Financial Stability Board and the Basel Committee on Banking Supervision are working tirelessly to ensure this.

Conclusion. To do this, regulators must ensure a level playing field and coordinate prudential regulation and antitrust policy with data-related measures. They will have to move forward through complex compromises regarding such aspects of the system as stability and integrity, efficiency and competitiveness, and confidentiality. Banks now have a good chance to improve their battered image by playing a constructive role in mitigating the effects of the current economic crisis.

The most important thing for the long-term recovery of the banking sector is Kazakhstan's return to the economic growth trajectory. Also extremely important are the steps taken by the National Bank and the regulator to further improve banking regulation and supervision. A soft monetary policy supports lending and ensures stable dynamics of the banking sector's interest expenses. Regulatory relief and a reduction in macroprudential mark-ups will allow banks to gradually recover losses and ensure business continuity.

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КОВИД-19 ПЕНДЕМИЯСЫНЫҢ ҚАЗАҚСТАН БАНК СЕКТОРЫНЫҢ ҚАРЖЫЛЫҚ ТҰРАҚТЫЛЫҒЫНА ӘСЕРІ

Аннотация. Коронавирус пандемиясы елдер шекарасының жабылуына және халықтың әлеуметтік оқшаулануына себеп болды, бұған қоса, банктердің тұрғындар мен бизнеске берген несиелерінің көлемінің азаюына әсер етті. Банкирлердің таза пайдасы артқанымен, коронавирус пандемиясы әсерінен қаржы нарығының аталған сегментінде теріс үрдістер байқалуда. Қазіргі дағдарыстың әлем тарихында баламасы жоқ немесе ол туралы білмеуіміз мүмкін (мысалы, Жер планетасындағы қазіргі өркениеттің негізін қалағандары өмір сүрген болса). Бұл дағдарыс табиғаты бойынша бұрынғыға ұқсамайды. Бұрынғы дағдарыстар әрдайым ұзақмерзімді экономикалық теңгерімсіздікке негізделді, бірақ бүгінде біз (соңғысының барлық белгілеріне қарамастан) коронавирус пандемиясына тап болдық, яғни масштабы мен салдарын болжау қиындық тудыратын оқиға. Осы себепті ешкімнің болып жатқан жағдайға дайындалуға мүмкіндігі болмады. Уақытша реттеуді жеңілдету және макропруденциалдық ставкалардың төмендеуі банктерге жағдайға біртіндеп бейімделуге және қаржылық тұрақтылықты сақтауға мүмкіндік береді. Банктер мен басқа қаржы институттарының қаржылық жағдайын тұрақтандыру және экономикаға несиелер беру, иесіне дивидендтер төлеу және басшылыққа бонустар төлеу үшін индикативтерді қолдану өте маңызды.

Қазақстанның банк жүйесі ұзақ жылдар бойы ұзаққа созылған дағдарыста болды, бұған проблемалық несиелердің жоғары деңгейі, шағын және орта банктердің банкроттығы, сондай-ақ Қазақстандағы банктер ұдайы алатын мемлекеттік көмек дәлел. Банк жүйесі дағдарыстың жаңа кезеңіне капитал мен өтімділіктің едәуір мөлшерімен келді әрі бұл дағдарыстың жағымсыз әсерін азайтуға және көптеген банктерге күрделі кезеңде өмір сүруге мүмкіндік беруі керек.

Дағдарыс жағдайында жеке және заңды тұлғалар, яғни бизнес, әдетте, аз несиелер алады. Осылайша бірінші және екінші тоқсанда банк секторының кірісі азаяды деп күтілуде. Сонымен бірге, Қазақстанның банк

секторы жақсы өтімді және жеткілікті түрде капиталдандырылған. Сонымен бірге, қолдау бойынша қабылданған шаралар (жеке және заңды тұлға клиенттеріне арналған мерзімін кейінге қалдыру, шағын және орта бизнес субъектілеріне несиелерді төмен ставкамен беру) банктерге «дем алуға» және соққыны біршама жұмсартуға уақыт береді, бірақ банктерді активтердің құнсыздануын мойындау қажеттілігінен толық арылта алмайды.

Сонымен қатар, банктер көлеңкелі банктер мен бәсекелестіктің дамып келе жатқан сандық ойыншылар бәсекесімен бетпе-бет келуі мүмкін, олар пандемиядан бұрын дәстүрлі банктік бизнес модельдеріне қарсы тұра бастады. Қысқамерзімді перспективада цифрландыру бәсекелестік қысымды күшейтеді және қаржы қызметтері нарығына кіру және шығу жолындағы кедергілерді одан әрі төмендету арқылы жұмыс істеп тұрған банктердің кірісін шектейді. Алайда оның ұзақмерзімді әсері аз; ол ақыр соңында қалыптасатын нарықтық құрылымға байланысты болады. Бқтимал нұсқаның бірі: біршама үстем платформалар (қазіргі цифрлық алыштардың кейбірі және трансформациядан өткен бірнеше қазіргі ойыншылар) түрлі қаржылық экожүйелерде орналасқан фрагменттелген тұтынушы базасына қолжеткізу жағдайын басқарады. Бұл жағдайда клиенттер өтініштерін платформалардың біріне тіркейді, ал қаржылық қызмет жеткізушілері оларды қанағаттандыру үшін бәсекеге түседі. Платформалар арасындағы бәсекелестік деңгейі және тұтынушыларға қызмет көрсету деңгейі бір экожүйеден екіншісіне көшу шығынына байланысты, яғни соғұрлым жоғары болған сайын, соғұрлым бәсекелестік аз болады.

Банктік реттеушілер капиталдың жаңа талаптарын енгізу кестесін жұмсарту арқылы пандемиядан кейінгі әлемге бейімделді. Бірақ сандық революция олардан бәсекелестік пен инновацияны қаржылық тұрақтылықты қорғау қажеттілігімен теңестіруді талап етеді.

Түйін сөздер: пандемия, банктер, қаржылық тұрақтылық, құлдырау, дағдарыс, несиелер беру

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ВЛИЯНИЕ ПАНДЕМИИ КОРОНАВИРУСА COVID-19 НА ФИНАНСОВУЮ УСТОЙЧИВОСТЬ БАНКОВСКОГО СЕКТОРА КАЗАХСТАНА

Аннотация. Пандемия коронавируса привела к закрытию границ страны и социальной изоляции населения, что повлияло на снижение выделенных со стороны банков кредитов населению и бизнесу. Несмотря на увеличение банкирами чистой прибыли, под влиянием пандемии коронавируса прослеживаются негативные тенденции в данном сегменте финансового рынка. Нынешний кризис действительно не имеет аналогов в мировой истории, или же мы о них просто не знаем (если, например, у цивилизации, ныне присутствующей на планете Земля, были предшественницы). Он не похож на предыдущие самой своей природой. Прежние кризисы всегда имели в своей основе некий продолжительный экономический дисбаланс, сегодня же (хотя и при всех признаках последнего) мы столкнулись с пандемией коронавируса – событием, масштабы и последствия которого оказались труднопрогнозируемыми в принципе. По этой причине реально подготовиться к происходящему не было возможности ни у кого. Временные регуляторные послабления и снижение макропруденциальных надбавок позволят банкам постепенно адаптироваться к ситуации и сохранить финансовую устойчивость. Очень важно, чтобы банки и другие финансовые организации использовали послабления для стабилизации своего финансового положения и кредитования экономики, а не для выплаты дивидендов собственникам и бонусов руководству.

Банковская система Казахстана уже много лет находится в затяжном кризисе – об этом свидетельствуют и высокий уровень проблемных кредитов, и банкротства небольших и средних банков, и существенные размеры госпомощи, которую банки Казахстана получают довольно регулярно. Банковская система подошла к новому витку кризиса с существенным запасом капитала и ликвидности – это должно смягчить негативное влияние кризиса и позволить большинству банков пережить сложные времена.

В кризис как физические лица, так и юридические, то есть бизнес, кредитов берут, как правило, меньше. Поэтому снижение прибыли банковского сектора, в I и во втором II кварталах ожидаемо. При этом банковский сектор Казахстана в целом имеет хорошую ликвидность и достаточно хорошо капитализирован. В то же время меры, принятые для поддержки (отсрочка для клиентов физических и юридических лиц, кредиты для МСБ по сниженным ставкам), дадут банкам время для «передышки» и несколько смягчат удар, но полностью не оградят их от необходимости признавать обесценение активов.

Кроме того, банки могут столкнуться с новым обострением конкуренции со стороны теневого банков и новых цифровых игроков рынка, которые начали бросать вызов традиционным банковским бизнес-моделям ещё до пандемии. В краткосрочной перспективе дигитализация повысит конкурентное давление и ограничит прибыльность существующих банков из-за дальнейшего снижения барьеров на вход и выход на рынке финансовых услуг. Однако её долгосрочное влияние выглядит менее определённо; оно будет зависеть от структуры рынка, которая в итоге сложится. Один из возможных вариантов: горстка доминирующих платформ (некоторые из нынешних цифровых гигантов плюс несколько действующих игроков, переживших трансформацию) будут контролировать доступ к фрагментированной базе клиентов, существующей в разных финансовых экосистемах. В этом случае клиенты будут регистрировать свои запросы на одной из платформ, а провайдеры финансовых услуг будут конкурировать за то, чтобы их удовлетворить. Уровень конкуренции между платформами и уровень клиентского сервиса будут зависеть от стоимости перехода из одной экосистемы в другую: чем выше он будет, тем менее конкурентным будет рынок.

Банковские регуляторы уже адаптировались к постпандемическому миру, смягчив график введения новых требований к капиталу. Но цифровая революция потребует, чтобы они сбалансировали необходимость содействовать конкуренции и инновациям с необходимостью защищать финансовую стабильность.

Ключевые слова: пандемия, банки, финансовая устойчивость, снижение, кризис, кредитование.

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QUALIMETRIC APPROACH TO EVALUATING DIGITAL COMPETENCIES OF TEACHERS

Abstract. The article is devoted to the study of the problems of the formation and evaluation of digital competencies in the context of digitalization of general education. Currently, the problem of determining the level of formation of competencies among specialists in any field is an urgent task in the preparation and competitive selection of specialists. In the Russian education system, the training of future teachers and advanced training, additional professional education of experienced teachers should go to a new level of development in connection with the implementation of competency-based educational programs. And in these conditions, it becomes necessary to search for new approaches to assessing professional and digital competencies in general education teachers.

Various models and algorithms for the formation of professional and digital competencies in general education teachers are studied. The approaches to the development of a cognitive model of competency formation are identified. A qualimetric approach to assessing digital competencies is revealed, as one of the most effective.

Descriptors of key competencies of the digital economy, digital competencies are developed. The criteria for assessing digital and professional competencies formed by general education teachers were identified, the main indicators for evaluating the results were determined. A mechanism and means for assessing the level of formation of digital competencies, a scale for translating assessments of the level of competencies into a verbal assessment system have been developed. Based on the main indicators for assessing results, competency matrices have been developed for all stages of competency formation. An appraisal fund has been developed, consisting of various competency-level appraisals that have both formative and appraisal functions.

This study allows us to develop a cognitive model of the formation of the digital competence of a teacher in the context of digitalization of general education. The results of the study can become the basis for the modernization of the system of training and retraining of teachers in the context of digitalization of general education.

Key words: teacher, competence, digitalization, digital competence, education.

Introduction. The current realities of the information society require the development of a competence-based approach to educational programs of various types, which leads to changes and transformations of the main components of the education system as a whole in Russia. The Russian education system is developing and modernizing its organizational, technological and qualimetric components. As a result of all this, the training of personnel is also changing. [1].

The global goals of digital economy development in Russia imply the emergence of new digital technologies, their implementation in all industries, and as a result there is a need for personnel with formed digital competences. In all spheres, including in the education system, those personnel who have formed key and digital competencies inherent in the digital economy become in demand. There are new requirements for the professional competencies of teachers, including digital ones. Digital competencies are becoming a significant, creative factor in the competitiveness of subjects of the educational system

At this stage of development of digitalization of general education emphasis is placed on formation of digital competences in schoolchildren, various championships of WorldSkills Russia Juniors on digital

competences are held, etc. The implementation of the competency-oriented basic educational program for the training of teachers for general education, the program of additional vocational education require the modernization of the main teaching and evaluation means, which are intended to serve simultaneously as a forming and evaluating factor. Formation and evaluation of digital competences and should go continuously at all stages of competency formation. There is a need to define approaches to the formation and evaluation of digital and professional competences of students - future, as well as experienced teachers.

Analysis of publications. Today, there are interesting approaches to the implementation of the competency model of basic educational programs. Various authors V. A. Bogoslovsky, E. V. Karavaev, E. N. Koftun and others consider the competency-based approach to the design of valuation tools [2]. In his writings, V. I. Baidenko identified the components of competencies of university graduates [3]. Adult education, including vocational training of pedagogical personnel, is devoted to the works of A.A. Verbitsky, Yu.N. Kulyutkina, A.K. Markova, G.R. Sukhobskoy, G.S. Vershlovsky and others. The theoretical foundations of teacher training are investigated by N.I. Mickiewicz, E.M. Nikitin, V.T. Onushkin and others.

In modern conditions of development of digitalization of General education, the main attention is paid to the formation of digital competencies in students, first of all, in teachers themselves as integral personality qualities [4]. The formation of digital competencies of teachers occurs in the process of implementing competence-oriented programs of additional professional education [5]. Increasing the responsibility of the teacher in developing the digital skills of the trainees can cause some problems, accompanied by certain risks, which are related to the mandatory need to develop their own digital competencies and personal needs [6]. A modern teacher must possess not only general user, but also general pedagogical, subject-pedagogical digital competencies. Thus, the teacher becomes a key figure in the formation of a new digital educational environment, including the network [7].

The competency-based format implies multidimensionality in the structure of the formed competencies. On this basis, a cognitive model of the formation of the digital competence of the teacher in the digitalization of general education is developed. Each teacher should have formed the key competencies of the digital economy: communication and cooperation; self-development; creative thinking; information and data management; critical thinking in a digital environment. Along with this, digital competencies of choice should also be formed, in accordance with the educational areas of professional activity of each teacher.

The results of the research. Based on the goals of the study, a mechanism and methods for assessing key and digital competencies of the digital economy were developed, the main indicators for assessing results, a rating scale and transfer from the level of competencies to verbal assessment were determined.

In this article, we present the application of the basic scheme of qualimetry in order to control the formation of digital competence.

In order to assess the initial level of digital competencies formation among teachers, a survey and testing of teachers of the Republic of Sakha (Yakutia) was conducted. The survey involved 220 school teachers from different regions of the Republic (17.3% of men and 82.7% of women, teaching experience of teachers: 9.5% - up to 3 years old, 41.8% - 4-16 years old, 25.7% - 17-30 years, 23% - over 30 years).

The main tool for determining the initial level of formation of the key and digital competencies of teachers was the developed questionnaire. Next, a contingent of experts was determined, who were to evaluate competencies. The study was carried out in two stages. At the first stage, experts were selected. For this, the qualimetric method of assessing the level of their digital competence was used.

In order to assess digital competencies, a qualimetric method was applied based on a general quality assessment algorithm [8]. Nowadays, qualimetry is the most important scientific and practical direction in pedagogy [9].

To use qualimetry as a means of assessment, it is necessary to decompose digital competence into components [10]:

Components of Digital Competency

Components of Digital Competency	
Key competencies	Digital competencies
-Communication and cooperation -Self-development -Creative thinking -Manage information -Critical thinking	-Internet of things; - Cybersecurity and data protection -Programming IT product creation -Lightweight design and 3D modeling -Development of computer games and multimedia applications -Mobile application development -Sensorics and components of robotics -System administration -Digital fashion designer -Digital marketing and media -Electronics and radio engineering

Each competency component was numerically evaluated as p_i , where lies on $[1, N]$. The final integrative value of digital competence P is calculated by the formula (1):

$$\sum_{i=1}^N k_i p_i, \tag{1}$$

k_1, k_2, \dots, k_N — weighting factors that bring the values of the components of competence to a single metric scale [8].

The reference indicator P_{max} - is the final level of digital competency and P_{min} - is the minimum level (threshold). Then the learning objective will be presented as:

$$P(p_1, p_2, \dots, p_N) \rightarrow \max, \tag{2}$$

$$P_{min} \leq P \leq P_{max}, \tag{3}$$

Competency descriptors may differ in the performance of components, therefore, to convert heterogeneous indicators to a single scale, you can use the normalizing transformation of the form.

$$d_i = \frac{p_i - p_{min}}{p_{max} - p_i} \tag{4}$$

At this stage, the initial assessment of digital competencies of teachers was carried out before professional development. This took into account the key and digital competencies, which are shown in the properties tree of digital competence components (figure 1).

The assessment of the works was carried out by an expert group - teachers and experts on these competences. A rating scale was used. The benchmark for each competence is an average value of 6.25%. As can be seen from figure 1, the highest value shows the percentage of the result (5.82%) of the competence "Communication and cooperation." This is due to the mandatory use of digital technologies by teachers in schools in Russia, as school document circulation has been digitized, and a system of digital school journals and diaries has been introduced. 4.82% of respondents have the skill "Self-development in conditions of uncertainty," teachers do not want to apply digital innovations, citing different reasons. 5.34% of respondents have creative thinking. The relatively low output on the competence of Information and Data Management (4.33%) is due to the weak digital infrastructure of the school. As a result of the survey, 5.63% of respondents have a high level of ability to evaluate information, its reliability, build logical conclusions on the basis of incoming information and data, including in various digital environments. (figure 1).

When evaluating digital competencies, it turned out that teachers have some idea of the methods for identifying and constructing information flow paths in an organization (Cybersecurity - 3.21%), about algorithms and algorithmic programming languages (Programming and creating IT products - 3.95%), they have only a general idea of the element base, components and principles of operation of typical electronic and digital devices and devices (Electronics and circuitry - 1.38%). The competencies "Internet of Things", "Industrial Design and 3D Modeling", "Development of Computer Games and Multimedia Applications", "Development of Mobile Applications", "Sensors and Robotics Components" are poorly developed and the values of the results correlate from 1.85-2.68 % Half of the teachers can understand the

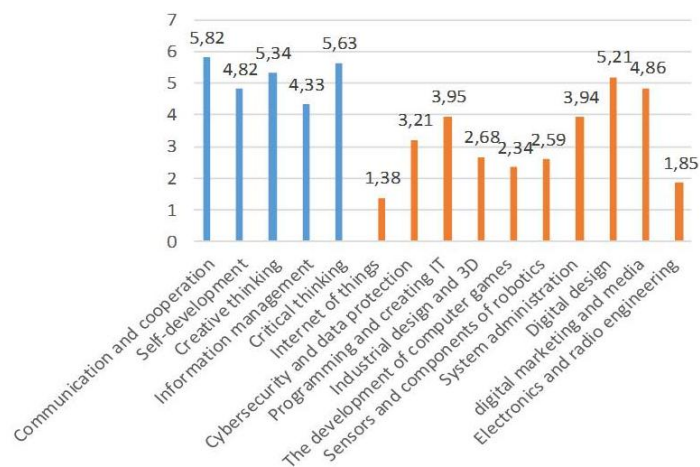


Figure 1 – Teacher Competency Survey Results

process of choosing the appropriate drivers for different types of hardware and are guided by the basic hardware functions (System Administration - 3.94%). In the competencies “Digital Design” and “Digital Marketing and Media”, high results (5.21% and 4.86%) indicate the use by respondents of basic graphic editors to create digital design and awareness of the main types of marketing communications, the development trend of commercial marketing.

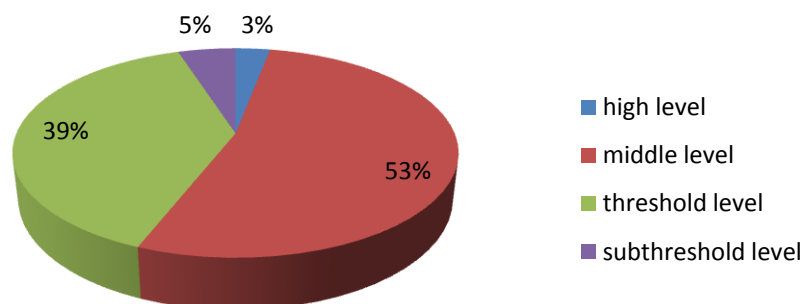


Figure 2 – Digital competency test results.

When evaluating digital competencies, a scale for evaluating competencies and translating the level of competencies to verbal counterparts was developed.

High level-85-100%; (excellent)

Middle level 70-85%; (good)

Threshold level-55-70%; (satisfactory)

Sub-threshold level is 40-55%. (unsatisfactorily)

Based on the research, we can conclude that 3% have a high level of digital competence, 53% have a middle level, 39% have a threshold level, and 5% have an sub- threshold level. This allowed us to make a plan for the development of DPO courses on the same competencies, course programs. All teachers should form a basic module: the key competencies of the digital economy, and as a variable part– digital competencies (figure 2). Based on this, we state that the qualimetric approach to the assessment of key and digital competencies is of great practical significance.

Conclusion. Digital education contributes to the transition to another level of development of the education system, which will become a necessary condition for the emergence of better and more effective approaches to the educational process (digital didactics) and methods of teaching and upbringing.

The studied and identified problems will allow us to determine the main directions and approaches to the development of the cognitive model of competence formation when applying qualimetric methods to the assessment of digital competencies. The results of the research can become the basis for modernizing

the system of training and retraining of teachers in the conditions of digitalization of General education, which will lead to an overall improvement in the quality of education in schools.

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ОҚЫТУШЫЛАРДЫҢ САНДЫҚ ҚҰЗІРЕТТІЛІГІН БАҒАЛАУДАҒЫ КВАЛИМЕТРИЯЛЫҚ ТӘСІЛ

Аннотация. Мақала жалпы білім беруді цифрландыру жағдайында сандық құзыреттілікті қалыптастыру және бағалау мәселелерін зерттеуге арналған.

Экономиканы цифрландыру білім беру жүйесін одан әрі дамыту факторына, тұлғаны жоғары технологиялық әлеуметтік сандық экожүйеге интеграциялайтын жаңа кәсіби функциялардың пайда болуының катализаторы болып саналады, сандық құзыреттілікті үздіксіз дамыту негізінде педагогтарда тиісті құзыреттілікті талап етеді. Педагог жаһандық сандық білім беру ортасында негізгі тұлға ретінде білім беру сапасын қамтамасыз ету үшін сандық технологияларды қарқынды және жүйелі түрде пайдалануы тиіс

Осыған байланысты педагог жоғары, неғұрлым озық деңгейде практикалық міндеттерді шешуге, онлайн-ақпаратты іздеу, табу және талдауға ғана емес, сандық экономиканың қажетті сандық және түйінді құзыреттіліктерін меңгеруі тиіс; виртуалды білім беру ортасын, оның ішінде желілік ортаны өздерінің құруы, алдағы уақытта білім алушылардың құзыреттілігін дамыту үшін халықаралық стандарттардың әртүрлі сандық құзыреттіліктерін меңгеруі тиіс; оқыту мен тәрбиелеу үдерісінде заманауи сандық технологиялар мен құралдарды пайдалану және т.б.

Қазіргі уақытта кез-келген салада маман құзыреттіліктерінің қалыптасу деңгейін анықтау мәселесі мамандарды дайындау және байқауда іріктеуде өзекті міндет болып саналады. Ресейдің білім беру жүйесінде болашақ педагогтарды даярлау және біліктілігін арттыру, тәжірибелі педагогтардың қосымша кәсіби білім беру құзыреттілін дамытатын білім беру бағдарламаларын іске асыруға байланысты дамудың жаңа сапалы деңгейіне көшуі тиіс. Бұл жағдайда жалпы білім беру педагогтарының кәсіби және сандық құзыреттілігін бағалаудың жаңа тәсілдерін іздеу қажет.

Құзырет дегеніміз – еңбек нарығы мен қоғамның тапсырысы әрі әлеуметтік-экономикалық саланың дамуына байланысты.

Бүгінде білім беруді цифрландыру жағдайында педагогтың кәсіби қызметін бағалаудың жаңа тетіктерін әзірлеу қажеттілігі туындайды.

Квалиметрия – педагогикалық зерттеудің негізгі бағыттарының бірі, оның негізгі мәні, өзіміздің жағдайда қарастырғанда, педагогикалық нәтижелерді бағалау болып саналады.

Жалпы білім беру педагогтарының кәсіби және сандық құзыреттілігін қалыптастырудың түрлі модельдері мен алгоритмдері зерттелді. Сандық және кәсіби құзыреттілікті бағалау критерийлері анықталды, нәтижелерді бағалаудың негізгі көрсеткіштері, құзыреттілік деңгейін бағалаудың вербалды жүйесіне ауыстыру шкаласы анықталды. Құзыреттілік қалыптастырудың когнитивті моделін әзірлеу тәсілдері, сандық құзыреттілікті бағалаудың тиімді тәсілдерінің бірі ретінде квалиметриялық тәсілдер анықталды.

Сандық экономиканың негізгі құзыреттілігінің дескрипторлары, сандық құзыреттер әзірленді. Жалпы білім беру педагогтарында қалыптасатын сандық және кәсіби құзыреттілікті бағалау критерийлері анықталды, нәтижелерді бағалаудың негізгі көрсеткіштері айқындалды. Цифрлық құзыреттіліктің қалыптасу деңгейін бағалаудың тетігі мен құралдары, құзыреттілік деңгейін бағалаудың вербалды жүйесіне ауыстыру шкаласы әзірленді. Нәтижелерді бағалаудың негізгі көрсеткіші жаңа сандық білім беру ортасын қалыптастыру, оның ішінде әртүрлі қолжетімді контентпен желілік, педагогтардың үнемі өзін-өзі дамытуға бағыттай отырып, когнитивті дағдыларды дамытуға ықпал етеді. Бұл зерттеу жалпы білім беруді цифрландыру жағдайында педагогтың сандық құзыреттілігін қалыптастырудың когнитивті моделін жасауға мүмкіндік береді.

Зерттеу нәтижелері жалпы білім беруді цифрландыру жағдайында педагогтарды даярлау және қайта даярлау жүйесін жаңғыртуға негіз бола алады.

Түйін сөздер: мұғалім, құзыреттілік, цифрландыру, сандық құзыреттілік, білім

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КВАЛИМЕТРИЧЕСКИЙ ПОДХОД К ОЦЕНКЕ ЦИФРОВЫХ КОМПЕТЕНЦИЙ УЧИТЕЛЕЙ

Аннотация. Статья посвящена исследованию проблем формирования и оценивания цифровых компетенций в условиях цифровизации общего образования.

Цифровизация экономики становится фактором дальнейшего развития системы образования, катализатором появления новых профессиональных функций, интегрирующие личность в высокотехнологичную социальную цифровую экосистему, требуют соответствующих компетенций у педагогов на основе непрерывного развития цифровой компетентности. Педагог становится ключевой фигурой в глобальной цифровой образовательной среде, интенсивно и системно должен использовать цифровые технологии для обеспечения качества образования.

В связи с этим педагог должен овладевать необходимыми цифровыми и ключевыми компетенциями цифровой экономики, позволяющими решать практические задачи на высоком, более продвинутом уровне, не просто искать, находить и анализировать онлайн-информацию; а самим создавать виртуальную образовательную среду, в том числе сетевую, овладевать различными цифровыми компетенциями международных стандартов, чтобы развивать компетенции продвинутых, шагающих во времени и впереди времени обучающихся; использовать суперсовременные цифровые технологии и средства в процессе обучения и воспитания и др.

В настоящее время проблема определения уровня сформированности компетенций у специалистов в любой сфере является актуальной задачей при подготовке и конкурсном отборе специалистов. В Российской системе образования подготовка будущих педагогов и повышение квалификации, дополнительное профессиональное образование опытных педагогов должна перейти на качественно новый виток развития в связи с реализацией компетентностных образовательных программ. И в этих условиях становится необходимым поиск новых подходов к оцениванию профессиональных и цифровых компетенций у педагогов общего образования.

Следует отметить, что компетенции – это заказ рынка труда, общества и они будут зависеть от развития социально-экономической сферы

Сегодня появляется необходимость в разработке новых механизмов оценивания профессиональной деятельности педагога в условиях цифровизации образования.

Квалиметрия является одним из основных направлений педагогического исследования, основная суть, которой заключается, в нашем случае, в оценке педагогических результатов.

Исследованы различные модели и алгоритмы формирования профессиональных и цифровых компетенций у педагогов общего образования. Были выявлены критерии оценивания цифровых и профессиональных компетенций, определены основные показатели оценки результатов, шкала перевода оценки уровня компетенций в вербальную систему оценивания. Определены подходы к разработке когнитивной модели формирования компетенций, квалиметрический подход к оцениванию цифровых компетенций как один из наиболее эффективных.

Разработаны дескрипторы ключевых компетенций цифровой экономики, цифровых компетенций. Были выявлены критерии оценивания цифровых и профессиональных компетенций, формируемых у педагогов общего образования, определены основные показатели оценки результатов. Разработаны механизм и средства оценивания уровня сформированности цифровых компетенций, шкала перевода оценки уровня компетенций в вербальную систему оценивания. На основе основных показателей оценки результатов разработаны матрицы компетенций для всех этапов формирования компетенций. Разработан фонд оценочных средств, состоящий из различных компетентностных, уровневых оценочных средств, имеющих и формирующие, и оценочные функции.

Формирование новой цифровой образовательной среды, в том числе сетевой, с разнообразным доступным контентом, способствует развитию когнитивных навыков, нацеливая педагогов на постоянное саморазвитие. Данное исследование позволяет разработать когнитивную модель формирования цифровой компетентности педагога в условиях цифровизации общего образования.

Результаты исследования могут стать основой для модернизации системы подготовки и переподготовки педагогов в условиях цифровизации общего образования

Ключевые слова: учитель, компетентность, цифровизация, цифровая компетенция, знания

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IMPACT OF THE DIGITALIZATION PROCESS ON PSYCHOLOGICAL CHARACTERISTICS OF PERSONALITY

Abstract. Over the past twenty years, a new stage and new conditions of development in humanity – digitalization emerged. Digitalization affects absolutely all spheres of life. The purpose of the study is to consider the impact of the digitalization process on psychological characteristics of personality.

Methods. The research uses methods of analysis and comparison. The study of personality cannot be placed within the framework of a single discipline. Personality is studied and considered not only by science but also has an important role in creativity and art. All sciences study personality, but each from its point of view, taking into account the allocation of specific aspects and features.

Results. The phenomenon of crossing the boundaries between the virtual world and reality is spreading more and more, people immerse themselves in the virtual world, experiencing difficulties in distinguishing illusions and reality. This has been reflected in the art for the past twenty years.

Digitalization induced the transformation of a human's personality as a participant and subject. The process of digitalization emerges new psychological properties and qualities of personality. People being able to obtain information as effectively as possible through digitalization started to save time and feel freer. However, we are facing more and more undesirable side effects of the emergence of digital technologies in our lives. This is the reason why an individual's psychological development in the conditions of digitalization is relevant not only now, but will remain in the coming decades. Conclusions. One of the key factors in the development of a full and harmonious personality is stress resistance. Because of the availability of information and the ease of obtaining it, the number of data increases and it becomes difficult for people to navigate in its large volume and content. A person gets information stress from an overabundance of information.

Key words: personality, psychology, sociology, philosophy, art, cultural studies, management, digitalization.

Introduction. Upbringing, education, work, and even leisure have long gone beyond the boundaries of social institutions such as family, school, and businesses. With digitalization, these processes have transformed, and the Internet is now taking place in parallel with real life. New forms of interaction between information subjects, such as webinars and multimedia, are used in training and work. The process of digitalization is already playing a significant role in human life, but every year this role will become even stronger. At the same time, the main issue is the question of changes in the human personality that occur in the process of digitalization and Informatization [1,2].

Analysis of publications. To fully understand the importance of what is happening to a human's personality, and each of us, in global digitalization, it is important to understand what a person is and what factors influence its formation and development. To do this, it is necessary to consider the study of personality comprehensively from various sciences. The study of personality cannot be placed within the framework of a single discipline. Personality is studied and considered not only by science but also plays

an important role in creativity and art. All Sciences study the individual, but each from its point of view, taking into account the allocation of specific aspects and features. The term "Personality" in the accepted sense means the human individual as a subject of relations, performing conscious activities, personality is the quality of an individual that is formed and manifested in society and activity.

In history, the personality is considered from the total ideas about the individual and social groups and their role in specific historical and social processes, events, facts, relative to time and space. Personality in history was studied by G. Hegel, K. Marx, G. V. Plekhanov, L. N. Tolstoy, and many others [3-6].

Culturology-studies the individual as the Creator and bearer of historical and social experience, the phenomenon of culture, the individual as the subject of the Creator of culture in specific cultural laws, norms and processes. E. V. Ilyenkov wrote that: "Culture is perfect. And the fact that a person becomes a person, scooping from the storehouse of the "ideal" - is the basis of all idealistic philosophical teachings" [7].

Personality and culture are inextricably linked; therefore, the process of digitalization and Informatization directly affects the culture through the individual and, conversely, through the culture of the individual. This has been reflected in the art for the past twenty years. The science of sociology studies the individual as a member of society, the subject of individual social institutions, groups, communities, social relations, and processes. In sociology, personality is studied within the framework of its role and status in the functioning and development of social associations, the personality as a significant subject that affects the mass behavior of people and the regularity of this behavior. Sociology based on the study of individual behavior determines the patterns of social actions and mass behavior of people, allows you to predict these phenomena. The most important aspect of the personality's study in sociology is the process of socialization of the individual. Personality is a product of social development, including the system of social communication and relationships.

Philosophy explores the human personality in terms of the meaning of life, being, goals of the individual, ideals, and ways to achieve them. Philosophy seeks to explore the individual and generalize all the accumulated theoretical and practical knowledge into a single theory, to create a holistic doctrine of the origin, existence, and development of the individual as a valuable self-sufficient unit, as well as the features of its interaction with society. Abushenko V. L. in his philosophical dictionary defines personality as: "Personality is a concept developed to reflect the social nature of a person, to consider him as a subject of socio-cultural life, to define him as a carrier of the individual principle, self-revealing in social relations, communication and subject activity" [8].

Psychology gives priority to the study of the inner world of a person, motives, abilities, character and temperament, interests and values, emotions and sensory characteristics. And this is not all that psychology pays attention to when studying personality. Z. Freud, K. Jung, K. Horney, and E. Fromm studied personality in psychology, and domestic psychologists B. G. Ananyev, D. B. Bogoyavlenskaya, B. F. Lomov, A. N. Luk, S. L. Rubinstein and others [9-17]. As seen from these definitions, studying the personality has always been relevant, remains relevant, but with increasing digitalization the study of the personality, the features of its changes and transformation will have even greater interest.

The results of the research. The process of digitalization has undeniable advantages: the most important of them is the convenience of obtaining information. Information is obtained in the fastest way, with less time and effort. Digital technologies allow you to increase the coverage of the number of participants in receiving information, provided that information is transmitted at a high speed, availability, and visibility in any sphere of life. Along with the advantages of digitalization, there are several significant disadvantages: transmitting and receiving information, training and controlling information has become difficult to manage. Not only has information become available, but transmitting it has become spontaneous and uncontrolled.

Digitalization induced the transformation of a human's personality as a participant and subject. The process of digitalization emerges new psychological properties and qualities of personality. People being able to obtain information as effectively as possible through digitalization started to save time and feel freer. However, we are facing more and more undesirable side effects of the emergence of digital technologies in our lives: addiction to gadgets, separation from reality and suppression of the emotional and sensory sphere of the individual. This is the reason why an individual's psychological development in the conditions of digitalization is relevant not only now, but will remain in the coming decades.

Determination of the personality in the conditions of digitalization. Let's try to analyze what is the personality of a modern person, what psychological features are subject to transformation in the growing process of digitalization. As mentioned above, personality is a quality of the individual, as a representative of the human race, which is formed and developed when the individual is the subject of relations and performs a conscious activity. One of the features of digitalization is the mediation of actions. It reduces the need for direct participation in the process of communication, and this is the most important condition for the formation of personality. After all, digitalization as a way of transmitting information affects not only the adult population but is also actively used as a form of education and upbringing of the younger generation, in kindergartens, schools and higher educational institutions. In this way, direct communication and participation in social interaction, so necessary for the development of personal qualities, are minimized.

President-Chairman of the Board of Sberbank, German Gref, spoke at a lecture in Kaliningrad about the prospects of the digital era: "Gradually, you, as a real person, will be less and less interested in the world, and the value of your digital avatar, on the contrary, will steadily increase, because it will say a lot about you. Everyone will be interested in your digital copy, which is stored on the cloud, and not you" [18].

Information technologies are increasingly playing the role of an intermediary between the individual and social institutions, the individual and the individual. In particular, the institutions themselves are making more and more demands on the person connected to the need to interact with them through their so-called digital counterpart. At one of the scientific discourses devoted to the development and education of a person in the "digital age", the Chairman of the regional branch of the Russian society "Knowledge" Vardan Baghdasaryan told his puzzlement about how the future human will look like: "... What type of person are we forming? Is this the image of a human consumer, which, unfortunately, is increasingly distributed and replicated in the world today? Or is it a different image of a man as a social, spiritual creature?" [19].

We should think about what type of personality is formed because of such indirect interaction? What are the basic values of the digitalized generation that are used to interacting with digital technologies and gadgets? A single process of training and education in our time began to exist in parallel, separate from each other. Education that based on digital technologies is gradually and increasingly deprived of the humanitarian basis of education that accompanies it. And without this humanitarian Foundation, technical knowledge cannot ensure the full development of the personality. Vice-rector of Saint Petersburg University, Sergey Goncharov, mentioned in his speech at the scientific discourse at Moscow state regional University: "... Without research and scientific understanding of modern humans, no technologies, especially in the era of the digital economy, cannot be harmonizing, harmonious and effective" [19].

Therefore, ignoring the psychological component of a person as a subject of the digitalization process can have an undesirable impact on the development of the next generation. [19]. Digitalization of education minimizes the possibility of developing the emotional and sensory sphere, it blunts the child's emotions, silences the feelings, which are the most important indicator of full-fledged personal development. Digitalization of education reduces the need for personal communication, and this, in turn, is a direct threat to the full-fledged harmonious development of the individual, both child and adult.

Among other aspects, let's return to culture and cultural studies to make a parallel in understanding the development of the individual from the culture's point of view. Digitalization leads to the loss of national identity, degradation of language, and disregard for moral and ethical principles, due to the permissiveness of behavior in the virtual space. The sense of national identity is fading. The phenomenon of crossing the borders between the virtual world and reality is spreading more and more, people immersing themselves in the virtual world, experiencing difficulties in distinguishing illusions and reality.

One of the key factors in the development of a full and harmonious personality is stress resistance. Because of the availability of information and the ease of obtaining it, the number of data increases and it becomes difficult for people to navigate in its large volume and content. A person gets information stress from an overabundance of information.

Conclusion. From all the above, we will briefly summarize and make conclusions about the psychological characteristics of a personality in the conditions of digitalization. Over the past twenty

years, emerged a new stage and new conditions of development in humanity-digitalization. Digitalization affects absolutely all spheres of human life but with the fast pace of development of digitalization, the personal characteristics of human changes, which make up the interest of the study.

Digitalization has undeniable advantages: ease of obtaining information, increased coverage of the number of participants, simplicity of control, accessibility, ease of use. Along with the advantages, there are also significant disadvantages.

In the process of digitalization, occurs the transformation of a human's personality, as a participant and subject of life activity. The process of digitalization emerges new psychological properties and qualities of personality. On one hand, people being able to obtain information as effectively as possible through digitalization started to save time and feel freer. But on the other hand, we are increasingly faced with undesirable, so-called side effects of the emergence of digital technologies in our lives.

Personality is a quality of the individual as a representative of the human race, which is formed and developed when the individual is the subject of relations and performs the conscious activity. One of the features of digitalization is the mediation of actions; it reduces the need for direct participation in the process of personal communication, though, this is the most important condition for the formation of personality. Digitalization, as a way of transmitting information, affects not only the adult population but is also actively used as a form of education and upbringing of the younger generation, in kindergartens, schools and higher educational institutions. Thus, direct communication and participation in social interaction, that is necessary for the development of personal qualities minimizes.

As a result, it should be noted that in the increasing process of digitalization the study of personality's transformation remains relevant and has very great prospects for study, to be exact, in the conditions of digitalization further research should be directed to the stages, environment, components of personal development in pedagogy, psychology, and art.

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ТҰЛҒАНЫҢ ПСИХОЛОГИЯЛЫҚ ЕРЕКШЕЛІКТЕРІНЕ ЦИФРЛАНДЫРУ ҮДЕРІСІНІҢ ӘСЕРІ

Аннотация. Соңғы жиырма жылда адамзат дамуының жаңа кезеңі мен шарты – цифрландыру пайда болды. Цифрландыру өмірдің барлық салаларына әсер етеді, сондықтан бұл тақырыптың өзектілігі де жоғары.

Зерттеудің мақсаты – цифрландыру үдерісінің тұлғаның психологиялық ерекшеліктеріне әсерін қарастыру.

Әдістері. Зерттеу барысында жеке тұлғаны түрлі ғылымдар тұрғысынан жан-жақты қарастыру қажеттілігі алға шыққандықтан, талдау, салыстыру әдістері қолданылды. Жеке тұлғаны зерттеу бір пәннің шеңберіне сыймайды. Тұлғаны тек ғылымның зерттеп, қарастыруымен қатар, ол шығармашылық пен өнерде де үлкен орын алады. Көптеген ғылым түрлері тұлға болмысын қарастырғанда әрқайсысы өзіндік аспектілері мен ерекшеліктеріне сәйкес зерттейді.

Нәтижелер. Виртуалды әлем мен шындық арасындағы шекараны ажырату құбылысы уақыт өткен сайын кеңейіп, адамдар виртуалды әлемге еніп, иллюзия мен шындықты ажыратуда қиындықтарға кездесуде. Бұл соңғы жиырма жыл ішінде өнерде көрініс тапты.

Цифрландыру процесінде адам тұлғасы қатысушы және өмір субъектісі ретінде өзгереді. Цифрландыру процесінде пайда болатын жаңа психологиялық және жеке қасиеттер пайда болады. Бір жағынан, адам цифрландырудың арқасында ақпаратты мүмкіндігінше тиімді ала отырып, өзін еркін сезініп, уақыт ресурсын үнемдей бастады. Бірақ екінші жағынан, өмірімізге цифрлық технологиялардың келесідей жанама жағымсыз әсері де ықпал етеді: гаджетке тәуелділік, шындықтан алшақтату және жеке тұлғаның эмоционалды-сезімдік

аясын басу. Сондықтан алдағы онжылдықтарда да цифрландыру контексіндегі тұлғаның психологиялық даму мәселесінің өзектілігі арта береді.

Тұлға – жеке тұлға қатынастардың субъектісі ретінде саналы іс-әрекетті жүзеге асырғанда қалыптасатын және дамитын адамзат ұрпағының өкілі ретіндегі жеке қасиеті. Цифрландырудың бір ерекшелігі – делдалдық әрекет. Жеке қарым-қатынас үдерісіне тікелей қатысу қажеттілігі азаяды және бұл – жеке тұлғаны қалыптастырудың маңызды шарты саналады.

Цифрландыру ақпарат беру тәсілі ретінде тек ересектерге ғана әсер етпейді, сонымен қатар жас ұрпаққа балабақша, мектеп және университеттерде білім беру нысаны ретінде белсенді қолданылады. Осылайша, жеке тұлғалық қасиеттерді дамыту үшін қажетті тікелей қарым-қатынас пен әлеуметтік өзара қарым-қатынасқа қатысу жағдайы азайтылады.

Қорытындылар. Толыққанды және үйлесімді жеке тұлға дамуындағы маңызды факторлардың бірі – күйзеліске қарсы тұра білу қасиеті. Ақпарат алудың қарапайымдылығына байланысты ақпарат мөлшері мен мазмұны ұлғая түскендіктен, оған қолжеткізу де қиынға соғады. Адам ақпарат көп болғандықтан, күйзеліске ұшырайды. Цифрландырудың келесідей артықшылықтары бар: ақпарат алудың қолайлылығы; ақпарат, қатысушылар санының көбеюі, бақылаудың қарапайымдылығы, қолжетімділік, пайдалану жеңілдігі. Артықшылығымен қатар, кемшіліктері де кездеседі.

Цифрландыру процесінде адамның тұлғасы қатысушы және өмір субъектісі ретінде өзгереді. Цифрландыру процесінде жаңа психологиялық және жеке қасиеттер пайда болады. Цифрландырудың арқасында ақпаратты тиімді алуға мүмкіндігі бар адам өзін еркін сезініп, уақыт ресурсын үнемдей бастады. Сонымен қатар, өмірімізде цифрлық технологиялардың пайда болуының жағымсыз жақтарын да жиі кездестіреміз.

Түйін сөздер: тұлға, психология, әлеуметтану, философия, өнер, мәдениеттану, менеджмент, цифрландыру.

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ВЛИЯНИЕ ПРОЦЕССА ЦИФРОВИЗАЦИИ НА ПСИХОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ЛИЧНОСТИ

Аннотация. На протяжении последних двадцати лет в развитии человечества появился новый виток и новые условия развития – цифровизация. Цифровизация затрагивает и влияет абсолютно на все сферы жизнедеятельности, поэтому актуальность данной темы невозможно преувеличить.

Цель исследования – рассмотреть влияние процесса цифровизации на психологические особенности личности.

Методы. В исследовании применены методы анализа, сравнения, когда необходимо рассмотреть изучение личности всесторонне, с точки зрения различных наук. Исследование личности невозможно уложить в рамки одной дисциплины. Личность изучается и рассматривается не только наукой, но и большую роль занимает в творчестве и искусстве. Все науки изучают личность, но каждая со своей точки зрения с учетом выделения специфических аспектов и особенностей.

Результаты. Все больше распространяется феномен стирания границ между виртуальным миром и реальностью, люди погружаются в виртуальный мир, испытывают трудности разграничения иллюзий и действительности. Это находит отображение и в искусстве на протяжении последних двадцати лет.

С процессом цифровизации происходит трансформация личности человека как участника и субъекта жизнедеятельности. Появляются новые психологические свойства и качества личности, порождаемые процессом цифровизации. С одной стороны, человек стал чувствовать себя свободнее и экономить временные ресурсы, имея возможность максимально эффективного получения информации благодаря цифровизации. Но с другой стороны, мы все чаще сталкиваемся и с нежелательными, так называемыми, побочными эффектами появления в нашей жизни цифровых технологий: зависимость от гаджетов, отрыв от реальности и подавление эмоционально-чувственной сферы личности. Именно по этой причине вопрос

психологического развития личности в условиях цифровизации не только сейчас является актуальным, но и останется актуальным еще в ближайшие десятилетия.

Личность – это качество индивида как представителя человеческого рода, которое формируется и развивается тогда, когда индивид является субъектом отношений и осуществляет сознательную деятельность. Одной из особенностей цифровизации является опосредованность действий. Снижается необходимость непосредственного участия в процессе личностного общения, а ведь это важнейшее условие для формирования личности. Цифровизация как способ передачи информации, затрагивает не только взрослые слои населения, но и активно применяется как форма обучения и воспитания подрастающего поколения, в детских садах, школах и высших учебных заведениях. Таким образом, сводится к минимуму непосредственное общение и участие в социальном взаимодействии, так необходимое для развития личностных качеств.

Выводы. Одним из ключевых факторов в развитии полноценной и гармоничной личности является такое качество, как стрессоустойчивость. В связи с доступностью информации и легкостью ее получения объемы информации нарастают, и людям становится трудно ориентироваться в большом ее объеме и содержании. Человек получает информационный стресс от переизбытка информации.

Цифровизация имеет неоспоримые преимущества: удобство получения информации; информация, увеличение охват количества участников, простота контроля, доступность, легкость в использовании. Наряду с преимуществами есть и существенные недостатки.

С процессом цифровизации происходит трансформация личности человека как участника и субъекта жизнедеятельности. Появляются новые психологические свойства и качества личности, порождаемые процессом цифровизации. Человек стал чувствовать себя свободнее и экономить временные ресурсы, имея возможность максимально эффективного получения информации благодаря цифровизации. При этом мы все чаще сталкиваемся и с нежелательными, так называемыми побочными эффектами появления в нашей жизни цифровых технологий.

Личность – это качество индивида как представителя человеческого рода, которое формируется и развивается тогда, когда индивид является субъектом отношений и осуществляет сознательную деятельность. Одним из особенностей цифровизации является опосредованность действий. Снижается необходимость непосредственного участия в процессе личностного общения, а ведь это важнейшее условие для формирования личности.

Ключевые слова: личность, психология, социология, философия, искусство, культурология, управление, цифровизация.

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FEATURES OF ECONOMIC DEVELOPMENT AND MONETARY POLICY OF SINGAPORE

Abstract. The relevance of the topic of this study is due to the fact that the balance of payments is a reflection of the economic condition of the country, as well as a document that covers the entire range of operations of the country in the foreign economic sphere.

Based on the analysis of modern publications, it is determined that the phenomenon of Singapore causes wide scientific and practical interest of both scientists and practitioners.

In the article, the authors identified a number of factors that have the most significant impact on the country's monetary policy.

The stages of development of the monetary policy of Singapore are systematized.

The authors conducted a study of the dynamics of foreign trade in Singapore, analyzed the composition and structure of imported and exported goods. Based on the analysis of the structure of the balance of payments of Singapore, an assessment is given of the volumes of capital inflows and outflows.

According to the results of this study, the authors noted obstacles to the economic growth of Singapore, including a high dependence on exports; reduction in the working-age population; digitalization in the financial sector.

In order to avoid the negative consequences, the growth factors of the main sectors of the Singapore economy were determined.

The above factors make it possible to compensate for the negative aspects of this economic model, increase the competitiveness of goods and services and lead to the sustainable development of the main sectors of the Singapore economy for the long term.

Key words: balance of payments, Singapore, foreign trade, monetary policy.

Introduction. The economy of Singapore is a developed market system focused on the export of goods in many areas: pharmaceuticals, financial services, electronics, etc. Transnational corporations play a large role in the economic and economic activities of the country. The development of foreign economic activity, the openness of the economy of this country and the low level of corruption in government, low inflation, and GDP is one of the highest other factors in the world.

Singapore has a number of undoubted competitive advantages in the economy, namely: a stable national currency, economic freedom and a favorable investment climate and a high level of education and discipline of the population.

It should also be noted the weaknesses of the Singapore economy due to the high share of food and energy imports, fresh water imports from neighboring countries, as well as the need for specialists in high-tech fields.

One of the main articles of the economy is foreign trade, which covers most of the country's expenses. A high share of imports covers Singapore's needs arising from the country's lack of natural resources. Stable growth rates of the country are supported by the growing foreign exchange mass due to foreign economic activity.

Singapore's main foreign trade partners are listed in table 1.

Table 1 – The main partners of Singapore in foreign trade operations

Importing / Exporting Countries	Export share, %	Import share, %
China	13,7	1,2
Hong Kong	11,5	–
Malaysia	10,8	11,2
Indonesia	8,2	4,8
USA	6,9	11,2
Japan	4,4	6,3
South Korea	–	6,1

Compiled by the authors based on: https://www.yestravel.ru/world/economy/exports_partners/

A study of Singapore's monetary policy made it possible to identify several important stages of its development (table 2).

Table 2 – Stages of Singapore's Monetary Policy Development

Period	Stage characteristics	Note
1967 – 1980	Management of the whole complex of objects of the monetary policy of the country	Exchange rate, interest rates, volume of loans, etc.
1965 – 1998	Maintaining monetization of the economy at the level of 60–95% and saturation of loans (20–65%)	
1981 – 2012	The conditions of high openness of the country's economy and the development of the currency and money markets, the change of the administrative model of regulation to the market model	A policy focused on managing the exchange rate, which is the main regulator of inflation. In the process of adjusting monetary policy, MAS changed the administrative regulatory model to a market model

We note that another specific feature of Singapore's monetary policy, despite the high share of foreign capital, is the stability of the monetary base (less than 20% of GDP). As the main mechanism for achieving this benchmark, MAS (the Central Bank and Singapore's main state financial regulator) defines exchange rate management.

For Singapore's Monetary Authority, it's important to be a developer of the world's first unified QR code for making payments.

Analysis of publications. Of course, the phenomenon of Singapore arouses the scientific and practical interest of modern scientists and practitioners. A lot of work is devoted to the study of Singapore's foreign trade, the structure of its balance of payments, etc. [3-12].

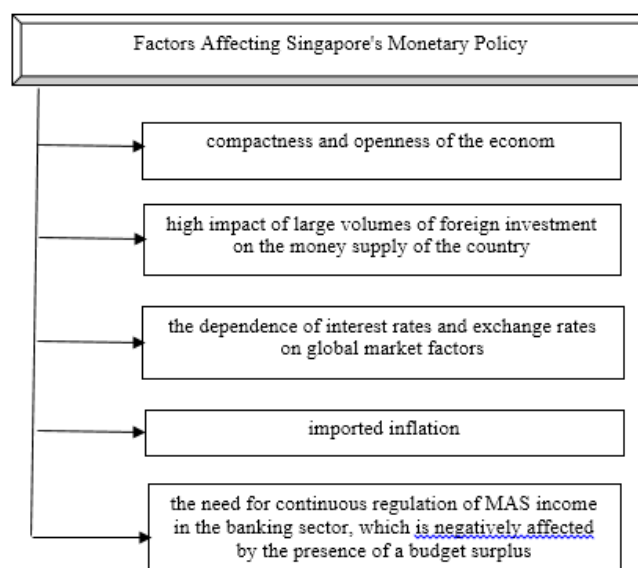


Figure 1 – Key Factors Affecting Singapore's Monetary Policy

Based on the analysis of the literature, the main factors that most actively influence the monetary policy of Singapore are identified (figure 1).

The results of the research. An analysis of the data of the World Trade Organization in recent years shows that for 2019 Singapore rose to 13th place in the list of countries in terms of export volume, and to 16th place in terms of import share. A study of the dynamics of foreign trade of Singapore is presented in table 3.

Table 3 – Dynamics of Singapore's foreign trade 2012–2019 (million dollars)

	2012	2015	2016	2017	2018	2019	Growth temp, %
Turnover	628953	747417	974396,3	984883,6	980153,2	982701,9	56
Export	335615	391118	514741,2	510329,4	513391,0	518992,7	55
Import	293388	356299	459655,1	474554,2	466762,2	463779,1	58
Balance	42227	34819	55086,1	35775,2	46628,8	55143,6	31

Compiled by the authors based on: <https://ru.tradingeconomics.com/singapore/indicators>

It is clear that Singapore’s vast air and sea links facilitate interregional and intraregional trade. She is a vital necessity for this country. The main share of imports of this Asian country falls on raw materials, fuel and food. Trade with the outside world allows you to sell more than 50% of the national economy.

Consider Singapore's export volumes in the diagrams (figure 2) and imports (figure 3):



Figure 2 – Singapore's share of world exports. Compiled by the authors based on: https://ru.theglobaleconomy.com/Singapore/share_world_exports

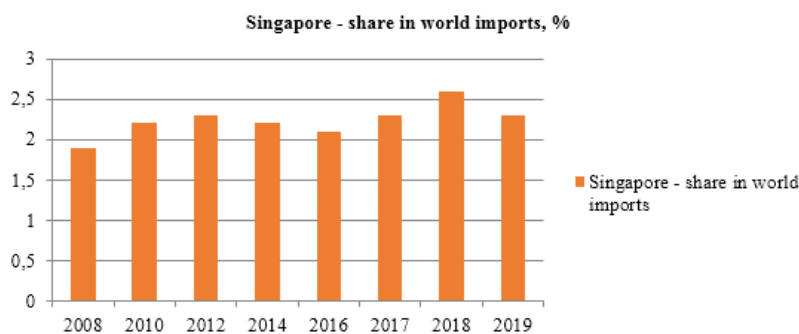


Figure 3 – Singapore's share of world imports

Compiled by the authors based on: ru.theglobaleconomy.com/Singapore/share_world_imports

By absolute values and dynamics, you can see approximately equal indicators of export and import. The trade balance has a stable positive balance, although the volume of exports is slightly higher than the volume of imports (figure 4).

A significant share of the country's exports is occupied by high-tech products, automobiles, and other industrial equipment. Import of fuel and raw materials is at a high level. The adjustment of the volume of foreign trade is not affected by its structure of exports and imports.

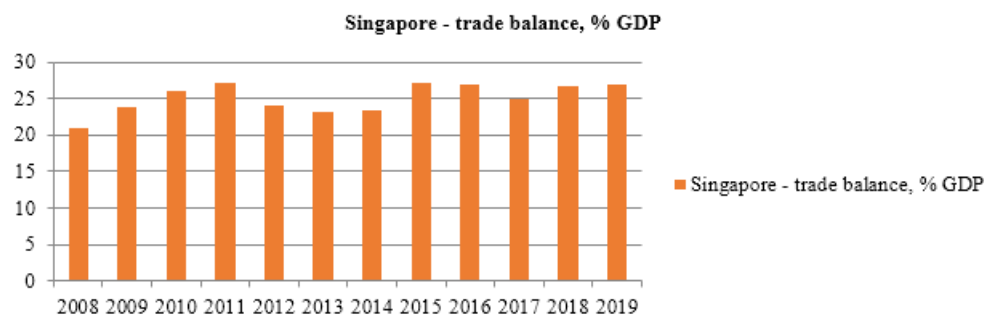


Figure 4 – Singapore trade balance. Compiled by the authors based on:
https://ru.theglobaleconomy.com/Singapore/Trade_balance/

In recent years, Singapore has specialized in exporting goods such as transportation equipment, manufactured goods, and automobiles. Textiles, clothing, yarn, chemicals, fuels and food are imported to a lesser extent. Of the most imported goods, it is possible to single out automobiles and industrial goods, and agricultural raw materials are classified as less imported goods.

Let us analyze the structure of the balance of payments of Singapore in table 4 to analyze the inflow and outflow of capital.

Table 4 – Singapore Balance of Payments for 2019 (Singapore Million)

Balance of payments items	Values
1. Current account	64 279,9
a) Balance of goods	76 127,1
Export	544 587,5
Import	468 460,4
b) Balance of services	484,5
Export	148 805,6
Import	148 321,1
c) Balance of primary income	-3 919,6
Receipts	86 885,0
Payments	90 804,6
d) The balance of secondary income	-8 412,1
Public administration	-333,1
Other sectors	-8 079,0
2. Finance and capital account	-35 586,3
Financial account	-35 586,3
a) Direct investment	41 952,7
Assets	-28 842,8
Liabilities	70 795,5
b) Portfolio investments	-61 447,1
Assets	-64 023,8
Liabilities	2 576,7
c) Financial derivatives	-19 960,9
Assets	-39 476,2
Liabilities	19 515,3
d) Other investments	3 869,0
Assets	-14 130,4
Liabilities	17 999,4
3. Net omissions and errors	3 912,3
TOTAL BALANCE (1 + 2 + 3)	32 605,9
4. Official reserves	-32 605,9
a) SDR	91,8
b) Position in the IMF	-35,1
c) Foreign exchange	-32 662,6

Compiled by the authors based on: <https://www.singstat.gov.sg/>

The current account is mostly positive due to the positive balance of goods and services, the balances of primary and secondary income are negative. The financial account is negative because the balance of portfolio investments and financial derivatives is negative. Their assets are in the red. Balances of direct and other investments are positive. The overall balance is also positive. This is proved by the fact that capital inflows are greater than outflows. The balance of payments of Singapore has a constant surplus, including trade in goods, services and capital flows.

Thus, openness in foreign economic policy leads to a constant influx of investments in Singapore, both direct and portfolio. The country makes very rational use of foreign capital, directing it to the development of electronics and the processing industry, and recently these funds have also been sent to the medical industry.

International labor migration plays an important role for Singapore's economic development. The vast majority of the country's population are immigrants. The country has a low birth rate and high mortality rate and an increasing average age of the population, which is why Singapore intends to develop immigration in order to increase the population. International labor migration can alleviate professional imbalances and labor shortages in the country's domestic markets.

The presence of free economic and offshore zones indicates the openness of the Singapore economy. Singapore is one of the few countries that is making progress in developing foreign economic policy. Thanks to free economic zones, industry is developing rapidly, which favorably affects the general economic condition of the country.

Conclusion Summing up, we consider it necessary to note the possible obstacles to Singapore's economic growth. Such as:

- high dependence on exports, which makes the country vulnerable while slowing down the global economy;

- decrease in the number of working-age population. Today, for every person over the age of 65, there are 5.2 people of working age. According to forecasts, by 2030 this figure will drop to 2 people.

Digitalization in the financial sector. Assessing the prospects, it is important to understand that Singapore needs to introduce modern technology in all the main sectors of its economy so as not to lose its recognized world leadership in many sectors.

Thus, the main growth factors for the main sectors of Singapore's economy, which allow avoiding negative consequences, are:

- developed logistics network and good geographical location allowed Singapore to become one of the leading centers for trading in oil, steel, grain, coal and sugar;

- the growth in Singapore of the volume of business services to provide legal, financial, managerial and other assistance (about 16% of GDP);

- investment in human capital (the development of immigration in order to increase the population).

The above factors make it possible to compensate for the negative aspects of this economic model, increase the competitiveness of goods and services and lead to the sustainable development of the main sectors of the Singapore economy for the long term.

International labor migration can alleviate professional imbalances and labor shortages in the country's domestic markets. The presence of free economic and offshore zones indicates the openness of the Singapore economy. Singapore is one of the few countries that is making progress in developing foreign economic policy. Thanks to free economic zones, industry is developing rapidly, which favorably affects the general economic condition of the country.

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СИНГАПУРДЫҢ ЭКОНОМИКАЛЫҚ ДАМУЫ МЕН АҚША-НЕСИЕ САЯСАТЫНЫҢ ЕРЕКШЕЛІКТЕРІ

Аннотация. Елдің сыртқы экономикалық қызметінің жағдайы туралы ақпарат болжам, статистика және елдегі экономикалық жағдайды талдаумен айналысатын экономистер мен мамандар үшін өте маңызды.

Төлем балансы – елдің экономикалық жағдайының көрінісі, сонымен қатар елдің сыртқы экономикалық саладағы барлық операцияларын қамтитын құжат болғандықтан, зерттеудің өзектілігі де осы тұста айқындала түседі. Төлем балансының теңгерімсіздігі жағдайында елдің халықаралық ақша-қаржы жүйесіне белсенді қатысуы қиын. Қазіргі уақытта Сингапур – әлемдегі қарқынды дамып келе жатқан астаналардың бірі. Заманауи басылымдарды талдау негізінде Сингапур феномені ғалымдардың да, тәжірибешілдердің де қызығушылығын тудыратыны анықталды.

Мақаланың мақсаты – төлем балансының құрылымын, оған әсер ететін экономикалық факторларды зерттеу, сонымен қатар оны Сингапур елінде реттеудің негізгі әдістерін бағалау.

Мақалада авторлар елдің ақша-несие саясатына едәуір ықпал ететін бірқатар факторларды анықтады. Мысалы, экономиканың ықшамдылығы мен ашықтығы, шетелдік инвестиция көлемінің елдің ақша массасына әсерінің жоғарылығы, пайыздық мөлшерлеме мен валюта бағамының әлемдік нарық факторларына тәуелділігі, инфляцияның импортталған сипаты және теріс әсер ететін банк секторындағы MAS кіріс көлемі үнемі реттеу қажеттілігі, бюджет профицитінің әсерін алға тартуға болады.

Авторлар Сингапурдың ақша-несие саясатының даму кезеңдерін жүйелеп, ерекшелігін шетелдік капиталдың қатысуы негізінде ақша базасының тұрақтылығын анықтады.

Авторлар Сингапурдағы сыртқы сауда динамикасын зерттеді, импортталатын және экспортталатын тауарлар құрамы мен құрылымын талдады. Сауда балансы пайдасының тұрақтылығы анықталды, дегенмен экспорт көлемі импорт көлемінен біраз асып түседі, экспорт пен импорттың құрылымы елдің сыртқы саудасына әсер етпейді.

Сингапурдың төлем балансының құрылымын талдау негізінде капитал ағынының көлемі бағаланады. Зерттеу жұмыстары көрсеткендей, ағымдағы шот тауар мен қызметтердің оң сальдосына байланысты – оң, бастапқы және қайталама кіріс сальдосы – теріс. Қаржы шоты – теріс, өйткені портфельдік инвестициялар мен туынды қаржы құралдарының сальдосы – теріс. Тікелей және басқа инвестициялардың сальдосы – оң. Жалпы тепе-теңдікте – оң. Капитал кірісі қайтымына қарағанда көбірек екендігі дәлелденді. Сингапурдың төлем балансы тауар, қызмет және капитал ағынымен қоса алғанда сальдосы тұрақты болып келеді.

Зерттеу нәтижелері бойынша авторлар Сингапурдың экономикалық тұрғыда дамуына кедергілерді – экспортқа ірі тәуелділіктерді келесідей атап өтті; еңбекке қабілетті жастағы халықтың азаюы; қаржы секторындағы цифрландыру. Халықаралық еңбек көші-қон жағдайы кәсіби теңгерімсіздік пен елдің ішкі нарығындағы жұмыс күшінің жетіспеушілігін азайта алады.

Теріс салдардың алдын алу үшін Сингапур экономикасының негізгі секторының мынадай өсу факторлары анықталды: дамыған логистикалық желі және жағрапиялық орналасуы Сингапурға мұнай, болат, астық, көмір және қант саудасының жетекші орталықтарының бірі болуға мүмкіндік берді; Сингапурде заң, қаржылық, басқарушылық және басқа көмек көрсету бойынша іскерлік қызметтердің өсуі (ІЖӨ-нің 16%); адам капиталын инвестициялау.

Жоғарыда аталған факторлар экономикалық модельдің жағымсыз жақтарын өтеуге, тауарлар мен қызметтердің бәсекеге қабілеттілігін арттыруға және ұзақмерзімді перспектива бойынша Сингапур экономикасының негізгі секторларының тұрақты дамуына жол ашады. Сингапур – сыртқы экономикалық саясатты дамытуда санаулы елдердің бірі. Еркін экономикалық аймақтар қарқынды индустриялық дамуға септігін тигізеді әрі елдің жалпы экономикалық жағдайына оң ықпал етеді.

Түйін сөздер: төлем балансы, Сингапур, сыртқы сауда, ақша-несие саясаты

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ОСОБЕННОСТИ ЭКОНОМИЧЕСКОГО РАЗВИТИЯ И ДЕНЕЖНО–КРЕДИТНОЙ ПОЛИТИКИ СИНГАПУРА

Аннотация. Информация о состоянии внешнеэкономической деятельности страны имеет очень большое значение для экономистов и специалистов, занимающихся прогнозом, статистикой и анализом экономического положения в стране. Актуальность темы данного исследования обусловлена тем, что платежный баланс является отражением экономического состояния страны, а также документом, который охватывает весь комплекс операций страны во внешнеэкономической сфере. В условиях несбалансированности платежного баланса страна не может актив-но участвовать в международной валютно-финансовой системе. В современной реальности Сингапур – одна из самых динамично развивающихся столиц мира. На основе анализа современных публикаций определено, что феномен Сингапура вызывает широкий научный и практический интерес как ученых, так и специалистов-практиков.

Цель данной статьи состоит в изучении структуры платежного баланса, экономических факторов, влияющих на платежный баланс, а также в оценке основных методов его регулирования в стране Сингапур.

В статье авторами выявлен ряд факторов, оказывающих наиболее существенное влияние на денежно-кредитную политику страны. Это компактность и открытость экономики, высокое влияние больших объемов иностранных инвестиций на денежную массу страны, зависимость размеров процентных ставок и курса валюты от факторов глобального рынка, импортируемый характер инфляции и необходимость в постоянном регулировании MAS объемов доходов в банковской сфере, на которые оказывает негативное влияние наличие профицита бюджета. Авторами систематизированы этапы развития денежно-кредитной политики Сингапура, выявлена ее специфическая особенность – стабильность денежной базы при высоком уровне присутствия иностранного капитала. Проведено исследование динамики внешней торговли Сингапура, проанализированы состав и структура импортируемых и экспортируемых товаров. Выявлено, что торговый баланс имеет стабильное положительное сальдо, хотя объем экспорта в малой степени превышает объем импорта; структура экспорта и импорта не влияет на объемы внешней торговли страны.

На основе анализа структуры платежного баланса Сингапура дана оценка объемов притока и оттока капитала. В ходе исследования установлено, что счет текущих операций положительен в большей части за счет положительного баланса товаров и услуг, балансы первичных и вторичных доходов отрицательны. Финансовый счет имеет отрицательное значение, потому что баланс портфельных инвестиций и финансовых деривативов отрицательный. Балансы прямых и прочих инвестиций положительны. Общий баланс также положительен. Доказано, что приток капитала больше, чем отток. Платежный баланс Сингапура имеет постоянное положительное сальдо, в том числе по торговле товарами, услугами и движению капитала.

По результатам данного исследования авторами отмечены препятствия для экономического роста Сингапура, в числе которых высокая зависимость от экспорта; уменьшение числа населения в трудоспособном возрасте; цифровизация в финансовом секторе. Международная трудовая миграция позволяет смягчить профессиональный дисбаланс и недостаток рабочей силы на внутренних рынках страны.

Для ухода от негативных последствий определены факторы роста основных секторов экономики Сингапура: развитая логистическая сеть и удачное географическое расположение позволили Сингапуру стать одним из ведущих центров торговли нефти, стали, зерновыми, угля и сахара; рост в Сингапуре объема бизнес-услуг по предоставлению помощи юридической, финансовой, управленческой и др. (около 16 % ВВП); инвестирование в человеческий капитал.

Вышеназванные факторы позволяют скомпенсировать отрицательные стороны данной экономической модели, повысить конкурентоспособность товаров и услуг и привести к устойчивому развитию основных отраслей экономики Сингапура на долгую перспективу. Сингапур – одна из немногих стран, которая добивается успехов в развитии внешнеэкономической политики. Наличие свободных экономических зон обеспечивает быстрые темпы развития промышленности, что благоприятно повлияет на общеэкономическое состояние страны.

Ключевые слова: платежный баланс, Сингапур, внешнеторговые операции, кредитно-денежная политика.

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ON IMPORT SUBSTITUTION OF THE MEAT INDUSTRY FOR PROVIDING FUNCTIONS OF SOCIAL PROTECTION OF POPULATION: FEATURES AND ANALYSIS

Abstract. The idea of import substitution, as well as its attendant problems and challenges, arise permanently and becomes relevant for national economies within the framework of national security concepts and socio-economic development strategies of different countries. Russia is no exception and ensuring social protection of the population is paramount for the sustainability of the interaction of social institutions and ensuring food and economic security in general at the regional and country levels. The meat and meat products market, being the largest segment of the domestic food market, has a significant impact on the country's food supply. The presented study describes the features of domestic meat industry development in implementation of import substitution programs. Solving the problems of import substitution is not an instant procedure[3]. This is a set of long-term measures, in the implementation of which state bodies at all levels, business itself, and local governments should take part. The purpose of the work is to show the problems that the industry is facing at the present stage, the directions of their solutions and the tasks of the state in this mechanism.

The current state of the industry, the volume of its financial support have been analyzed in the study. The state support of import substitution in the industry and its results are examined in detail. Based on data on the current state, the main problems of the development of the industry have been identified, the dynamics of import substitution in it has been shown, there have been formulated recommendations for the effective development of the industry in the long term.

Key words: competitiveness, sanctions, meat production, innovation, import substitution strategy, development, government regulation, social protection of the population.

Introduction. The foreign economic policy of Russia over the past five years has been largely determined by the policy of sanctions by Western countries and the introduction of retaliatory measures, which besides everything have a protectionist nature. At the same time, the course towards import substitution was taken several years earlier and was declared by the state as an instrument for reviving the domestic economy. However, as practice has shown, there is no reason to talk about a fundamental reversal to protectionism. To a large extent, this is due to increased state support for manufacturers and exporters, as well as the active use of foreign technologies, components and raw materials. Participation in the global economy in the modern age of the internationalization of production and digital transformation requires mandatory inclusion in global value chains, which to some extent contradicts the literal understanding of the course on import substitution [7].

However, the formulation of such a problem is not new. Consistently and purposefully, the course on import substitution was carried out by Latin American countries in the 1950-1980s. In the USSR, the policy of replacing imports from the West with products from Soviet enterprises, and in the post-war period, also from enterprises of the countries of the socialist community was almost the main component of foreign economic policy.

Materials and methods (model). General scientific research methods in the framework of comparative and statistical analysis have been applied in the study.

Results and discussion. Over the past 25 years, the market for meat and meat products has undergone significant changes. In the 1990s, support for the meat industry included: state subsidies for the production of livestock products, the development of poultry and livestock breeding, the purchase of feed, the maintenance of the veterinary service and the development of insurance. Despite this, government support for the meat industry was insufficient and was one of the main causes of the crisis in the industry. For example, the size of government subsidies to beef producers from its retail price decreased from 230% (1989) to 10% (1993).

After the default in August 1998, imported meat products cost rose sharply in the meat products market, which contributed to an increase in the competitiveness of domestic goods and a reduction in imports. The national currency depreciation in 1998 played a positive role in import substitution in the meat market and the decline was replaced by a boom. A sharp drop in livestock and poultry numbers was halted, while livestock and poultry production and livestock profitability were increasing. In the domestic market, from December 1998 to 2004, there was a substitution of imported products with domestic products and a decrease in the share of meat imports in total domestic consumption. Despite the successes achieved, the development indices of the meat industry in 2007 were lower than those for 1990 and lagged by several times compared to the countries that are leaders in the production of meat products.

The implementation of the national project "Development of the agro-industrial complex" revealed the following problems in the field of state support for the agro-industrial complex. The issuance of subsidized loans was difficult for agricultural producers due to the lack of adequate collateral for loan repayments. The national project did not provide for the allocation of funds to improve the food supply for animals and improve veterinary services. When developing the terms of the national project, the production cycle for livestock products was not taken into account (3-4 months for poultry and up to 1.5 years for cattle) [14].

Achieving the financial sustainability of agricultural producers and regulating the market for agricultural products, food and raw materials were the basis of the "State program for the development of agriculture and regulation of agricultural markets, raw materials and food for 2008-2012." To achieve the goals, financing of this program compared to the national project "Development of the agro-industrial complex", taking into account all sources, was increased by 26 times. The state program, along with standard forms of support, also included support for small businesses and risk insurance. From 2008 to 2012, the volume of subsidized loans and loans to farms, agricultural cooperatives, and personal subsidiary plots increased by 25%. The development of family livestock farms received subsidies of 1.5 billion rubles. The selection of investment projects began to be carried out on a competitive basis. The demand for investment lending and short-term seasonal lending has shown the effectiveness of these support measures.

The main objectives of the "State Program for the Development of Agriculture and the Regulation of Agricultural Products, Raw Materials and Food Markets for 2013-2020" include: ensuring the country's food security, developing import substitution for the main livestock and crop products, increasing the competitiveness and marketability of domestic products in world and domestic markets, the formation of territorial clusters, food sub-complexes and innovative agribusiness [9].

An important indicator of the effectiveness of state subsidies to manufacturers, which allows a comprehensive assessment of the influence of the state, is the producer support coefficient for a single product - PSST. When calculating PSST, support measures that affect consumer and producer prices, direct transfers from taxpayers to producers, support measures that reduce production costs in the long run, measures that reduce the cost of raw materials, and other measures (tax benefits, etc.) are taken into account). The average annual PSST in the period from 2001 to 2014 compared to the above period for Russian poultry producers increased by 4.23 times, for pork producers - 7 times, and for beef producers - became positive.

As part of the support and activation of import substitution processes, the state is currently implementing a number of measures, which are systematically presented in figure 1.

These measures can be classified into regulatory and financial.



Figure 1 – The main measures to support import substitution in Russia.
 Note: developed by the authors on the basis of Internet resources

In order to increase the availability of borrowed resources for agricultural producers in 2018, the following government support measures were implemented in the framework of the project “Promoting Investment Activities in the Agro-Industrial Complex”:

- reimbursement of a part of the interest rate on investment loans (loans) received until December 31, 2016 inclusive;
- reimbursement of a part of the direct costs incurred by agricultural producers for the creation and (or) modernization of agricultural facilities;
- Support for preferential lending to agricultural enterprises. Preferential lending is that producers can receive short-term or investment loans at one of the banks authorized by the Ministry of Agriculture of Russia at a rate of no more than 5%. Reimbursement to a credit institution for lost income occurs directly from the federal budget in the amount of the Bank of Russia key rate.

Tax incentives include tax incentives for corporate income tax, corporate property tax [17].

In the structure of subsidies, one can distinguish a compensation for part of the interest rate on bank loans received for the implementation of projects.

In 2013, Russia accounted for almost 59% of the total consumption of beef in Russia, the share of pork imported from abroad reached 31%, poultry meat - 13%. Obviously, the dependence on imports was significant. In 2014, due to the embargo, the supply of pork decreased by 42%, beef - by 7%, poultry - by almost 20%. The main production is concentrated in the European part of Russia: in the Central Federal District (34%) and the Volga Federal District (21.3%), which is primarily due to the high population density and low transportation leg relative to the Asian part of Russia.

Meat proposal (thousand tons)

	2014	2015	2016	2017	2018
Proposal (thousand tons)	11658,2	11651,7	11856,4	12345,7	12420,9
Dynamics (% to the previous year)	–	-0,1	1,8	4,1	0,6
Note: developed by the authors on the basis of Internet resources					

In 2014-2018, the meat supply on the Russian market grew by 6.5%: from 11.66 to 12.42 million tons. The largest increase in supply compared to previous years was observed in 2017 - by 4.1%, which was due to the growth of domestic production by 4.9%. 2015 was the only year in the five-year period when the value of the indicator decreased by 0.1% compared to the previous year - this was due to a decrease in imports by 31.2% compared to 2014.

Since 2014, there has been a reduction in import supplies for many food resources, including meat and meat products.

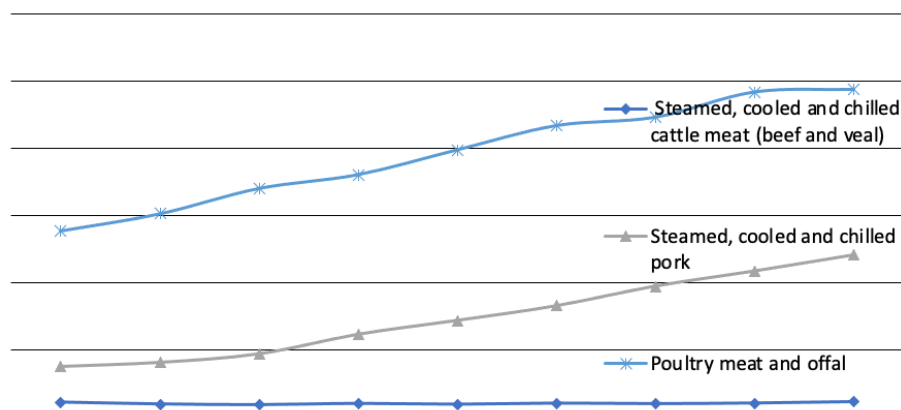


Figure 2 – Production of the main types of import-substituting food products in the Russian Federation ¹⁾ (thousand tons).
Note: developed by the authors on the basis of Internet resources

The largest shares in Russian meat production are poultry and pork (figure 2). Russia's growth in production and consumption of poultry meat is due to a decrease in the real income level of citizens who are beginning to look for alternative and cheap sources of animal protein. If we consider consumer activity within the segment of production and manufacture of poultry meat, the main share falls on chicken. In the context of the population's attraction to healthy lifestyle, there is an increase in demand for turkey [9].

In 2014-2018, pork production grew at the fastest pace in Russia: over 5 years, growth amounted to 24.9%, which was largely due to state support for this industry over the past two decades.

According to the Federal State Statistics Service, 75 kg of meat products is consumed per one resident of Russia. The indicator is high, especially in compare with the global, which is 43 kg. The distribution occurs in groups in this way:

- Poultry meat and its derivatives – 31,5 kg;
- Pork and its processed products – 20,9 kg;
- Beef and its meat products – 10,7 kg;
- Other types – 11,9 kg.

The modern pace of life significantly affects consumer preferences. Residents of megacities have a significant lack of time for preparing homemade food. They tend to eat well and tasty at home, but with minimal time. Consumption of meat semi-finished products helps in solving this issue. Manufacturers are gradually able to destroy the stereotype that has developed decades ago about the harmfulness and carcinogenicity of convenience foods. It is noted that consumer demand is growing in the high and middle price segment.

The indicators for the first half of 2019 indicate that the meat and meat processing industry continues to develop dynamically. In all groups of goods and directions, an increase in volumes is observed, in comparison with the same period in 2018:

- canned meat – 8%;
- semi-finished products – 10.1%;
- meat and offal – 9.2%;
- sausage products – 0,6%.

A slight pullback was seen in the offal and poultry segment.

The overall results of the statistics allowed the government to talk about solving the tasks.

At the same time, we have to note the fact that the increase in production in the agricultural sector cannot be called a breakthrough, and also that the decrease in competition in the market and the replacement of imported products with domestic ones led to an increase in food prices in the country. In June 2019, the cost of goods was increased significantly. The last time such a sharp increase was noted in 2015. For example, in St. Petersburg, according to the Federal State Statistics Service, in June 2019, pork

and chicken were 8% and 11% respectively more expensive, and beef and frozen fish were 80% more expensive [6].

It is also important to consider that the growth in agricultural production is heavily reliant on foreign investment and the localization of production in Russia by global multinationals. For example, the partner of the leader of the domestic meat industry Miratorg is Genus plc, the largest TNC in the field of genetics. Agro-Belogorye, Cherkizovo and Friendship collaborate with it. "Kama Bacon" national company is a partner of the second most important global genetic company Topigs Norsvin.

The main directions of development of the meat industry in Russia at present are: structural and technological modernization of enterprises, import substitution, demand stimulation, business consolidation and diversification, creation of high value-added products, increasing productivity and efficiency, developing export potential, acquiring foreign assets and transferring the Russian model vertical integration, work in closed markets. Developing steakhouses, grill bars, burger and other restaurant formats contribute to the growth in meat consumption. Despite the apparent widespread spread of vegetarianism and veganism, according to Russian Public Opinion Research Center survey, conducted in the second half of 2018, only 1% of Russians refuse to consume meat. At the same time, 39% consider vegetarianism unhealthy. In this regard, talking about the serious impact of this factor on the market of meat and meat products is too early. So-called farm shops contribute to market growth. For older consumers, these stores are often associated with previously popular food markets, where you could choose the most liked piece of meat. Consumers are increasingly paying attention to the place of production and shifting their demand towards farm products, which are perceived as more natural. At the same time, it is influenced by changes in consumer behavior patterns, which can't no longer be ignored when developing new products and launching them on the market. Each manufacturer needs to look for the assortment structure that is suitable for him based on the chosen sales boundaries, price segment, characteristics of the target audience, production capabilities and marketing competencies. It can be expected that enterprises offering a wide range of semi-finished products and high-quality products of deep processing will turn out to be the most stable in the strategic perspective[11].

The weaknesses of the Russian meat industry compared with foreign manufacturers are as follows:

- 1) undeveloped system of federal price regulation;
- 2) insufficient organization of the rights protection of enterprises by state structures;
- 3) poor technical equipment of production;
- 4) low rate of implementation and application of innovative technologies, etc.

Conclusion. Since 2014, Russia has been deliberately adhering to the policy of import substitution. This course is not only designed to ensure the country's security, but it is essentially a key tool for developing the production base of the most important sectors, for which the dependence on imports of products, services, and technologies is very high.

After reducing imports from the West, Russia has increased its influence and presence in the markets of other countries: in particular, meat supplies from Belarus, Brazil and Argentina have increased. In addition, Russia has been able to reduce its dependence on imports of this product significantly. Sanctions and embargoes have positively affected the production of meat and meat offal. However, despite the proven positive effect of the impact of sanctions on the production of meat and meat products, it is necessary to take into account the identified existing threats to development. Due to the dominant role in the industry of large meat producers in an unstable economic situation, small producers go bankrupt. As a result, there is an artificial price increase by the main meat market players. In this regard, the course pursued by the Government of the Russian Federation on import substitution should be accompanied not only by an increase in investment in agriculture, but also by the support of small and medium-sized enterprises in this area [19].

Russia will be able to maintain high production growth rates and continue the development of the meat industry under a number of key conditions: maintaining the level and increasing the efficiency of state support, stimulating structural modernization of the entire production chain, the availability of financing for new projects and phasing out inefficient production, stimulating consolidation, import substitution, and dramatically improving the situation in the field of veterinary medicine. In addition, the state should create institutional conditions that will allow Russian business to ensure high rates of

economic growth and receive return on capital for conducting expanded reproduction of the innovative type [12].

Innovative technologies are, of course, not the only way in the development of the meat industry, which will ensure a technological breakthrough, but it is essentially the most important. And the essence of this issue is that if this key issue is not resolved, it is unlikely that it will be possible to use the advantages of other engines of scientific and technological progress. The resource and scientific and technical potential available in Russia can ensure the achievement of state goals in terms of economic growth and solving the problems of improving the well-being of the people only if the state creates comprehensive incentive measures to implement the achievements of scientific and technological progress in the development of the food complex in Russia.

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ХАЛЫҚТЫ ӘЛЕУМЕТТІК ҚОРҒАУ ФУНКЦИЯЛАРЫН ҚАМТАМАСЫЗ ЕТУ ҮШІН ЕТ ӨНЕРКӘСІБІН ИМПОРТПЕН АЛМАСТЫРУ ТУРАЛЫ: ЕРЕКШЕЛІКТЕРІ МЕН ТАЛДАУ

Аннотация. Зерттеуде халықты әлеуметтік қорғауды қамтамасыз ету үшін импортты алмастыру бағдарламаларын іске асыру аясында отандық ет өнеркәсібін дамыту ерекшеліктері әлеуметтік институттардың өзара қатынас тұрақтылығы және тұтастай алғанда өңірлер мен ел деңгейінде азық-түлік пен экономикалық қауіпсіздікті қамтамасыз етуде маңызды болып саналады. Авторлар импортты алмастыру мәселелерін шешу бірсатылы процедура еместігін атап өтті. Бұл – іске асыруға барлық деңгейдегі мемлекеттік органдар да, бизнестің өзі де, жергілікті өзін-өзі басқару органдары да қатысуы тиіс ұзақмерзімді шаралар кешені. Жұмыстың мақсаты – қазіргі кезеңдегі саланың барлық мәселелерін, оларды шешу бағыттарын және осы механизмдегі мемлекеттің міндеттерін көрсету.

Зерттеу барысында саланың қазіргі жағдайы, оны қаржылық қолдау мөлшері талданады. Өнеркәсіпте импортты алмастыруды мемлекеттік қолдау және оның нәтижелері жан-жақты талқыланады. Ағымдағы жағдай туралы деректерге сүйене отырып, саланы дамытудың негізгі мәселелері айқындалды, ондағы импортты алмастыру динамикасы көрсетілді, саланы ұзақмерзімді перспективада тиімді дамыту жөнінде ұсыныстар жасалды. Зерттеу барысында ет пен ет өнімдері нарығының оң динамикасы анықталды. Ресей Батыс санкциялары мен тыйым салған жағдайларға бейімделе алды, өндірісін ұлғайтты және сол арқылы импортқа тәуелділікті азайтты.

Соңғы бес жыл ішінде Ресейдің сыртқы экономикалық саясаты көбінесе батыс елдерінің санкция саясатымен және басқа да протекционистік сипаттағы жауап шараларын енгізу арқылы алдын ала анықталды.

Сонымен бірге импортты алмастыру бағыты бірнеше жыл бұрын жүргізіліп, мемлекет ішкі экономиканы қалпына келтіру құралы ретінде жариялады. Алайда тәжірибе көрсеткендей, протекционизмге түбегейлі бетбұрыс туралы айтуға негіз жоқ. Бұл көбінесе өндірушілер мен экспорттаушыларды мемлекеттік қолдаудың артуына, сондай-ақ шетелдік технология, компоненттер мен шикізатты белсенді қолдануға байланысты болып келеді. Өндірісті және цифрлық трансформацияны интернационалдандырудың қазіргі заманғы кезеңінде әлемдік экономикаға қатысу әлемдік құндылықтар тізбегіне міндетті түрде қатысуды қажет етеді әрі бұл белгілі бір дәрежеде импортты алмастыру бағытын түсінуге қайшы келеді.

Сонымен қатар, мұндай міндет бұрын да қойылған. Сәйкес және мақсатты түрде импортты алмастыру курсы Латин Америка елдері 1950-80 жылдары жүзеге асырды. КСРО-ның Батыстан импортты кеңестік кәсіпорындардың, соғыстан кейінгі кезеңде социалистік қауымдастық елдерінің кәсіпорын өнімдерімен алмастыру саясаты сыртқы экономикалық саясаттың негізгі құрамдас бөлігі болды. Елдегі экономикалық өсудің негізгі заңы – экспорттың тауар импортына қарағанда артық болуы. Импортты алмастыруды ілгерілету көптеген елдерде қолданылған және қазіргі кезде тәжірибеде бар. Импортты алмастыру – импорттық тауарларды отандық тауарларға ауыстыру. Импортты алмастыру бағдарламасын іске асыру үшін мемлекет бірнеше әдістерді қолдана алады, олар жеке де, жиынтықта да қолданылады: кедендік әдістер – импортталатын тауарларға кедендік баждың өскенін білдіреді; оның шеңберінде квоталар белгіленетін немесе тауарларды әкелуге белгілі бір рұқсат алу қажеттілігі енгізілген тарифтік емес әдістер; мемлекет аумағында тауар өндірісін ынталандыру.

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ОБ ИМПОРТОЗАМЕЩЕНИИ МЯСНОЙ ПРОМЫШЛЕННОСТИ ДЛЯ ОБЕСПЕЧЕНИЯ ФУНКЦИЙ СОЦИАЛЬНОЙ ЗАЩИТЫ НАСЕЛЕНИЯ: ОСОБЕННОСТИ И АНАЛИЗ

Аннотация. В представленном исследовании рассматриваются особенности развития отечественной мясной промышленности в свете реализации программ импортозамещения для обеспечения социальной защиты населения является первостепенным для устойчивости взаимодействия социальных институтов и обеспечения продовольственной и экономической безопасности в целом на уровне регионов и страны. Авторы отмечают, решение проблем импортозамещения – не одномоментная процедура. Это комплекс долгосрочных мер, в реализации которых должны принимать участие и государственные органы всех уровней, и сам бизнес, и органы местного самоуправления. Цель данной работы – показать все проблемы, с которыми сталкивается отрасль на современном этапе, направления их решений и задачи государства в этом механизме.

В исследовании проведен анализ текущего состояния отрасли, объемы ее финансовой поддержки. Подробно рассматривается государственная поддержка импортозамещения в отрасли и ее результаты. На основе данных о современном состоянии выявлены основные проблемы развития отрасли, показана динамика импортозамещения в ней, сформулированы рекомендации по эффективному развитию отрасли в долгосрочной перспективе. В исследовании выявлена положительная динамика на рынке мяса и мясных субпродуктов. Обосновывается тот факт, что Россия смогла адаптироваться к условиям западных санкций и эмбарго, нарастила свое производство и тем самым уменьшила свою зависимость от импорта.

Внешнеэкономическая политика России на протяжении последних пяти лет во многом предопределялась политикой санкций со стороны стран Запада и введением ответных мер, которые носили ко всему прочему и протекционистский характер. Вместе с тем, курс на импортозамещение был взят несколькими годами раньше и декларировался государством как инструмент возрождения отечественной экономики. Однако, как показала практика, нет оснований говорить о принципиальном развороте к протекционизму. В значительной мере это объясняется ростом государственной поддержки производителей и экспортеров, а также активным использованием зарубежных технологий, компонентов и исходных материалов. Участие в мировой экономике в современную эпоху интернационализации производства и цифровой трансформации предполагает обязательную включенность в глобальные стоимостные цепочки, что в известной мере противоречит буквальному пониманию курса на импортозамещение.

Вместе с тем, постановка подобной задачи не нова. Последовательно и целенаправленно курс на импортозамещение осуществлялся латиноамериканскими странами в 1950-1980-е годы. В СССР курс на замену импорта с Запада продукцией с советских предприятий, а в послевоенное время и с предприятий стран социалистического содружества был едва ли не главной составляющей внешнеэкономической политики.

Главный закон экономического роста в стране - превышение экспорта над импортом товаров. Поощрение импортозамещения использовалось многими странами и практикуется в настоящее время.

Импортозамещение - это процесс замещения импортных товаров отечественными.

Для реализации программы импортозамещения государство может использовать несколько методов, которые используются как по отдельности, так и в сочетании: таможенные методы - подразумевают повышение таможенных пошлин на ввозимые товары; нетарифные методы, в рамках которых устанавливаются квоты или вводится необходимость получения определенных разрешений на ввоз товаров; поощрение производства товаров на территории самого государства.

Ключевые слова: конкурентоспособность, санкции, мясное производство, инновации, стратегия импортозамещения, развитие, государственное регулирование, социальная защита населения.

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PROBLEMS OF INSTITUTIONS' INTERACTION: VALUE OF A SERVICE AS A SPECIAL FORM OF COMMODITY (LOGISTIC APPROACH)

Abstract. The concept of value is highly versatile. They distinguish economic, social, political, aesthetic, spiritual, and other values. The purpose of the study is to consider the value as a scientific category, to be exact, consider the value of services as a special form of commodities, using a logistics approach, to define the terms and concepts in the dictionary, based on the economic institutions' interaction problems.

Methods. The methods of analysis and comparison were used in this research.

Conclusions.

1. Differences between services and products determine the difference in the values of these forms of commodities. If the comparison of product types is based on real objects, then the comparison of services is, in some ways, virtual. The prototype of the value of products is more precise than the prototype value of the service.

2. Value is appropriate to consider in the logistical aspect. In one of the hypostases, logistics acts as a service that implements the delivery of a commodity at the appointed time and place, which determines the value of the product to the consumer.

3. The category "value" is associated with the category "price". But the price is an economically reasonable concept, and value combines objective and subjective elements. The price is public, and the value is individual or collective. External factors influence the formation of prices, while internal factors influence values to a greater extent.

Prospects for further research. The article raises the question of the commodity's value to be purchased. It is advisable to consider the value in the context of interaction of institutions in the aspect of already-purchased commodities, which is compared with costs (time costs, one-time and current expenses), and also reflects the influence of objective factors and subjective opinions, for example, the new phenomenon of ICO.

Key words: value, service, product, commodity, logistics approach, money, social values.

Introduction. There is no doubt that in the problems of economic institutions' interaction, the concept of value is complex since it is highly versatile. They distinguish economic, social, political, aesthetic, spiritual, and other values. In this context, we note that spiritual values have an enduring character. According to W. Thomas and F. Znaniecki, social value is "any fact that has an empirical content and meaning available to members of a certain social group, based on which it is or can become an object of activity" [1, p. 343].

Economic values reflect the need for a given commodity in a certain situation, due to the time interval and location. This situation allows us to consider the value in a new form. In our opinion, one of the ways to distinguish values is to separate values-goods and values-relationships. At the same time, these groups are also different and require clarification, where the values of the relationship can have both business (formal) and friendly (informal) character. In business values-relationships, the professional qualities of partners come to the fore, when in informal relationships human qualities are valued.

Analysis of publications. Currently, there are studies in the field of logistics [1]. Commercial logistics were studied [2], organizational aspects of managing virtual supply chains [3]. Studied the value of the consumer as an object of logistics management [4,5], supply chain management [6,7]. There are works on coordination and evaluation of the bush logistics as a new service structure in the context of globalization [8], works on a paradigm approach to the analysis of the logistics' evolution in Russia [9]. At the same time, the value of service as a special form of the commodity has not been studied from the logistics approach.

Various areas of logistics and transformational changes have been studied previously; [2] however, the value of service as a special form of the commodity hasn't been studied from the logistics approach.

Results. There was made a comparison of the value of the product and service in the logistics surface. The relationship between value and cost is shown, as well as their difference in the dynamic perspective.

One of the ways to distinguish values is to separate values-commodities and values-relationships. These groupings are also different and require clarification, where the values of the relationship can have both business (formal) and friendly (informal) character. In business values-relationships, the professional qualities of partners come to the fore, when in informal relationships human qualities are valued. Service, in comparison with products, has specific properties that are characterized by many authors. Based on the analysis of several sources and our observations, the main distinctive features of the service are:

1. imperceptibility or incomplete perceptibility (the complexity of service's perception as a process by all the senses), the inability to perceive the service before it is performed;
2. inseparability from the producer or inherence (continuity, simultaneity) of production and consumption, the exceptions are information and financial services;
3. non-preservation as the reason for the inability to store and move (the service subject can move);
4. heterogeneity of quality (impermanence, fragmentary standardization, variability, inconsistency, heterogeneity).

Accordingly, there are differences between the value characteristics of these forms of commodities. On the surface of value, exchange, and consumption values, the question of money cannot be ignored. Modern buyers pay with various types of non-cash or cash payments. In the process of digitalization, new forms of money (cryptocurrency) have appeared, which have an impact on the emergence of new forms of collective investment, such as ICOS. However, in general, money is needed and valuable only in territories where it is the equivalent of a commodity. For example, on a desert island, they have no value. For the coin collector, rare or old money has a particular value.

External factors influence the cost, and internal factors influence the value. External factors reflect changes in prices for material resources and wages of employees, which ultimately determines the cost of commodities. Internal factors reflect the modification of human priorities, although this process is also influenced by the environment. It is important how the individual perceives the surrounding changes and how they affect him. The value of a commodity for a consumer is determined by its characteristics: profession, gender, age, etc.

The results of the research. When it comes to the value of a commodity, it is natural that any person who makes a purchase chooses the item that currently represents the greatest value for him. The alternative is the cost of identical commodities, and the selection time is limited by the urgency of using the product. As already known, a commodity acts in the form of a product or service. This article focuses on the economic value of a commodity, such as a service.

It is known that the service is considered both as a process and as a result. In this perspective, we can also discuss its value. The process's value largely overlaps with the value of the relationship and is determined in the short term. The value of the result or the service itself, depending on its content, may persist for a long period. Turning to the service, we point out that it, in comparison with the product, has specific properties that are characterized by many authors, mainly in our work [1, p.16-19]. Based on the analysis of several sources and our observations, the main distinctive features of the service are:

1. imperceptibility or incomplete perceptibility (the complexity of service's perception as a process by all the senses), the inability to perceive the service before it is performed;
2. inseparability from the producer or inherence (continuity, simultaneity) of production and consumption, the exceptions are information and financial services;
3. non-preservation as the reason for the inability to store and move (the service subject can move);

4. heterogeneity of quality (impermanence, fragmentary standardization, variability, inconsistency, heterogeneity).

Accordingly, there are differences between the value characteristics of these forms of commodities. We will point out that in the scarcity, the value of necessities (starting with food) is higher than the value of luxury commodities, although their costs differ sharply. This is evidenced by the facts of wartime when gold products were exchanged for bread.

Considering the value from a logistics perspective, we note that this category meets the rules of logistics, namely, place and time. Indeed, a valuable commodity is the one that is needed for the individual

Differences in the value characteristics of services and products

Value characteristics	commodity	
	product	service
The reality of adding to a previously purchased commodity	Distributed materials can be included in existing inventory (i.e. increment of flows in inventory)*	Sometimes it is possible to use an identical consumed service as a base, for example, to use it in education and medicine
Form	Must match the demanded product**	If an action is performed on an object, then the object can be viewed and compared with the previous condition
Comparison with an analog	Achievable	Not completely because a complete analog of the service does not exist (the above property of the service is considered as the heterogeneity of quality)
The level of customization	Low for everyday goods but high for expensive episodic goods	High in most cases, less often-medium
The formation of a preimage (prototype) of value***	The prototype in most cases has a clear character based on available (consumed) resources***, advertising, and information received from other consumers.	The prototype is often unclear, based on their own experience, advertising, and information received from other consumers.
Evaluation of the commodity's value by the consumer	More objective	More subjective
Delivery of the product at a specific time and place*	Required, according to the logistics rules	It is not possible to ensure delivery for users to the place where the service is produced, or for implementers of the service to the place where it is consumed, or both, when the service is performed on a neutral territory*
Route	It is calculated by the manufacturer (supplier) taking into account several external factors (for instance, the concentration of cars that slow down the traffic). It is aimed to optimize total costs and time spent*	It is chosen by the object and/or subject of services independently on an alternative basis; sometimes it might be irrational (from the point of view of others)
The immediate value of the commodity	Mainly medicinal products	Medical, sometimes transport services
The duration of the commodity's use	It depends on the substance, the frequency of circulation, and for some commodities from the repair	During the consumption of the service, although the effect may persist for a certain period
The condition of an individual during the consumption of a valuable commodity	Most often passive, examples of active consumption: driving a car, playing a musical instrument	Mostly active when the client is involved in the process of producing the service
Composition of consumers' collective value	Employees or family members	Often unfamiliar people (for example, groups of students in the short term, groups of patients at a doctor's session)

Source: *provisions are based on a logistics approach. **according to the work [3]. ***definitions and some interpretations are given according to the work published in the journals [4,5]

at a certain moment. There is even a proverb "A spoon is dear when lunchtime is near", and you can give an example from the classic "A horse, a horse! My kingdom for a horse!" (W. Shakespeare, "Richard III"). There is a well-known fact that logistics, in its narrow sense, is flow management. As the group of authors points out, the logistics flow is aimed at meeting the needs of customers and/or providing them with values [2, p.74]. In general, logistics is a multifaceted concept. On one side, it acts as a service aimed at delivering the commodity to a given place at a certain time. This aspect is reflected in the table below.

In the article, we should think about the relationship between the value of the commodity and its cost. Of course, the economic value of the commodity is largely determined by its cost. It is well known that there are exchange and use values and the concept of "value" is closer to use the cost. But the consumer cost shows the presence of properties that can meet the needs of people. The value reflects the needs of one person or a group of people united by some attribute (this attribute determines the value for a particular group). In other words, the value has a social nature; however, it used more often as an individual nature, but can also be considered at the level of collective consumption.

On the surface of value, exchange and consumption values, it is impossible not to raise an issue about money. Modern buyers pay with various types of non-cash or cash payments. For instance, it is more convenient to carry a payment card, from the point of view of logistics, it is at the right time in the right place. Both payment cards and cash have almost no use value (as an exception, you can consider banknotes as fuel, coins as metal). The essence of money is that they represent an economic category that simultaneously [22]:

- mediates financial and economic relations in the society,
- is the universal equivalent of cost (value),
- performs basic monetary functions.

Electronic money is a system that performs credit and paper operations by transmitting electronic signals without the participation of paper carriers. The new type of money has several advantages: increased speed of transfer of payment documents, simplified processing of bank correspondence, reduced cost of processing payment documents. [22]. Figure 1 presented money transfer systems.

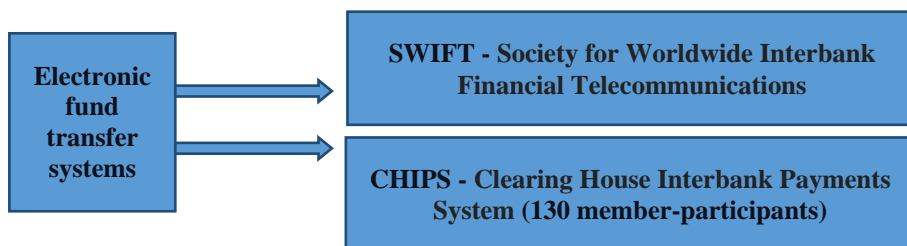


Figure 1 – Types of money transfers systems. Source: [23,22]

The types of electronic money are illustrated in figure 2. Types and forms of electronic money

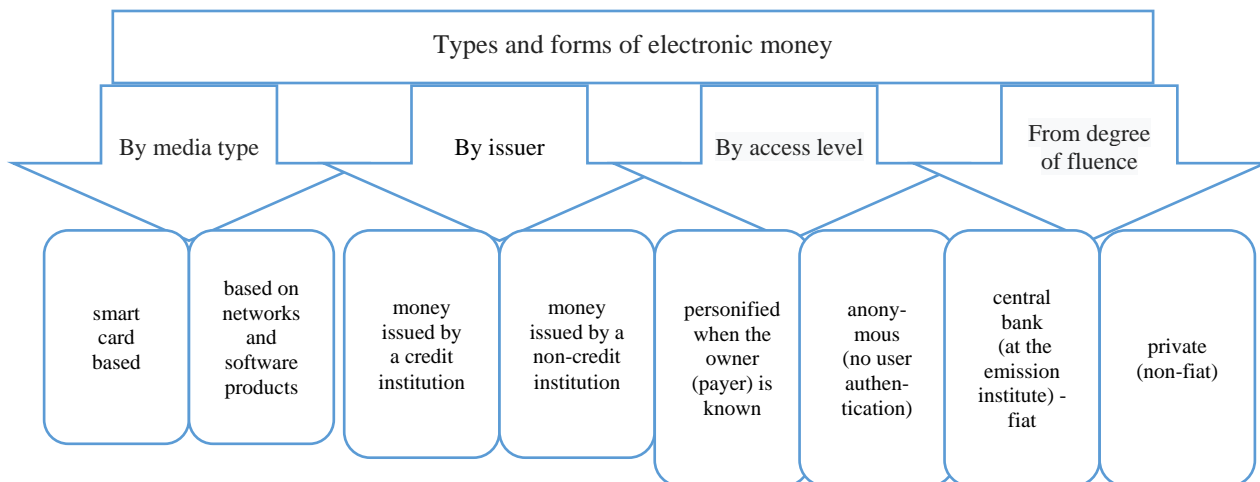


Figure 2 – Types and forms of electronic money. Source: based on materials [23,22]

In the process of digitalization, appeared new forms of money (cryptocurrency), which have an impact on the emergence of new forms of collective investment, such as ICO [24]. However, in general, money is needed and valuable only in territories where it is the equivalent of a commodity. For example, on a desert island, they have no value. For the coin collector, rare or old money has a particular value.

When we talk about the process of value formation (for example, [6]), we mean the formation of cost. This situation is especially common in the translated literature, which may be explained by the inaccuracy of the translation (in particular, [7]), since the terminology “value chain” in the Russian version can be considered both as a “value chain” and as a “cost chain”. Let’s clarify that the formation of the products’ cost occurs in the supply chain, the cost of services is determined by the processes of its formation according to the branch of the bush logistics [8].

Considering the previous research of the authors [25-31], the following can be noted. The previous arguments concerned the value and cost of the service as a commodity. But there are also so-called best-selling services. For instance, you can buy medicines and necessities for a friend, help with moving any people you meet, which, of course, is valuable for the others. There's no doubt that the volunteers spend time on such services. But if they do it voluntarily, they do not convert these expenses into alternative costs.

In general, time as a limited and non-renewable resource is valuable. Moreover, it is individual for each person and depends on several factors: age (determines the ability to work), marital status (family people are busier), place of living (territories such as a metropolis and a village cannot be compared), etc. The more busy an individual is, the more he values time, determining the best way to use it.

If we analyze the categories of “value” and “cost” over a certain period, then we should indicate that they are subject to changes. In this context, we cite the words of V. Volkov, who referred to the words of T. Kuhn pointed out that values are “deep-rooted factors of ideology, the particular importance of which is revealed in a period of crisis and the need for new theoretical ways of research” [9].

From the individual's point of view, external factors influence cost, and internal factors influence value. External factors reflect changes in prices for material resources and wages of employees, which ultimately determines the cost of commodities. Internal factors reflect the modification of human priorities, although this process is also influenced by the environment. It is important how the individual perceives the surrounding changes and how they affect him. The value of a commodity for a consumer is determined by its characteristics: profession, gender, age, etc. For example, a certain book may have a significant value to a scientist. As people get older, they value food more than clothing. For men, a ticket to football is valuable, when a woman will remain indifferent (the authors give average examples, any exceptions are possible).

Conclusion. Economic, social, political, aesthetic, spiritual, and other values are distinguished, where the social value is a fact with empirical content, and that is important to members of a certain social group, based on which in the conditions of digitalization it can become an object of activity. Economic values reflect the need for a commodity in a particular situation, due to the time interval and location. This situation allows us to consider the value in the new, namely in the logistics approach.

From the institutional approach, values-relationships can have both a business/ economic (formal) and friendly social (informal) character. In business values-relationships, the professional qualities of partners come to the fore, when in informal relationships human qualities are valued:

1. The differences between services and products determine the difference in the costs of these forms of the commodity. If the comparison of products' types is based on real objects, then in service it's more virtual. The product's prototype of the value has a clearer character than the service's prototype.

2. Value is appropriate to consider in the logistical aspect. In one of the hypostases, logistics acts as a service that implements the delivery of commodities at the appointed time and place, which determines the value of the commodity for the consumer.

3. The category value is associated with the category cost. But the cost is an economically reasonable concept, and value combines objective and subjective elements: the cost is public, the value is individual or collective. External factors influence the formation of cost, while internal factors influence the value.

Prospects for further research. The article raises the question of the commodity's value to be purchased. It is reasonable to consider the value in the context of institutions' interaction in the aspect of already purchased commodity, which is compared with outlays (time costs, one-time and current

expenses), and also reflects the influence of objective factors and subjective opinions, for example, the new phenomenon of ICO.

Separately

Personality is a quality of the individual as a representative of the human race, which is formed and developed when the individual is the subject of relations and performs the conscious activity. One of the features of digitalization is the mediation of actions; it reduces the need for direct participation in the process of personal communication, though, this is the most important condition for the formation of personality. Digitalization, as a way of transmitting information, affects not only the adult population but is also actively used as a form of education and upbringing of the younger generation, in kindergartens, schools and higher educational institutions. Thus, direct communication and participation in social interaction, that is necessary for the development of personal qualities minimizes.

Conclusions. One of the key factors in the development of a full and harmonious personality is stress resistance. Because of the availability of information and the ease of obtaining it, the number of data increases and it becomes difficult for people to navigate in its large volume and content. A person gets information stress from an overabundance of information.

Digitalization has undeniable advantages: ease of obtaining information, increased coverage of the number of participants, simplicity of control, accessibility, ease of use. Along with the advantages, there are also significant disadvantages.

In the process of digitalization, occurs the transformation of a human's personality, as a participant and subject of life activity. The process of digitalization emerges new psychological properties and qualities of personality. On one hand, people being able to obtain information as effectively as possible through digitalization started to save time and feel freer. But on the other hand, we are increasingly faced with undesirable, so-called side effects of the emergence of digital technologies in our lives.

Personality is a quality of the individual as a representative of the human race, which is formed and developed when the individual is the subject of relations and performs the conscious activity. One of the features of digitalization is the mediation of actions; it reduces the need for direct participation in the process of personal communication, though, this is the most important condition for the formation of personality process of personal communication, though, this is the most important.

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ИНСТИТУТТАРДЫҢ ӨЗАРА ӘРЕКЕТТЕСУ МӘСЕЛЕЛЕРІ: ҚЫЗМЕТТІҢ ТАУАРДЫҢ ЕРЕКШЕ ТҮРІ РЕТІНДЕГІ ҚҰНДЫЛЫҒЫ (ЛОГИСТИКАЛЫҚ ТӘСІЛ)

Аннотация. Құндылық ұғымы жоғары дәрежеде көпжақты келеді. Экономикалық, әлеуметтік, саяси, эстетикалық, рухани және басқа құндылықтарды ажыратуға болады.

Зерттеудің мақсаты – құндылықты ғылыми категория ретінде қарастыру, атап айтқанда, логистикалық тәсілді қолдана отырып, қызмет құндылығын тауардың ерекше формасы ретінде зерттеу, шаруашылық қызмет институттарының өзара әрекеттесу мәселелеріне сүйене отырып, терминдер мен ұғымдарды сөздікке түсіріп, анықтама беру.

Әдістері. Зерттеуде талдау, салыстыру әдістері қолданылды.

Нәтижелер. Логистикалық жазықтықта өнім мен қызмет құндылығы салыстырылды. Құндылық пен құн байланысы, сондай-ақ олардың динамикалық бұрыштағы айырмашылығы көрсетілген.

Құндылықтарды бөлудің бір нұсқасы – тауарлық және қарым-қатынас құндылықтарын бөлу. Бұл ретте топтамалар да түрлі сипатта болады және нақтылауды талап етеді, атап айтқанда, құндылықтар қарым-қатынаста іскерлік (формальды), достық (бейресми) сипатта да болуы мүмкін. Іскерлік құндылықтар қарым-

катынас барысында серіктестердің кәсіби қасиеті бірінші орынға шығады, бейресми қатынастарда, ең алдымен, адами қасиеттер бағаланады.

Қызмет, көптеген авторлар сипаттағандай, өніммен салыстырғанда ерекше қасиеттерге ие. Бірқатар көздерді талдау және жеке бақылау негізінде қызметтің негізгі ерекше қасиеттеріне төмендегілерді жатқызамыз:

1) сезілмейтін немесе толық сезілмейтін (қызметті барлық сезу органдары үдеріс ретінде қабылдаудың күрделілігі), қызметті оны орындау басталғанға дейін қабылдаудың мүмкін еместігі;

2) өндірушіден бөлінбеушілік және өндірістің бөлінбеуі (ажырамастық, бірізгілік), белгілі бір дәрежеде ақпараттық және қаржылық көрсетілетін қызметтерді қоспағанда;

3) орналастырудың және орын ауыстырудың мүмкін еместігінің себебі ретінде сақталмау (қызмет субъектісі орын ауыстыруы мүмкін);

4) сапаның әртектілігі (тұрақсыздық, фрагменттік стандартталу, вариативтілік, үйлеспеушілік, гетерогенділік).

Тиісінше, өнім нысандарының құндылық сипаттамалары арасында айырмашылықтар бар.

Құндылық жазықтығында, сондай-ақ айырбастау және пайдалану құны ақша мәселесіне әсер етпейді. Қазіргі заманғы сатып алушылар қолма-қол ақшасыз немесе қолма-қол төлем түрлерін қолдана отырып төлейді. Цифрландыру үдерісінде ІСО сияқты ұжымдық инвестициялаудың жаңа нысандарының пайда болуына әсер ететін ақшаның жаңа нысандары (криптовалюта) пайда болды. Дегенмен, тұтастай алғанда, ақша тек тауардың баламасы болып саналатын жерлерде ғана қажет, сол себепті құнды. Мысалы, аралда олардың ешқандай құндылығы жоқ. Нумизмат үшін сирек немесе көне ақша ерекше мәнге ие.

Құнға сыртқы факторлар, құндылыққа ішкі факторлар әсер етеді. Сыртқы факторлар материалдық ресурстар бағасының өзгеруін және жұмысшылар жалақысына жұмсалатын шығынды көрсетеді, нәтижесінде тауарлар құнын анықтайды. Ішкі факторлар адам басымдықтарының өзгеруін көрсетеді, дегенмен бұл үдеріс қоршаған орта әсерінен де болады. Адамның қоршаған ортадағы өзгерістерді қалай қабылдайтыны және оған қалай әсер ететіні маңызды. Тұтынушы үшін өнімнің мәні оның жеке сипаттамасы арқылы, яғни кәсібі, жынысы, жасы және т.б. анықталады.

Қорытындылар. 1. Қызмет пен өнім айырмашылықтары өнімнің осы формаларының құндылықтарындағы айырмашылықты анықтайды. Егер өнім түрлерін салыстыру нақты объектілер негізінде жүргізілсе, онда қызметтерге қатысты белгілі бір дәрежеде виртуалды деңгейде болады. Өнім құндылығының прототипі қызмет құндылығының прототипіне қарағанда айқын сипатқа ие.

2. Құндылықты логистикалық тұрғыдан қарастырған орынды. Гипостаздардың бірінде логистика тауарларды белгіленген уақытта және жерде жеткізуді жүзеге асыратын қызмет ретінде әрекет етеді, бұл тұтынушы үшін өнім құнын анықтайды.

3. «Құндылық» категориясы «құн» категориясымен байланысты. Бірақ құн экономикалық тұрғыдан негізделген ұғым, құндылық объективті және субъективті элементтерді біріктіреді. Құн – әлеуметтік, құндылық – жеке немесе ұжымдық мәні бар. Құнның қалыптасуына сыртқы факторлар, құндылықтарға көбінесе ішкі факторлар әсер етеді.

Кейінгі зерттеулердің болашағы. Мақалада сатып алынатын өнім құны туралы мәселе көтеріледі. Институттардың өзара әрекеттестігі жағдайында құндылықты шығынмен салыстырған (уақыт шығыны, біржолғы және ағымдағы шығындар) сатып алынған тауар аспектісінде қарастырған дұрыс, сонымен қатар, жаңа ІСО құбылысы сияқты объективті факторлар мен субъективті пікірлердің әсерін көрсетеді.

Түйін сөздер: құндылық, қызмет, өнім, тауар, логистикалық тәсіл, ақша, әлеуметтік құндылықтар.

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ПРОБЛЕМЫ ВЗАИМОДЕЙСТВИЯ ИНСТИТУТОВ: ЦЕННОСТЬ УСЛУГИ КАК ОСОБОЙ ФОРМЫ ТОВАРА (ЛОГИСТИЧЕСКИЙ ПОДХОД)

Аннотация. Понятие ценности в высшей степени многостороннее. Выделяют экономические, социальные, политические, эстетические, духовные и другие ценности.

Цель исследования – рассмотреть ценность как научную категорию, а именно ценность услуги как особой формы товара, используя логистический подход, дать определение в части приведения в словарь терминов и понятий, исходя из проблем взаимодействия институтов хозяйственной деятельности.

Методы. В исследовании применены методы анализа, сравнения.

Результаты. Проведено сравнение ценности продукции и ценности услуги в логистической плоскости. Показаны связь ценности и стоимости, а также их различие в динамическом ракурсе.

Одним из вариантов разграничения ценностей является выделение ценностей-товаров и ценностей-отношений. При этом данные группировки также разнохарактерны и требуют уточнения, где, в частности, ценности-отношения могут иметь как деловой (формальный), так и дружеский (неформальный) характер. В деловых ценностях-отношениях на первый план выходят профессиональные качества партнеров, в неформальных отношениях, прежде всего, ценятся человеческие качества.

Услуга, по сравнению с продукцией, обладает специфическими свойствами, которые охарактеризованы многими авторами. На основе анализа ряда источников и собственных наблюдений к основным отличительным свойствам услуги отнесем:

1) неощутимость или неполную оощутимость (сложность восприятия услуги как процесса всеми органами чувств), невозможность восприятия услуги до начала ее выполнения;

2) неотделимость от производителя или неразделимость (неразрывность, одновременность) производства и потребления, исключением в некоторой степени являются информационные и финансовые услуги;

3) несохраняемость как причина невозможности складирования и перемещения (перемещаться может субъект услуги);

4) неоднородность качества (непостоянство, фрагментарная стандартизованность, вариативность, непоследовательность, гетерогенность).

Соответственно существуют различия и между ценностными характеристиками данных форм товара.

В плоскости ценности, а также меновой и потребительной стоимостей нельзя не коснуться вопроса денег. Современные покупатели расплачиваются с помощью различных видов безналичных или наличных платежей. В процессе цифровизации появились новые формы денег (криптовалюта), которые оказывают влияние на появление новых форм коллективного инвестирования, таких как ICO. Но все же в целом деньги необходимы только на территориях, где они являются эквивалентом товара, чем и ценны. Например, на необитаемом острове они не представляют никакой ценности. Для нумизмата редкие или старинные деньги имеют особую ценность.

Стоимость подвергается влиянию внешних факторов, ценность – внутренних факторов. Внешние факторы отражают изменения цен на материальные ресурсы и затрат на заработную плату работников, что в итоге определяет себестоимость товара. Внутренние факторы отражают модификацию приоритетов человека, хотя данный процесс происходит и под влиянием окружающей среды. Важно, как именно индивид воспринимает окружающие изменения и какое влияние они оказывают на него. Ценность товара для потребителя определяется его собственными характеристиками: профессией, полом, возрастом и др.

Выводы. 1. Отличия услуги от продукции определяют и разницу в ценностях данных форм товара. Если сравнение видов продукции происходит на основе реальных объектов, то касательно услуг оно носит, в некоторой степени, виртуальный характер. Прототип ценности продукции имеет более четкий характер, чем прототип ценности услуги.

2. Ценность уместно рассматривать в логистическом аспекте. В одной из ипостасей логистика выступает как услуга, реализующая доставку товара в назначенные время и место, что определяет ценность товара для потребителя.

3. С категорией «ценность» связана категория «стоимость». Но стоимость – это экономически обоснованное понятие, ценность сочетает объективные и субъективные элементы. Стоимость носит общественный, ценность – индивидуальный или коллективный характер. На формирование стоимости влияют внешние факторы, ценности – в большей степени внутренние факторы.

Перспективы дальнейших исследований. В статье поднимается вопрос о ценности товара, подлежащего покупке. Целесообразно в условиях взаимодействий институтов рассмотреть ценность в аспекте уже приобретенного товара, которая сопоставляется с издержками (временными затратами, единовременными и текущими расходами), а также отражает влияние объективных факторов и субъективных мнений, например, новый феномен ICO.

Ключевые слова: ценность, услуга, продукция, товар, логистический подход, деньги, социальные ценности.

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WORLD TRENDS IN THE DEVELOPMENT OF EXPERT AND ANALYTICAL ACTIVITY IN ASSESSMENTS AND CRITERIA

Abstract. World experience indicates that the implementation of expert analysis, largely, affects the level of high-quality management decisions, as well as the level of executive decision-making in the budget and financial sphere. In addition, these measures contribute to increasing the degree of responsibility, transparency and accountability in the activities of state bodies.

The authors studied the world practice of conducting expert and analytical activities, evaluating the effectiveness of the application of expert and analytical activities, developing methodological recommendations for conducting similar work in the Republic of Kazakhstan.

The study examined the experience of four countries, such as Germany, the USA, Great Britain and the Russian Federation. The expert-analytical activity of VOGA in all the countries listed, except for the Russian Federation, is not legally regulated. There are no relevant norms in the laws governing the activities of VOGA.

In all of the above countries, except for Russia, expert and analytical activities are not methodologically regulated. The rules, procedural standards, and audit requirements do not provide for a methodology for expert analysis.

The study of documents arising from the activities of the SAIs of the above countries, such as audit reports, analytical reports, annual reports (except for the Russian Federation) allows us to conclude that expert analysis in the above countries is carried out to a greater extent during the performance audit.

The experience of the abovementioned countries, as well as the study of ISSAI standards related to the implementation of the performance audit, indicates that the full-scale implementation of the performance audit can lead to the absence of the need for additional expert analytical work. Since in accordance with ISSAI 300, the performance audit itself delivers a new information, knowledge and value.

Key words: World practice, SAI, expert and analytical measures, audit standards.

Introduction. Expert and analytical activity in Kazakhstan is tied to the budget process and its implementation is provided for in the forms: preliminary, current and subsequent assessment.

At the same time, the regulation of audit activities in different countries is significantly different, due to:

1. Socio-economic characteristics of the countries of the world;
2. Socio-political characteristics;
3. Features of the legislation of individual countries.

In this regard, it is necessary to consider the experience of foreign countries in the implementation and legislative regulation of expert and analytical activities of SIFCs.

In Germany, a clear division and delimitation of the requirements for the SAIs at the level of various regulatory legal acts characterize the legislative support of the Federal Audit Office activities.

According to the law, the Federal Audit Office conducts three types of audit: audit for compliance, financial reporting and performance audit, as well as preliminary audit (at the stage of program development), current audit (at the stage of project implementation) and subsequent audit (at the end of the financial year) [2].

Methods. The methods used are general scientific and special, such as: a system analysis method; content analysis method; comparative analysis method; analysis and synthesis method; system approach method.

Results. In the course of the study, federal law of Germany was examined with a view to the content of the rules relating to expert analysis and the regulation of expert analysis of The Federal Financial Supervisory Authority. Based on the study, we concluded that law does not regulate the expert and analytical activity of the SAI in Germany, the standards that determine the methodology for conducting expert-analytical measures are also not provided. Expert and analytical activities are used in the process of conducting all types of audits, but largely expert and analytical activities are used during the performance audit.

Figure 1 shows the dynamics of audits examinations for 2016-2018. According to the data, The Federal Financial Supervisory Authority pays particular attention to performance audit. This type of audit accounts for 45% of the total number of audits conducted. An audit of financial statements accounts for 35% of the total number of audits performed. Compliance audit is 30%.

Sixty six audit events were held in 2016 and 2017, in 2018 - 59 audit events.

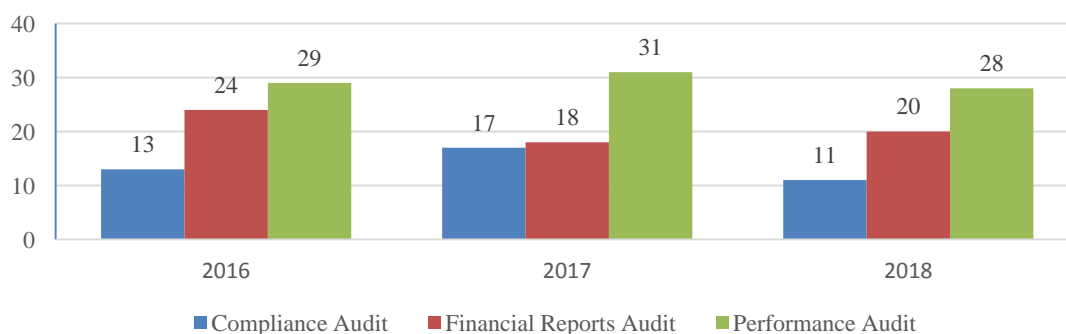


Figure 1 – the number of audits conducted for 2016-2018. Note: compiled by the author based on the source [3]

Based on this, the function of SAI in Germany is to conduct an audit directly. Expert and analytical activity has become one part of the performance audit. At the same time, the Federal Commissioner publishes research reports based on the results of the audit on topical issues in the field of federal administration.

The supreme authority of financial control in the USA is the Government Accountability Office. The Government Accountability Office (GAO) is an independent agency in the legislative branch of the federal government that provides support to Congress. The main objective of the Office is to control the spending of taxpayers by the federal government, as well as advising Congress and government officials on key aspects of improving government performance.

All audits conducted by the Government Accountability Office are divided into:

1) financial audit (an independent assessment of the financial information of the audited entity), which are divided into:

- audit of financial statements (presenting an opinion on whether the financial statements of the audited entity are properly prepared according to all materiality parameters);
- other types of financial audit, which are associated with different coverage of issues and volumes of audit work.

2) certification tasks cover a wide range of financial and non-financial goals for the subject of study, depending on the needs of users, and represent the result:

- inspection, which is conducted to obtain evidence necessary to express an opinion on the subject of the audit based on criteria or statements;

- a review, which is conducted through testing to express a conclusion on the reliability and compliance with the criteria of information provided to the attention of the auditor;

- agreed procedures, which are carried out by carrying out specific procedures on the subject of audit, the results of which do not express an opinion, but generate a report on the agreed aspects;

3) performance audit, which are conducted to identify or form conclusions based on the results of the assessment of compliance with the criteria on the basis of sufficient and suitable evidence, in order to improve the execution of programs and operations, reduce costs, facilitate decision-making [4].

An analysis of the above normative legal acts allows us to conclude that law does not regulate the expert and analytical activities of the SAI in the USA. Analytical measures are used in the process of conducting all types of audits, but largely, expert and analytical measures are used in conducting performance audits.

Figure 2 shows the number of conducted and planned performance audits for 2017-2019.

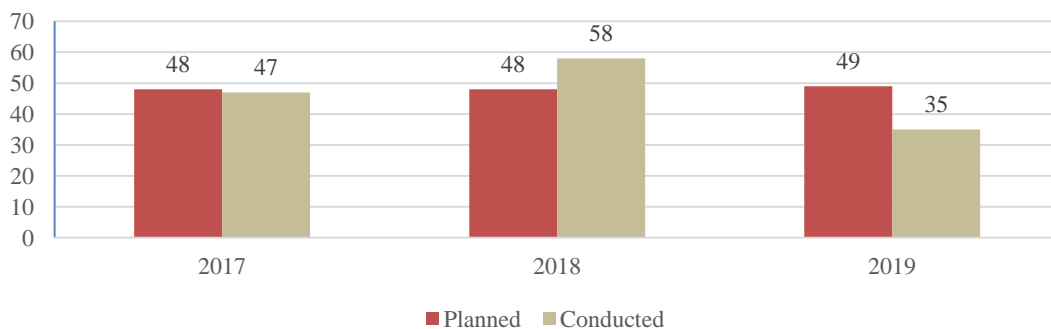


Figure 2 – Dynamics of planned and conducted performance audits for 2017-2019
Note: compiled by the author based on the source [4]

The Government Accountability Office in the USA plans the same number of performance audit each year. In fact, the percentage of completion of the plan in 2017 is 97%. In 2018, the plan is over fulfilled by 20%. In 2019, the percentage of completion of the plan was 71%.

The documents regulating the activities of the Office are the so-called Yellow and Red Books. In addition, the Office is developing internal audit standards, the Green Book. The results of the Office performance compile the Blue Book.

The Supreme Audit Institution in Great Britain is the National Audit Office (NAO). The Law on National Audit regulates the activities of the supreme body.

The SAI conducts two types of audit: financial audit and performance audit.

In the legislation, as well as audit standards in the UK, expert and analytical activity is not specifically regulated. Analytical measures are used in the process of conducting all types of audits, but largely, expert and analytical measures are used in conducting performance audit.

Performance audit is actively applied in the practice of the National Audit Office. In the first half of 2018, more than 70 performance audit events were held. The results of activities and events of the National Audit Office are published on the office website.

Figure 3 shows the dynamics of the amount of violations based on the audit activities of the National Audit Office for 2016-2018.

The amount of misstatements in the reporting period from 2016-2019 growing steadily. The average growth rate is 62% per year. In 2018, the amount of violations in property accounting has reached a greater value compared to 2017 and 2019 and amounted to 1,043.4 pounds. The amount of other types of violations in the period from 2017-2019 steadily decreasing. The average rate of decline is 57%.

The reports are relatively small in volume (usually 50-70 pages) reports on the results of performance audits that have been carried out. At the same time, performance audit can be carried out both with and without the use of direct control measures. Most of the conclusions of the report are the result of analytical work. Moreover, the methodology and tools used in the process of analysis are flexible and practically do not repeat themselves in various studies [6,7].



Figure 3 – Dynamics of the amounts of violations according to the results of the audit activities of the National Audit Office for 2016-2018. Note: compiled by the author based on the source [5]

Private experts and universities conduct external reviews of the Office reports and statements. A special structural unit of the SAI carries out internal expertise. Only 10% of the total number of control measures undergo examination by internal control.

Discussion. Expert and analytical measures are widely used in the practice of the Accounts Chamber of the Russian Federation. In 2018, 122 events were held in key areas of economic activity and 110 expert reviews of draft laws.

The obligation to conduct an expert and analytical event is written in the Federal Law “On the Accounts Chamber of the Russian Federation”. According to article 14 of the Law, the responsibilities of the Accounts Chamber include the functions of monitoring, expert analysis, information and other types of activities. The results of control and expert-analytical measures are the writing and sending of submissions, instructions and notifications that measures of budgetary coercion can be applied. The above activities are carried out with the help of state control, law enforcement and other bodies, under an agreement with audit, research, expert and other institutions and organizations, with individual specialists and experts in this field.

According to the regulatory documents of the Russian Federation, namely paragraph 4 of Article 14 of the Law, expert analytical and control activities can be applied during all types of audits: financial audit, performance audit, strategic audit. That is, according to external standards of financial control of the Russian Federation, expert and analytical activities are defined as part of the state audit.

Methods of expert and analytical activities: verification methods, conducting audits, conducting surveys, monitoring the activities of the object of control.

The main areas in which the expert and analytical event is held are the actual problems of the financial system of the Russian Federation. These problems are associated with the formation and execution of the budget of the federation, as well as questions based on the results of a study of the causes and associated deficiencies and consequences identified by the results of expert-analytical measures.

The table below shows external financial control standards governing expert and analytical activities in the Russian Federation.

Table 1 – Standards of external state audit governing expert and analytical activities in the Russian Federation

№	Financial control standards (FCS)	Objectives of FCS
1	FCS 102 «Carrying out expert and analytical event»	establishes general rules and procedures expert and analytical events
2	FCS 4030 “Preparation, conduct and presentation of the results of expert-analytical events”	establishes rules and procedures for the preparation of phased expert and analytical activities, as well as clarifies some details of the general standard
3	FCS 4050 “Monitoring the implementation of the results of control and expert-analytical events”	with the help of rules and procedures, it exercises control over the implementation of the final results of each event

Note: compiled by the author based on the source [8]

There are also standards that govern the expert and analytical activities of the Accounts Chamber of the constituent entities of the Federation.

The nature of the standards indicated above is procedural. They establish common unified requirements for the conduct and organization of expert and analytical activities.

An expert-analytical event, according to the Standards, is a form of implementing expert and analytical activity of the Accounts Chamber, under which conditions are created for the fulfillment of all powers of state financial control [9].

Table 2 – The main activities of the Accounts Chamber of Russia

Indicator	2015	2016	2017	2018
Control and expert-analytical events conducted	501	501	502	470
Expert-analytical events conducted	130	131	132	122
Control events conducted	371	370	370	348
Performance audit	14	16	18	–
Strategic audit	2	2	3	–
By instructions and appeals of the chambers of the Federal Assembly of the Russian Federation	33	27	33	43
Note: compiled by the author based on the source [10]				

Having studied the legislation and Standards of the Russian Federation, we identified two main areas of expert and analytical activity of the Accounts Chamber:

1) expert and analytical events on the most important issues of the country's life and the state of the public sector of the economy;

2) an examination of federal bills that were introduced by the Government of the Russian Federation to the State Duma.

Table 3 below shows indicators for the main activities of the Accounts Chamber of Russia for 2015-2018.

Table 3 – The Methodology for assessing the effectiveness of expert and analytical activities

The value of the coefficient of effectiveness	Assessment of the effectiveness of the indicator
The degree to which a particular indicator has been achieved	
$\text{Coef}_i = 1,0$	Highly Effective
$1,0 > \text{Coef}_i \geq 0,80$	Effective
$0,80 > \text{Coef}_i \geq 0,60$	Rather ineffective
$0,60 > \text{Coef}_i$	Ineffective
The integral degree of achievement of indicators	
$\text{Coef}_{id} = 1,0$	Highly Effective
$1,0 > \text{Coef}_{id} \geq 0,80$	Effective
$0,80 > \text{Coef}_{id} \geq 0,60$	Rather ineffective
$0,60 > \text{Coef}_{id}$	Ineffective
Note: compiled by the author based on the source [13]	

The share of expert and analytical events in the total number of events that were held by the Accounts Chamber of the Russian Federation is at a stable unchanged level and amounts to about 26%. It should be noted the low number of activities to conduct an audit of effectiveness and strategic audit. At the same time, until 2017 there was a steady growth in the development of the use of these audit forms in Russia. However, in the report of the Accounts Chamber of the Russian Federation for 2018 it was noted that work is underway to develop the application of these forms, but at the same time, there is no information on actually performed performance audits and strategic audits in the report.

In our opinion, these tables indicate the presence of a certain relationship between the use of expert analytical measures and performance audit. The low use in practice of activity of the performance audit leads to the need to assess the effectiveness of the objects of control and implementation of programs in

the form of expert and analytical measures. The presence of this relationship between the prevalence in the use of expert analysis and performance audit confirms the conclusion that in countries with a developed system of state audit, where there is a widespread use of performance audit, expert analysis is not regulated in a separate type of activity [11,12].

Summing up the results of studying international experience in the above countries, we can draw the following conclusions:

1) The study examined the experience of four countries, such as Germany, the USA, Great Britain and the Russian Federation. The expert-analytical activity of SAI in all the countries listed, except for the Russian Federation, is not legally regulated. There are no relevant norms in the laws governing the activities of SAI.

2) In all of the above countries, except for Russia, expert and analytical activities are not methodologically regulated. The rules, procedural standards, and audit requirements do not provide for a methodology for expert analysis.

3) A study of the documents resulting from the activities of the SAIs of the above countries, such as audit reports, analytical reports, annual reports (except for the Russian Federation) allows us to conclude that expert and analytical work in the above countries is carried out in the course of the performance audit.

4) The experience of the abovementioned countries, as well as the study of ISSAI standards related to the implementation of performance audit, indicates that the full-scale implementation of performance audit can lead to the absence of the need for additional expert analytical work. Since in accordance with ISSAI 300 performance audit is by themselves delivers new information, knowledge and value through:

- a new analytical understanding (broader and deeper analysis or new perspectives);
- transforming available information into more accessible for various stakeholders;
- providing the most independent views or conclusions that are based on the results of the audit;
- providing recommendations based on the analysis of audit results.

5) It should be noted that the results of the state audit, as well as analytical reports on the completion of the performance audit, are freely available and this allows the public and the expert community to participate in the discussion of the audit results. The involvement of the expert community in the discussion of audit results, the active work of independent experts and rating agencies also leads to the absence of the need for additional expert and analytical work of VOGA.

6) The law "On the Accounts Chamber of the Russian Federation" regulates expert and analytical work of the Accounts Chamber in the Russian Federation. In addition, special standards are provided that determine the methodology of the expert-analytical event. However, the approach of Russia is different from Kazakhstan. In Kazakhstan, expert and analytical activities are related to other, non-control activities, and the direct audit of the state (audit of financial statements, audit of compliance and audit of performance) and expert and analytical activities (preliminary, subsequent and ongoing assessment) are separated. In accordance with Russian legislation, conducting a state audit provides for the use of both control and expert analytical measures.

7) There is a direct correlation between the prevalence of the application of SAI in the country of performance audit and the implementation of additional expert and analytical activities. For example, in the Russian Federation, 122 expert and analytical events and only 3 performance audits were conducted. At the same time, more than 70 performance audits have been conducted in the UK.

In terms of the performance of expert and analytical work, consistency with regulatory documents, completeness and objectivity in the audit and preparation of the report, there are also certain criteria that characterize the quality of work. These criteria help in conducting a comprehensive assessment of the effectiveness of expert analysis in two stages:

1) Grade assessment: whether each $Coef_i$ indicator has been achieved by the formula:

$$Coef_i = I_{fact} / I_{norm} \quad (7)$$

where I_{fact} - indicators that are actually fulfilled by the i-th criterion; I_{norm} - the total number of performance indicators by the i-th criterion.

2) Determination of the integral degree: whether each indicator of $Coef_{id}$ is reached. according to the formula:

$$Coef_{id} = Coef1 + Coef2 + \dots + Coefn / n \quad (8)$$

where Coef1, Coef2, Coefn - degree, which shows whether specific indicators are achieved; n - number of indicators.

This technique is multifunctional and helps to evaluate the effectiveness of expert and analytical activities of state audit bodies at all audit levels.

The methodology helps the state audit bodies to cope with a number of tasks:

1) to analyze the effectiveness of expert analysis and to ensure the development of methods to increase the efficiency of activities;

2) to evaluate the present provision of expert analytical activities in the state audit system, identify minuses in the legislation and apply to the legislative bodies with proposals, with the aim of amending the regulatory framework that regulates expert analytical activities.

Conclusion. Thus, they concluded that the state audit does not create opportunities for a more rational use of resources, both material and financial. If the activity of the state audit bodies begins to be limited, takes on a formal character, then the results at the end of the state audit and the importance of the bodies as a whole will become negative.

To prevent this from happening, it is necessary to set clear goals and objectives for any audit event, according to the resources available to the auditors. If the resources (for example, the number of state auditors) are not enough, then there is a need to attract expert experts from the same bodies that carry out their activities in a similar field [14, 15]. That is, one of the important conditions and criteria for the effectiveness of expert and analytical activities is the organization of expert and analytical events at the proper level and the competence of state auditors.

When you are faced with the choice of criteria for the effectiveness of expert analytical work, a need arises for using a certain systematic approach. These criteria are mainly required to contain all the methods for solving problems that have been identified before state auditors. In this process, certain difficulties may arise, but the use of the above methodology will increase the level of effectiveness of expert analytical work. This is because the criteria directly depend on the quality indicators of expert and analytical activities.

It is necessary to take into account the fact that the methodology for assessing performance criteria must contribute to obtaining objective and reliable results, and should not distort the effectiveness and efficiency of the state audit body. It depends on a number of factors: the source information must be collected and processed appropriately, the economic meaning of the indicators that are the result of the assessment must be interpreted correctly, and the assessment procedure must be transparent. In addition, the assessment methodology should not require much time and money to evaluate. It should easily integrate into the existing database and software of state audit bodies.

An equally important key condition for the assessment may be that the assessment of the effectiveness of expert and analytical activities should be carried out in a timely and regular manner. Be sure to analyze the results of the assessment over time, subjects and objects of state audit and performance criteria.

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БАҒАЛАУ МЕН ӨЛШЕМДЕРДЕГІ САРАПТАМАЛЫҚ-ТАЛДАУ ҚЫЗМЕТІНІҢ ӘЛЕМДІК ДАМУ ҮРДІСТЕРІ

Аннотация. Әлемдік тәжірибе сараптамалық-талдау қызметін жүзеге асыру көбінесе сапалы қабылданған басқарушылық шешім деңгейіне, сондай-ақ бюджет және қаржы саласындағы шешімнің орындаушылық деңгейіне әсер ететінін дәлелдейді. Сондай-ақ, бұл шаралар мемлекеттік органдар қызметіндегі жауапкершілік, ашықтық және есеп беру дәрежесін арттыруға ықпал етеді.

Авторлар сараптамалық-талдау іс-шараларын жүргізудің әлемдік тәжірибесін, сараптамалық-талдау қызметін қолданудың тиімділігін бағалауды, Қазақстан Республикасында осындай жұмыстарды жүргізу бойынша әдістемелік ұсынымдарды әзірлеуді зерделеді.

Зерттеу барысында Германия, АҚШ, Ұлыбритания және Ресей Федерациясы сияқты төрт елдің тәжірибесі қарастырылды. Ресей Федерациясынан басқа, барлық аталған елдерде ЕҒАЖ-ның сараптамалық-талдау қызметі заң жүзінде регламенттелмеген. УҒЖА қызметін реттейтін заңдарда тиісті нормалар жоқ.

Жоғарыда аталған Ресейден басқа, барлық елдерде сараптамалық-талдау шараларын жүргізу әдіснамалық тұрғыда регламенттелмеген. Ереже, рәсімдік стандарттар, аудит жүргізуге қойылатын талаптарда сараптамалық-талдамалық іс-шараларды жүргізу әдістемесі көзделмеген.

Жоғарыда аталған елдердің ЖҚБО қызметінің нәтижесі болып саналатын аудиторлық есептер, талдамалық баяндамалар, жылдық есептер (РФ-дан басқа) сияқты құжаттарды зерделеу жоғарыда көрсетілген елдердегі сараптамалық-талдамалық жұмыс тиімділік аудитін жүргізу үдерісінде жоғары дәрежеде жүргізілетіні туралы қорытынды жасауға мүмкіндік береді.

Жоғарыда аталған елдердің тәжірибесі, сондай-ақ тиімділік аудитін іске асыруға байланысты ISSAI стандарттарын зерделеу тиімділік аудитін толық ауқымда іске асыру қосымша сараптамалық-талдау жұмысының қажеттілігіне әкелу ықтималдығын дәлелдейді, себебі ISSAI 300 сәйкес тиімділік аудиті жаңа ақпаратты, білім мен құндылықты өзі жеткізеді.

Түйін сөздер: әлемдік тәжірибе, УОГА, сараптамалық-аналитикалық шаралар, аудит стандарттары.

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МИРОВЫЕ ТЕНДЕНЦИИ РАЗВИТИЯ ЭКСПЕРТНО-АНАЛИТИЧЕСКОЙ ДЕЯТЕЛЬНОСТИ В ОЦЕНКАХ И КРИТЕРИЯХ

Аннотация. Мировой опыт свидетельствует, что осуществление экспертно-аналитической деятельности, в большей степени влияет на уровень качественно принятых управленческих решений, а также на уровень исполнимости решений в бюджетной и финансовой сфере. Также данные меры содействуют увеличению степени ответственности, открытости и подотчетности в деятельности государственных органов.

Авторами изучена мировая практика проведения экспертно-аналитических мероприятий, оценки эффективности применения экспертно-аналитической деятельности, выработка методических рекомендаций по проведению подобной работы в Республике Казахстан.

В ходе исследования был рассмотрен опыт четырех стран, таких как Германия, США, Великобритания и Российская Федерация. Экспертно-аналитическая деятельность ВОГА во всех перечисленных странах, кроме Российской Федерации, законодательно не регламентирована. Отсутствуют соответствующие нормы в законах, регулирующих деятельность ВОГА.

Во всех вышеперечисленных странах, кроме России, проведение экспертно-аналитических мероприятий не регламентировано методологически. В правилах, процедурных стандартах, требованиях к проведению аудита не предусмотрена методология проведения экспертно-аналитических мероприятий.

Изучение документов, являющихся результатом деятельности ВОФК вышеперечисленных стран, таких как аудиторские отчеты, аналитические доклады, годовые отчеты (кроме РФ) позволяет сделать вывод о том, что в большей степени экспертно-аналитическая работа в вышеуказанных странах проводится в процессе проведения аудита эффективности.

Опыт вышеперечисленных стран, а также изучение стандартов ISSAI, который связан с реализацией аудита эффективности, свидетельствует о том, что полномасштабная реализация аудита эффективности может привести к отсутствию необходимости дополнительной экспертно-аналитической работы, поскольку в соответствии с ISSAI 300 аудит эффективности сам по себе доставляет новую информацию, знания и ценность.

Ключевые слова: мировая практика, ВОГА, экспертно-аналитические мероприятия, стандарты аудита.

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TOURIST FLOWS OF KAZAKHSTAN: STATISTICS, GEOGRAPHY, TRENDS

Abstract. The article covers the issues related to the study of the tourist flow as a population of people temporarily moving to Kazakhstan and traveling from Kazakhstan abroad for tourism. The problems of accounting and analysis of tourist flows occupy a central place in the tourism economy and are still polemical.

During the research, the following results were obtained: firstly, the tourist flow as an economic indicator, notion, and process was investigated; secondly, the analysis of tourist flows in terms of structural changes, dynamics, geographical signs; thirdly, the growth prospects of inbound tourist flows based on the results of the SWOT analysis were justified.

Key words: tourism, budget, resource, outbound and inbound flow, visitor, tourist, migration, trip, infrastructure, analysis.

The tourist flow is not only a statistical value characterizing, on the one hand, the ratio of arrivals and departures, tourist expenses and incomes, but, on the other hand, is a very complex concept in structural terms. Quantitative and qualitative indicators of the tourist flow are formed affected by several natural, economic, political, social, geographical factors and indicate the country's tourist attractiveness, the efficient use of tourism opportunities and the demand creation for a national tourism product. There is a proportional relationship: the higher the demand for a national tourism product, the greater the volume of inbound tourist flow.

Statistics on tourist flows are needed to create development scenarios, identify volumetric indicators of the industry effectiveness, and calculate financial revenues to the budgets of all levels of public administration.

The aim of the study is to form a holistic integral representation of the tourist flow as a statistical value, a business process, and a complex notion.

Following the aim, the following objectives were formulated:

- to study and disclose the features of the formation of inbound and outbound flows in Kazakhstan;
- to assess comprehensively the inbound and outbound flows with the analysis of structural changes, dynamics, and geography based on data from the Committee on Statistics;
- to spot trends in the transformation of tourist flows based on a SWOT analysis taking into account the current situation on world capital markets.

The methodological basis of the research included the dialectic method, which considers the tourist flow not as something frozen, but as a process in which radical changes occur under the influence of factors of the external and internal environment. There is a need for scientific management of tourist flows based on a process approach that converts resources into a product with high added value and cost for the consumer. The relevance of the studies of tourist flows based on innovative methods of their analysis and

forecasting is emphasized in the works of such famous foreign and domestic scholars as A.Yu. Alexandrova, M.S. Oborin, A.A. Saryan, A.A. Gudkov, I.P. Kulgachev, V.A. Lepeshkin, E.A. Manteifel, M.R. Smykova, A.A. Kairova et al. [1-6].

Meanwhile, it is difficult to estimate the tourist flow by quantitative and qualitative indicators for the following reasons. As a rule, the arrival and departure of residents and non-residents are registered by the border service agencies of the National Security Committee of the Republic of Kazakhstan when crossing the state border. Additionally, data on visitors represented by collective accommodation facilities are being studied. However, some visitors choose individual accommodation facilities, guided by economic considerations. For this reason, when analyzing the inbound and outbound flows, it is recommended to study the dynamics of arrivals and departures, additionally considering the purpose of travel and only then examine the tourist flow.

This sequence of scientific research on tourist flows is because companies of the transport infrastructure, hotel and restaurant complex should be able to receive and serve all visitors regardless of the purpose of their trip. As usual, in places of temporary stay, people somehow try to get acquainted with local sights, traditions, and customs, visit restaurants and cafes of national cuisine, make purchases in shops and thus affect the income generation of the local population. In their free time from work and study, they can take weekend tours, contact travel agencies, use tourism resources.

Based on the foregoing, it can be argued that the activation of tourism activities and the increase in tourism attractiveness of Kazakhstan are evidenced by indicators characterizing the dynamics, structural changes, and geography of inbound and outbound flows. Table 1 presents statistics on the number of visitors to both arriving and departure traffic.

Table 1 – Dynamics of visitors by inbound and outbound flows in Kazakhstan in 2000–2018, people

Years	2000	2005	2010	2015	2016	2017	2018
The number of outbound visitors	1 246 731	2 974 869	7 412 300	11 302 476	9 755 593	10 260 813	10 646 241
The number of inbound visitors	1 682 548	5 990 691	4 712 657	6 430 158	6 509 390	7 701 196	8 789 314
<i>Note:</i> compiled according to the sources [7-10]. Data of the Border Service Agencies of the National Security Committee of the Republic of Kazakhstan.							

As the data in table 1 show, in 2018 the number of visitors in the outbound flow increased compared to 2000 by 8.53 times, or by 9,399,510 people. According to the inbound flow for the analyzed period, there is also an obvious tendency to increase from 1 682 548 to 8 789 314 people, or 5.22 times.

However, if compared the outbound and inbound flows, it turns out that the number of outbound visitors is much larger compared to the inbound flow. So, in 2018, 8 789 314 people visited Kazakhstan, and 10 646 241 people left Kazakhstan. The difference between these two indicators was 1 856 927 people.

The ratio between the numbers of inbound and outbound flows in 2018 was 0.82. The predominance of departures over arrivals is accompanied by the outflow of financial resources abroad. For this reason, it is an urgent need to intensify inbound flows.

We can state the fact that, on the one hand, Kazakhstan is becoming more recognizable in world space. On the other hand, Kazakhstanis also possess information, have money, show interest in studying the culture, traditions, gastronomic features of other nations, travel with different goals to countries both near and far abroad. The scope of labor and educational migration is expanding.

According to tables 2, 3, it is clear that in 2018, 81.40% of visitors left Kazakhstan for personal goals, and 18.60% for business and professional purposes. According to the inbound flow, 86.08% of visitors entered the country for personal goals and 13.92% - for business and professional purposes.

In 2018, for tourism, Kazakhstan received 65 822 people or 0.7% of the number of visitors of inbound flow, and 181 260 people or 1.7% of the number of visitors of outbound flow left Kazakhstan. The analyzed statistics are characterized by some conventionality since it is difficult to distinguish travel purposes. Tourism can be combined with private and business goals or transit.

Table 2 – The number of visitors of outbound flow by the purpose of the trip, people

Indicators	2014	2015	2016	2017	2018
The number of visitors on the outbound flow – total	10 449 972	11 302 476	9 755 593	10 260 813	10 646 241
Including					
business and professional	1 748 579	1 888 985	1 922 536	1 962 923	1 979 431
personal	8 701 393	9 413 491	7 833 057	8 297 890	8 666 810
of them					
tourism	287 526	200 434	124 101	167 440	181 260
private	8 404 701	9 208 274	7 666 055	8 074 660	8 452 029
transit	9166	4783	42 901	55 790	33 521
<i>Note:</i> compiled according to the source [10].					

Table 3 – The number of visitors of inbound flow by the purpose of the trip, people

Indicators	2014	2015	2016	2017	2018
The number of visitors on the inbound flow – total	6 332 734	6 430 158	6 509 390	7 701 196	8 789 314
Including					
business and professional	1 178 900	1 044 743	1 096 899	1 186 542	1 223 324
personal	5 153 834	5 385 415	5 412 491	6 514 654	7 565 990
of them					
tourism	61 953	54 374	56 228	81 635	65 822
private	4 439 556	4 839 040	4814 757	5 853 816	6 865 255
transit	652 325	492 002	541 507	579 203	634 913
<i>Note:</i> compiled according to the source [10].					

It should be noted that the geography of departures and arrivals is expanding every year. According to the Committee on Statistics of the Ministry of National Economy of Kazakhstan, exchanges were observed both with CIS countries and far abroad. In 2018, the CIS countries accounted for 93.03% of inbound visitors and 89.69% of outbound visitors. The share of countries outside the CIS in terms of inbound flow is 6.97%, and 10.31% in outbound flow, respectively.

Table 4 – Geography of visitors by outbound and inbound flows in Kazakhstan in 2018

Indicators	Inbound flow		Outbound flow	
	persons	percent	persons	percent
Total visitors	8 789 314	100,0	10 646 241	100,0
Including				
CIS countries	8 177 101	93,03	9 549 292	89,69
Out of CIS countries	612 213	6,97	1 096 949	10,31
<i>Note:</i> compiled according to the source [10].				

The CIS countries such as the Russian Federation, Kyrgyzstan, and Uzbekistan are among the leaders in the inbound flow. The number of visitors from the above-mentioned three states is 7 416 957 people or 84.39% of the total number of arrivals. From countries outside the CIS, countries such as Germany, Turkey, China, the USA, Mongolia, etc., are distinguished in inbound flow.

The CIS countries such as the Russian Federation, Kyrgyzstan, and Uzbekistan are again leaders in terms of departures. 9 406 548 Kazakhstanis, or 88.35% of the total number of visitors to the outbound flow, visited these neighboring states. Among countries out of the CIS, Kazakhstanis preferred to travel to Turkey, China, the United Arab Emirates, Egypt, Germany, Georgia, South Korea, and other countries.

Moreover, the undisputed leader in the number of outbound trips is Turkey, which attracts Kazakhstanis with the level of service, national cuisine, historical monuments, developed transport communications, a favorable warm climate and an ability to choose a particular location depending on the availability of financial resources.

Between China and Kazakhstan, long-term mutually beneficial economic partnerships have been developed. Kazakhstan people visit neighboring China for various purposes: recreation, treatment, business and professional, conducting sanatory preventive procedures, studying at universities, shopping, getting acquainted with gastronomic dishes famous all over the world, visiting numerous cultural monuments of antiquity, participating in tea and other ceremonies. In the neighboring state, there is a large diaspora of Kazakhs who have always dreamed of visiting their historic homeland.

Consumer preferences of Kazakhstanis are explained by the fact that friendships have long developed between the population of the Russian Federation, Kyrgyzstan, Uzbekistan, and Kazakhstan. The absence of language and other barriers contributes to the intensive exchange of outbound and inbound flows between these countries.

A crucial fact is that in recent years the infrastructure in all these countries has noticeably improved, comfortable places of accommodation and food have been built, and the quality of tourism services provided has enhanced. Transport links have been established. Qualified personnel is being trained for the tourism industry.

So, in Kazakhstan in 2018, there were 3322 units of accommodation, the one-time capacity was 168 603 beds. Structurally, there were 23 five-star hotels in the country, 79 four-star hotels, 120 three-star hotels, 24 two-star hotels, 14 one-star hotels, 1,753 unrated hotels, and 1,309 other accommodations. They served 5 526 864 people, including 830 922 non-residents and 4 695 942 residents. The occupancy rate of hotel beds in 2018 averaged 23.2%. Food services in 2018 were provided by 17 822 public catering enterprises [10, p.25-27,40].

If necessary, guests can use individual accommodation facilities. In any case, depending on preferences and financial opportunities, they will be offered various options for accommodation and meals.

Thus, it can be noted that certain conditions have been created in Kazakhstan and there is an appropriate material and technical base for receiving and servicing foreign visitors. To improve the situation in the market of tourism services, increase the competitiveness of the domestic tourism product, it is necessary to further advance it and improve the quality of services according to the world standards. Close attention deserves the question of the construction and functioning of comfortable accommodation in the countryside for the development of the current popular agrarian tourism.

Entrepreneurs in the tourism industry have studied international experience, international standards of service, they are actively engaged in advertising and positioning of the domestic tourism product. For this purpose, various means and tools of marketing communication are used: the Internet, television, radio, exhibitions, presentations, and the production of souvenirs with national symbols.

The works of domestic and foreign scholars are devoted to the development of tourism, who emphasize the relevance and importance of the topic of the research [11-21]. They note that the Russian Federation and Kazakhstan have rich tourism resources and opportunities for the development of all types of tourism without exception: cultural, educational, entertaining, ethnic, ecological, agrarian, extreme, business, medical and health, event, coastal, sports, international, space.

Kazakhstan can offer visitors from near and far abroad tourism products that are unique and exotic. Here you can not only admire the beautiful natural scenery, take hydrotherapeutic procedures in the summertime at the popular healing lake Alakol, in winter go skiing in the famous Chimbulak ski resort and ice skate on the high-mountain Medeu skating rink built during the planned economy, eat dishes of national cuisine, taste environmentally friendly products, improve health in medical institutions, see tourism attractions, get acquainted with the traditions of the peoples of Kazakhstan, but also take a space trip from the world's first Baikonur cosmodrome.

The study of the foreign experience of countries with a developed tourism industry has shown that tourism is becoming widespread. Outbound and inbound flows tend to increase. In the context of globalization, Kazakhstan is integrating into the world community. A neighborhood with China, Russia, Kyrgyzstan, and Uzbekistan allows developing cross-border tourism and implementing joint mutually beneficial projects. The geographical location of Kazakhstan provides certain competitive advantages.

To visualize the situation in the market, guide producers and consumers of tourism services, to develop a tourism development strategy in a country, region and a specific area, it is advisable to use a SWOT analysis.

In our case, the uniqueness of tourist destinations, a favorable climate, traditions of hospitality, an original culture, national cuisine, quality foodstuffs, support from the state are recognized as strengths and will undoubtedly arouse interest among potential visitors.

Weaknesses include insufficient service, poor transport infrastructure, lack of qualified specialists, relatively high prices, lagging behind developed countries in advertising and information, which inhibits the development of tourism and prevents the flow of visitors.

The development of new markets and segments, expanding the range of tourism services, improving the quality and competitiveness of tourism services, attracting foreign and domestic investors, increasing incomes and the level of employment, ensuring the economic accessibility of tourism products to wide layers of residents and non-residents, a well-constructed marketing strategy will give a new impetus and open up new opportunities in the tourism development.

Finally, it is advisable to react swiftly to the threats that place tourism at a disadvantage and caused by increased competitive pressure, reduced financial solvency of potential visitors, natural disasters and worsened epidemiological conditions in tourism centers, exchange rate fluctuations, worsened socio-political conditions in Kazakhstan and the world generally.

Competition in the tourism market is intensifying. Consumers decide to visit a particular country by comparing travel products in terms of price and quality.

The growth in demand for tourism services in Kazakhstan is determined primarily by economic factors. There is a need to ensure the economic accessibility of tourism services to a huge number of visitors coming to Kazakhstan for cognitive, rehabilitation, entertainment, educational, sports purposes. Various segments should be covered, distinguished by economic, geographical, social, and behavioral, demographic characteristics.

The paper argues the position that a holistic integral idea of the tourist flow as a statistical value, a business process and a complex notion confirms the previously put forward scientific hypothesis and leads to the following conclusions.

The multiplicative effect of tourism development is accompanied and caused by the intensification of tourist flows. The direct and indirect impact of tourism on the economy of the country and its regions is expressed in the generation of additional income, increasing employment, reducing unemployment, and developing the area.

The process approach to the study of tourist flows gives an understanding that it is a quantity that depends on many factors. With a scientific approach to managing tourist flows, it is possible to timely identify development trends and adapt to the anticipated changes.

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ҚАЗАҚСТАННЫҢ ТУРИСТІК АҒЫНЫ: СТАТИСТИКА, ГЕОГРАФИЯ, ТРЕНДТЕР

Аннотация. Туристік ағын бір жағынан туристік шығын мен кіріс, келуші және кетушілердің арақатынасын сипаттайтын статистикалық шама болса, екінші жағынан құрылымы бойынша қарастырғанда өте күрделі ұғым болып есептеледі. Туристік ағынның сандық және сапалық көрсеткіштері бірқатар табиғи, экономикалық, саяси, әлеуметтік, географиялық факторлардың ықпалы арқылы қалыптасады және елдің туристік тартымдылығын, туристік әлеуетті пайдалану тиімділігін, ұлттық туристік өнімге сұранысты қалыптастыруды көрсетеді. Үйлесімді тәуелділік байқалады, мысалы, ұлттық туристік өнімге сұраныс жоғары болса, соғұрлым ішкі туристік ағын көлемі артады.

Туристiк ағын бойынша статистикалық деректер даму сценарийiн әзiрлеу, саланың қызмет ету тиiмдiлiгiнiң көлем көрсеткiштерiн анықтау, мемлекеттiк басқарудың барлық деңгейлерiнiң бюджетiне түсетiн қаржылық түсiмдi есептеу үшiн қажет.

Алайда туристердiң келу және кету ағынын салыстырғанда, кету ағыны бойынша келушiлер саны келу ағымынан көбiрек екендiгi анықталды. Келу және кету ағынының географиясы жыл сайын кеңейiп келедi. Қазақстанның ұлттық экономика министрлiгiнiң статистика жөнiндегi комитетiнiң мәлiметi бойынша ТМД және ТМД-дан тыс елдер арасында алмасу үрдiсi байқалды.

Туризмi дамыған елдер тәжiрибесiн зерделеу жұмыстары туризм саласы жаппай сипатқа иеленетiнiн көрсеттi. Келу және кету ағыны ұлғайған. Жаһандану жағдайында Қазақстан әлемдiк қоғамдастыққа интеграцияланады. Ресей, Қытай, Қырғызстан және Өзбекстанмен көршiлес болуы, шекара маңындағы туризмдi дамыту және бiрлескен өзара тиiмдi жобаларды iске асыруға мүмкiндiк бередi. Қазақстанның географиялық орналасуы белгiлi бiр бәсекелестiк басымдыққа ие.

Нарықтағы жағдайды жете түсiну үшiн, туристiк қызметтердiң тұтынушылар мен өндiрушiлерге бағдар беру, елде, өңiрде және белгiлi бiр жерде туризмдi дамыту стратегиясын әзiрлеу үшiн SWOT-талдау қолданылды.

Бiздiң жағдайымызда туристiк дестинациялардың бiрегейлiгi, қолайлы ахуал, қонақжайлық дәстүр, төл мәдениет, ұлттық тағам, сапалы тамақтану өнiмдерi, мемлекет тарапынан қолдау артықшылық деп танылып, әлеуеттi келушiлердiң қызығушылығын тудырады.

Өлсiз жағы ретiнде жеткiлiксiз қызмет көрсету деңгейi, көлiк инфрақұрылымының дамымауы, бiлiктi мамандардың жетiспеушiлiгi, салыстырмалы жоғары баға, мәлiмет беруде, жарнамада дамыған елдердiң артта қалу жағдайы аталады әрi бұл туризм дамуына жол бермейдi және келушiлерге кедергi жасайды.

Жаңа нарықты және сегменттердi игеру, туристiк қызметтер тiзбесiн кеңейту, туристiк қызмет сапасын және бәсекеге қабiлеттiлiгiн арттыру, отандық және шетелдiк инвесторларды тарту, тұрғындар табысын және жұмыспен қамту деңгейiн арттыру, резиденттер мен резидент еместер топтарына туристiк өнiмнiң экономикалық қолжетiмдiлiгiн қамтамасыз ету, дұрыс жасалған маркетингтiк стратегия жаңа серпiн бередi және туризмнiң дамуы жаңа мүмкiндiктер ашады.

Сонымен, Қазақстанда және тұтастай әлемде әлеуметтiк-саяси жағдайдың нашарлауына, валюталық курстың тұрақсыздығына, табиғи катаклизмдерге және туристiк орталықтарда эпидемиологиялық жағдайдың нашарлауына, әлеуеттi келушiлер төлемiнiң азаюына, бәсекелестiк қысымның күшеюiне байланысты туризмдi қолайсыз жағдайға қалдыратын қауiп-қатерге уақытында назар аудару қажет.

Туризмдi дамытудың мультипликативтi нәтижесi туристiк ағынның қарқын алуымен қатар жүредi және iске асады. Ел экономикасына және өңiрлерге туризмнiң тiкелей және жанама ықпалы қосымша табыс табуда, жұмыспен қамту деңгейiн арттыруда, жұмыссыздықтың азаюы және аумақтардың дамуы барысында көрiнедi.

Туристiк ағынды зерттеуге процестiк көзқарас туристiк ағын көптеген факторларға тәуелдi шама екендiгi туралы түсiнiк бередi. Туристiк ағынды басқаруға ғылыми көзқарас арқылы даму тенденцияларын дер кезiнде анықтап, күтiлетiн өзгерiстерге бейiмделуге болады.

Түйiн сөздер: туризм, бюджет, ресурс, келу және кету ағыны, келушi, турист, миграция, сапар, инфрақұрылым, талдау.

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ТУРИСТКИЕ ПОТОКИ КАЗАХСТАНА: СТАТИСТИКА, ГЕОГРАФИЯ, ТРЕНДЫ

Аннотация. Туристский поток – это не только статистическая величина, характеризующая с одной стороны соотношение прибытий и выбытий, туристских расходов и доходов, но и с другой стороны, в структурном отношении – весьма сложное понятие. Количественные и качественные показатели туристского потока складываются под влиянием целого ряда природных, экономических, политических, социальных, географических факторов и свидетельствуют о туристской привлекательности страны, эффективности использования туристского потенциала и о формировании спроса на национальный туристский продукт. Прослеживается пропорциональная зависимость: чем выше спрос на национальный туристский продукт, тем больше объем въездного туристского потока.

Статистические данные по туристским потокам нужны для разработки сценариев развития, выявления объемных показателей эффективности функционирования отрасли, расчета финансовых поступлений в бюджеты всех уровней государственного управления.

Однако, если сравнивать между собой выездные и въездные потоки, то обнаруживается, что количество посетителей по выездному потоку значительно больше по сравнению с въездным потоком. География въездных и выездных потоков с каждым годом расширяется. По данным Комитета по статистике Министерства национальной экономики Казахстана, обмены наблюдались как со странами СНГ, так и странами вне СНГ.

Изучение опыта стран с развитой сферой туризма показало, что туризм приобретает массовый характер. Въездные и выездные потоки имеют тенденцию к увеличению. В условиях глобализации Казахстан интегрируется в мировое сообщество. Соседство с Китаем, Россией, Кыргызстаном и Узбекистаном позволяет развивать приграничный туризм и реализовывать совместные взаимовыгодные проекты. Географическое расположение Казахстана дает определенные конкурентные преимущества.

Для того, чтобы наглядно представить ситуацию на рынке, дать ориентиры для производителей и потребителей туристских услуг, для разработки стратегии развития туризма в стране, регионе и определенной местности целесообразно применение такого инструмента, как SWOT-анализ.

В нашем случае уникальность туристских дестинаций, благоприятный климат, традиции гостеприимства, самобытная культура, национальная кухня, качественные продукты питания, поддержка со стороны государства признаны сильными сторонами и, несомненно, вызовут интерес у потенциальных посетителей.

К слабым сторонам отнесены недостаточный уровень сервиса, неразвитость транспортной инфраструктуры, недостаток квалифицированных специалистов, относительно высокие цены, отставание от развитых стран в рекламе, информировании.

Освоение новых рынков и сегментов, расширение перечня туристских услуг, повышение качества и конкурентоспособности туристских услуг, привлечение зарубежных и отечественных инвесторов, повышение доходов и уровня занятости населения, обеспечение экономической доступности туристского продукта широким слоям резидентов и нерезидентов, грамотно построенная маркетинговая стратегия придадут новый импульс и открывают новые возможности в развитии туризма.

И, наконец, целесообразно своевременно реагировать на угрозы, которые ставят туризм в неблагоприятное положение и обусловленные усилением конкурентного давления, снижением платежеспособности потенциальных посетителей, природными катаклизмами и ухудшением эпидемиологической обстановки в туристских центрах, колебанием валютного курса, ухудшением социально- политической обстановки в Казахстане и в мире в целом.

Мультипликативный эффект от развития туризма сопровождается и вызывается интенсификацией туристских потоков. Прямое и косвенное влияние туризма на экономику страны и его регионов выражается в получении дополнительных доходов, повышении уровня занятости, уменьшении безработицы, развитии территории.

Процессный подход к исследованию туристских потоков дает понимание того, что туристский поток – это величина, зависящая от многих факторов. При научном подходе к управлению туристскими потоками возможно своевременно выявить тренды развития и адаптироваться к предполагаемым изменениям.

Ключевые слова: туризм, бюджет, ресурс, выездной и въездной поток, посетитель, турист, миграция, поездка, инфраструктура, анализ.

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DIFFERENTIATION OF POWERS OF STATE AUTHORITIES OF THE RUSSIAN FEDERATION AND LOCAL GOVERNMENTS IN THE CONTEXT OF SUSTAINABLE TOURISM

Abstract. This article provides the first legal justification for the thesis that involvement of regional authorities in development of the tourism industry is an international obligation of the Russian Federation in the field of sustainable tourism development. The key to its effective implementation should be a differentiated legal regulation of the powers of state bodies at various levels. In the study of the powers of the Russian Federation and its subjects in the field of sustainable tourism development, analysis and synthesis methods were used, as well as a combination of comparative and formal legal methods.

The study revealed legislative separation of competencies and powers between the Russian Federation and its entities in the tourism sector does not fully comply with international obligations of the state. The concentration of “tourist” powers in the hands of the federal authorities will not allow achieving the Sustainable Development Goals in the tourism sector of the economy, and also significantly reduces effectiveness of state tourism policy.

Key words: division and separation of authority and powers between government bodies, federal state, federalism, tourism policy, jurisdictions, laws on tourism, tourism, sustainable tourism development, international tourism cooperation, international commitment, implementation, Global Code of Ethics for Tourism (GCET), Framework Convention on Tourism Ethics, Sustainable Development Goals (SDGs).

Introduction. International background. The multifunctional nature of tourism is recognized internationally. Tourism performs various economic, social, humanitarian functions: it is a means of economic recovery, a factor of interstate integration, a form of leisure, a means of understanding the world and a source of human development, a tool for the communication of peoples and so on (Panzabekova, 2018, p. 83; Taylor, 1992, p. 248). The importance of international tourism as an instrument for ensuring international peace and security has been repeatedly emphasized in many international legal acts: e.g. Principle IV of Declaration on the Promotion among Youth of the Ideals of Peace, Mutual Respect and Understanding between Peoples (1965), Manila Declaration on World Tourism (1980), Seoul Declaration "Peace and Tourism" (2001), etc. For quite a long time, the international community considered development of domestic tourism, the tourism industry a category of cases related, in essence, to the internal competence of the state, and, therefore, not subject to international obligations. Only at the end of the 20th century did states come to realize the need for a coordinated development of domestic and international tourism. The mentioned Manila Declaration and the Hague Declaration on Tourism (1989) specifically emphasizes development of foreign tourism should be accompanied by similar efforts to develop domestic tourism. Moreover, tourism was considered as a zone of responsibility of state as a whole. The solution to this issue has reached a new level in connection with proclamation and consistent implementation of the concept of sustainable development.

Without dwelling on history of origin and legal content of the concept of sustainable development (Kukushkina, 2017, p. 29-39; Lukasheva, 2011, p. 5-35; Zybaylo, 2011, p. 87-88), it should be noted its adaptation to tourism did not happen immediately. The UN Agenda 21, adopted in 1992, reinforced the need for sustainable development of economic development, environmental protection and poverty

alleviation (Babenko, 2011, p. 61-63). It is clear this approach was intended to cover all areas of human life. Tourism was no exception, although not a single chapter was devoted to it on Agenda 21. Already in the 1997 Program of Action for its Implementation, tourism was featured as sectoral topics. Two years earlier World Tourism Organization, together with non-governmental organizations, developed the Agenda 21 for the travel and tourism industry. Thus, the organization developed the principle of sustainable tourism, formulated by it in 1988, which meant "managing all resources in such a way that economic, social and aesthetic needs can be met while maintaining cultural identity, basic environmental processes, biological diversity and life support systems". The UN Commission on Sustainable Development, which functioned as a subsidiary body of the UN General Assembly until 2005, as well as the World Tourism Organization (UN WTO), which acquired the status of a UN specialized agency in 2003, made a significant contribution to establishment of the concept of sustainable tourism.

The relationship of tourism and sustainable development is manifested in two points. Firstly, tourism policy should be based on the concept of sustainable development, and, therefore, the need to develop such types of tourism that more than others meet the relevant criteria comes to the fore (Ponomareva & Malafiy, 2010, p. 210). A generic term for these types of tourism has become "sustainable tourism" (Timofeeva, 2007, p. 183).

Secondly, tourism itself is a tool for sustainable development. This is due to the fact that the tourism industry is one of those sectors of the economy have relatively little impact on environment. In addition, multiplier effect of tourism is generally recognized, that is, the implementation of transformations in the tourism sector affects related industries (Saidasheva, 2013, p. 17). Presumably, this applies not only to financial investments in the tourism sector, but also to the consequences of legal decisions and organizational measures carried out by state central and local authorities.

Thanks to activities of universal and regional international institutions, the content of the concept of sustainable tourism development has been enriched, significantly going beyond the framework of agreed economic and environmental policies (Sharpley, 2009, p. 60-62). Already in 2005, the UN WTO, together with UNEP, formulated 12 goals for sustainable tourism, including social justice, access to tourism, local control and so on. Currently, the topic of sustainable tourism has received a new impetus with the adoption in 2015 of the UN Sustainable Development Goals (Transforming our world: the 2030 Agenda for Sustainable Development – A/RES/70/1) after the implementation of the Millennium Development Goals 2000 (Myasnikova, 2019, p. 135). It emphasizes the determination to "promote sustainable tourism" (paragraph 33). The SDGs consist of 17 global goals and the associated 169 targets, «which are integrated and indivisible».

Tourism is directly linked to achievement of three global goals:

- Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all (target 8.9);
- Goal 12. Ensure sustainable consumption and production patterns (target 12.b);
- Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development (target 14.7).

In all three cases, the need to preserve and develop local culture, resources, and industry is noted.

A key factor in sustainable development was proclaimed, inter alia, the active involvement of local authorities in solving problems (Dyachenko, 2016, p. 81-82). In a concentrated form, the nature and directions of public influence on the tourism sector based on the concept of sustainable development are recorded in UNESCO Sustainable Tourism Charter (Lanzarot, 1995) and the Global Code of Ethics for Tourism (hereinafter GCET), approved by UN WTO General Assembly in 1999.

Both UNESCO and UNWTO are specialized agencies of which the Russian Federation is a member. Their resolutions reflect the collective practice of Member States (Barre, 2011, p. 2). I. I. Lukashuk noted: "The charters of organizations are based on the assumption that each member will conscientiously fulfill their obligations, achieve the goals and principles of the charter. And this is simply not possible if member states do not take into account the adopted resolutions" (Lukashuk, 1993, p. 170). Many bilateral agreements of the Russian Federation on cooperation in the field of tourism contain obligations on cooperation within organs of UNWTO and will be included among the basic principles enshrined in the acts adopted with its participation. In the Resolution of the Plenum of the Supreme Court of the Russian Federation of 10.10.2003 No. 5 "On the application by courts of general jurisdiction of generally

recognized principles and norms of international law and international treaties of the Russian Federation" acts of specialized institutions are designated as a possible source of content and a means of interpreting generally recognized principles and norms of international law (Clauses 1, 16).

GCET has an international implementation mechanism – World Committee on Tourism Ethics. Now its functions are (a) monitoring, evaluating and reporting on the implementation of GCET; (b) the research and issuance of reports, recommendations and observations on ethical matters related to tourism; (c) the proposal and approval of texts of conventions and other legal instruments on specific issues related to GCET provisions; and (d) identification main priority areas on which to concentrate its attention in terms of possible ethical impacts of the tourism sector (UN WTO General Assembly resolutions 607(XIX) of 2011, 708(XXII) of 2017). The implementation of GCET was also the subject of discussion at meetings of the UN General Assembly (A/RES/70/200 of 2015, A/RES/65/148 of 2010, A/RES/60/190 of 2005, A/RES/56/212 of 2001).

Additionally, GCET along with the 1989 Hague Declaration on Tourism and the Charter of Tourism and the Tourist Code, approved in 1985, are called Decision No. 24 of the Supreme Eurasian Economic Council by international standards are taken into account by the competent authorities in regulating trade in services, institutions and activities, and also in the process of its liberalization.

Forms of participation of local authorities in the sustainable development of tourism in accordance with international standards. It must be recognized the commitment to the sustainable development of tourism has become a universally recognized norm of international law. It is unacceptable to identify a universally recognized norm of international law and an international standard. They may vary in form of expression, legal force, addressees of prescriptions, level of detail. A general legal commitment to the sustainable development of tourism in order to fulfill it most effectively requires adherence to international standards in this area. It is noteworthy that the UN WTO has developed a Framework Convention on Tourism Ethics on the basis of GCET (Nikanorova, 2017, p. 144-145). Developed in 2017 (707(XXII) of 2017), the text of the convention was submitted for approval by the UN WTO General Assembly in 2019. Therefore, it is not ruled out that international standards will provide legal force to international universal treaty norms. The World Committee on Tourism Ethics should become both the implementation mechanism of the Framework Convention and the body for the optional resolution of disputes between its member states, as well as disputes of participants in the tourism process (including private individuals). Articles 4 to 12 of the Framework Convention actually duplicate Articles 1 to 9 of the GCET. However, GCET does not terminate (Article 13 of the Framework Convention).

However, the very provisions of GCET and the Framework Convention are heterogeneous.

Firstly, the objective criterion of their systematization was used (which continues the tradition of the Hague Declaration of Tourism of 1989 and the Manila Declaration on World Tourism of 1980).

Secondly, nature of the requirements varies (a) from self-implementation to non-self-implementation, that is, requiring mainly from States to take appropriate legislative and / or organizational measures; (b) from regulatory to declarative.

Thirdly, the provisions of GCET and the Framework Convention are addressed to different categories of entities: public authorities (central, regional and local administrations), tourism industry entities, tourists, the media and host communities (population of tourist destinations). Only part of the provisions is common to all subjects, the main part is formulated as "individual rights and obligations." The definition of individual rights and obligations is explained by the different role that actors play in increasing the social value of tourism. At the same time, documents in some cases distinguish participants in the tourism process (in terms of documents), host communities and tourists, referring to the first only public authorities and subjects of the tourism industry and their associations. In addition, GCET and the Framework Convention highlight the local participants in the tourism process and the government (central authorities).

Fourth, GCET and the Framework Convention distinguish between measures that must be taken at the national level, at the corporate level, at the local level, and measures requiring international cooperation in accordance with international law.

Thus, speaking about the role of public authorities in the implementation of international standards, it is necessary to take into account these circumstances.

The own role of local authorities is to ensure respect for visiting tourists, including from the local population (Article 1 of the GCET / Article 4 of the Framework Convention), to take into account the interests of the local population when implementing tourism policy (Article 5 of GCET / Article 8 of the Framework Convention), to solve the problem of tourism seasonality (Article 3 of GCET / Article 6 of the Framework Convention), and to ensure prompt and unhindered access to local administrative services (Article 8 of GCET / Article 11 of the Framework Convention), as well as an obligation to integrate tourist centers and accommodation facilities in local socio-economic environment as much as possible into local socio-economic environment during urban planning and architectural planning (Article 5 of GCET / Article 8 of the Framework Convention).

Together with other public authorities, local authorities should support, including financially stimulating resource-saving and non-waste tourism technologies, rationing visits to especially vulnerable and specially protected natural areas, with particular attention to ecological tourism (Article 3 of the GCET / Article 6 of the Framework Convention).

Particular attention is paid to the criteria for effective tourism policies implemented by all public authorities. These include the following requirements (Articles 1 – 4, 8, 9 of the GCET / Articles 4 – 7, 11, 12 of the Framework Convention):

- taking into account the socio-cultural traditions and customs of all peoples, especially national minorities and indigenous peoples;
- taking into account the humanitarian function of tourism;
- ensuring equal rights and taking into account the special needs of socially vulnerable categories of the population;
- equal protection of personal data of all tourists;
- taking into account the special rights of local communities regarding access to tourism resources;
- sustainable development;
- preservation and protection of natural and cultural heritage;
- promotion of access to cultural heritage, regardless of ownership of the property;
- ensuring the conservation of cultural and natural diversity;
- special consideration of the interests of small and medium-sized businesses in the tourism sector.

Both instruments do not predetermine the structure of tourism management in state, do not fix the requirements for legal status of tourism administration units. Local authorities are structures operating locally within tourism destinations. However, it is the state authorities are responsible for:

- ensure the safety and protection of tourists and their property, especially foreign;
- inform and provide assistance to tourists (Article 1 of GCET / Article 4 of the Framework Convention);
- ensure the protection of health in the field of tourism and the prevention of accidents (Article 6 of GCET / Article 9 of the Framework Convention);
- oblige the tourism business to conduct studies of the environmental impact of tourism projects, as well as ensure their transparency (Article 5 of GCET / Article 8 of the Framework Convention);
- ensure social partnership of the tourism business, tourism industry workers and the local population (Article 5 of GCET / Article 8 of the Framework Convention);
- inform citizens about the threats and dangers that may be encountered during a foreign tourist trip (Article 6 of GCET / Article 9 of the Framework Convention);
- to support social and especially collective tourism, family, youth and student tourism, as well as tourism for the elderly and disabled (Article 7 of GCET / Article 10 of the Framework Convention);
- provide access to communications, medical and legal services (Article 8 of GCET / Article 11 of the Framework Convention).

The legislation should provide for measures for prevention and suppression of violations of rights of tourists and workers of the tourism industry, damage to tourist facilities; to combat exploitation of people in the field of tourism; measures for liability insurance and for fair compensation in case of non-fulfillment of contractual obligations by tourism industry entities, as well as with the repatriation of tourists in case of insolvency of companies that organized their trips; guarantees of labor and social rights of workers in the tourism industry "taking into account specific restrictions related, in particular, to the

seasonal nature of their activities, the global scale of the tourism industry and the flexibility that is required of them in connection with the nature of their work"; minimum legal and administrative restrictions on access to the tourism sector for investors and entrepreneurs; the gradual abolition of taxes and fees "burdening the tourism industry and damaging its competitiveness" (Articles 1, 2, 6, 8, 9 of GCET / Articles 4, 5, 9, 11, 12 of the Framework Convention)

That is, in this case, GCET and the Framework Convention determine not only the level of measures taken (state, central advantage), but also their nature (law-making).

Domestic measures of sustainable tourism development. When adopting legal acts in the field of tourism, the Russian Federation and its subjects must correlate their content with international obligations that lie with the state. This follows from the basic principle of international law – principle that States shall fulfil in good faith the obligations assumed by them.

The obligation to ensure sustainable development of tourism is an obligation under general international law. Its implementation is ensured by all elements of state mechanism, including local structures (Kapiki, Nurgaliyeva Z. & Nurgaliyeva A., 2014, p. 36-37). It seems such content should be given to the wording of laws on tourism, which enshrines development of the tourism industry and / or tourism as goals, principles, and functions of state regulation. In particular, this approach is demonstrated by the Law of the Republic of Kazakhstan of June 13, 2001 No. 211-II "On Tourism Activities in the Republic of Kazakhstan" (Articles 8, 9, 12).

It is in this context that the powers of the subjects of the Russian Federation to "create favorable conditions for development of tourism in the subject of the Russian Federation" should be considered, which is enshrined in Federal Law of 06.10.1999 No. 184-FZ "On General Principles of Organization of Legislative (Representative) and Executive Government Agencies subjects of the Russian Federation" (art. 26.3). Not being constitutionally enshrined in joint jurisdictions, but referred to as the aforementioned Federal Law, this power was developed by Article 3.2 of the Federal Law of November 24, 1996 No. 132-FZ "On the Basics of Tourism Activities in the Russian Federation" (hereinafter Tourism Law).

The Russian Constitution enshrines the federal structure of the state (Articles 1, 5). Consequently, from the point of view of international and administrative law with regard to the Russian Federation, one can speak of at least three types of local authorities: (a) local branches of the central authorities; (b) the authorities of the constituent entities of the Russian Federation; (c) local authorities (municipal authorities). The first category of bodies is not provided for by applicable legal acts, and the competence of second and third ones is formulated in a similar way. Modern researchers note "in Russian federal laws, division of authority and powers between subjects of the Russian Federation and municipal formations in sphere of development of tourism development is based on a fragile balance that is based on ambiguously interpreted norms of the Constitution of the Russian Federation" (Sergeev, 2019, p. 303).

Scarcity of the provisions of these federal laws is partially offset by the norms of other federal laws. The dependent nature of regional rule-making does not allow filling in legal lacunae in determining the competence of local authorities.

Comparison of the Code and the Framework Convention, on the one hand, and the Tourism Law, on the other hand, shows a variegated national legal picture.

(1) In terms of fixing goals, the principles of state regulation of tourism, there are no omissions, except for the sustainable development of tourism as an internal state legal concept (Maksanova, 2017, p. 87-89). The concept is fixed only at the federal by-law level in strategic planning documents.

(2) Particularization of powers of local authorities in the Tourism Law cannot be considered as a successful legal decision. On the one hand, the subject of regulation of the Tourism Law defines tourism activities, not tourism, that is, the movement of individuals. On the other hand, tourism, due to its multifunctional nature, affects many areas of public life, as well as a wide range of human rights. Consequently, strict terminological coordination of the provisions of the Federal Law of 1999 and the Tourism Law formally excludes other laws from the sources of regulation of regional powers in the tourism sector.

(3) The Tourism Law fully regulates those issues that affect interests of tourists. On the contrary, labor issues, issues of social partnership in the tourism sector, issues of transparency of strategic forecasting for the tourism business, issues of encouraging the use of resource-saving tourism technologies and so on, remain outside the Tourism Law. To some extent, the exception is so-called "special

consideration of the interests of small and medium-sized businesses in the tourism sector” (Maksanova, Kaurov & Oshirov, 2016, p. 56-57). The centers for the development of rural and ecological tourism are assigned to the infrastructure for supporting small and medium-sized enterprises by the Federal Law of 1997 "On the Development of Small and Medium-Sized Enterprises in the Russian Federation" (Article 15). But this legal situation does not mean that the regulation of other issues assumes the character of exclusive competence of the subjects of the Russian Federation. Regional authorities have the right to rulemaking on these issues only to the extent established by federal law.

(4) The cornerstone of sustainable development – the conservation of tourism resources – is regulated in the Tourism Law by blanket provisions (Article 13). And special legislation on environmental protection reduces ecological tourism to tourism in specially protected natural areas. Among the laws on the protection of historical and cultural heritage, the Federal Law of 05.26.1996 No. 54-FZ “On the Museum Fund of the Russian Federation and Museums in the Russian Federation” is the furthest advancement in tourism. In particular, museums-reserves have been assigned to create tourism conditions. The issue of local population’s access to resources that may be of tourist interest is very contradictory in law, in Tourism Law, this is a declaration. But the relationship between tourism and local population has another aspects. Just as a tourist should respect local customs and traditions, so the local population should respect visitors (Maksarova, 2008, p. 348). But the Tourism Law is silent on the second obligation. The legal acts do not address the issue of involvement of local population in tourism activities. The strategic planning documents give only a positive assessment of tourism as a source of jobs. At the same time, the economic literature focuses on the difficulties of sustainable development of tourism in areas where it is the main branch of economy (Accinelli, Brida & Carrera, 2007, p. 521-530).

(5) There are tourism policy issues that can only be successfully resolved at local level (Maslennikova, 2007, p. 8-9). Objective criteria for determining powers of local authorities are territorial criterion, nature of tourism resources, type of tourism (outbound tourism should not be regulated by regional authorities). At the same time, it is not clear why main responsibility for creating and ensuring conditions for unhindered access for tourists (sightseers) to communications, medical, legal, and other types of emergency care is vested in local authorities. The assignment of authority to development of tourism among schoolchildren by regional authorities raises questions. This is a purely non-profit type of tourism that requires substantial budgetary injections (Chernykh, 2015, p. 66; Rassokhina, 2015, p. 87).

(6) The concept of sustainable tourism implies the equality of individuals in exercise of their right to tourism, regardless of place of residence (Smirnova, 2013, p. 14). However, legal capabilities of regional authorities are made dependent on availability of their own budget funds. Consequently, there is territorial inequality. It is aggravated by the federal tourism policy, the essence of which is “focusing efforts and concentrating state support on the territories with the greatest tourism potential” (Strategy for the Development of Tourism in the Russian Federation for the period up to 2035, approved by Order of the Government of the Russian Federation of September 20, 2019 No. 2129-r). However, world experience shows that tourism can become a tool to boost the economy of the backward regions (Mowforth & Munt, 2009, p. 335-343; TESIS, 2016, p.4), “proved the advantage of regions in obtaining benefits from the development of tourism” (Khachmamuk, 2004, p. 7).

Thus, the legislative separation of powers between federal and local authorities in Russia does not allow for the effective implementation of the country's international obligations in the field of sustainable development (Sakharov & Kolmar, 2019, p. 203). The participation of Russia in the processes of economic integration objectively requires the approximation of legal systems (Ayupova, Kussainov & Nagan, 2019, p. 103), participation in the international trade in tourism services also determines the harmonization of tourism legislation on the basis of common standards.

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**РЕСЕЙ ФЕДЕРАЦИЯСЫ МЕН АЙМАҚТЫҚ БИЛІК ӨКІЛЕТТІГІН
ТУРИЗМНІҢ ТҰРАҚТЫ ДАМУ ТҮРҒЫСЫНАН САРАЛАУ**

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**ДИФФЕРЕНЦИАЦИЯ ПОЛНОМОЧИЙ РОССИЙСКОЙ ФЕДЕРАЦИИ
И РЕГИОНАЛЬНЫХ ВЛАСТЕЙ В КОНТЕКСТЕ УСТОЙЧИВОГО РАЗВИТИЯ ТУРИЗМА**

Аннотация. В настоящей статье впервые дается юридическое обоснование тезису о том, что вовлечение региональных властей в развитие туризма вытекает из международного обязательства Российской Федерации по его устойчивому развитию. Выдвигается предположение о том, что такое обязательство имеет характер общепризнанной нормы международного права, сформировавшейся в практике международных межгосударственных организаций, в том числе тех, членом которых является Российская Федерация.

В работе обозначено соотношение устойчивого развития туризма и Целей в области устойчивого развития (ЦУР – Преобразование нашего мира: повестка дня в области устойчивого развития на период до 2030 года), принятых ООН. Связь устойчивого развития с туризмом несомненна. С одной стороны, устойчивое развитие – это требование, которое должно выполняться всеми участниками туристского процесса. С другой стороны, туризм – это та сфера человеческой деятельности, которая сама по себе в значительной степени позволяет обеспечить устойчивое развитие. Поэтому так называемый устойчивый туризм должен стать инструментом достижения не только трех из семнадцати ЦУР.

Всемирная туристская организация ООН (ЮН ВТО) в сотрудничестве с другими международными учреждениями выработала стандарты политики устойчивого туризма, которые в концентрированном виде нашли отражение в Глобальном этическом кодексе туризма. В работе анализируются положения данного акта и разработанной на его основе Рамочной конвенции по этике туризма применительно к тематике статьи, выявлены те из них, которые адресованы местным властям. Выделяемые функции местных властей разделены на две группы: а) осуществляемые только на локальном уровне; б) осуществляемые совместно с центральными властями. Кроме того, выделены требования, предъявляемые ЮН ВТО к внутригосударственной туристской политике.

Автор утверждает, что залогом эффективного осуществления устойчивого развития туризма должно стать дифференцированное правовое регулирование полномочий органов публичной власти разных уровней. В исследовании выявлено, что законодательное разделение предметов ведения и полномочий между Российской Федерацией и её субъектами в туристской сфере не в полной мере соответствует международным стандартам, а, следовательно, не позволяет государству эффективно выполнять обязательства в области устойчивого развития.

Во-первых, собственно концепция «устойчивого туризма» не фиксируется законодательно, все остальные целевые установки воплощены практически в полном объеме.

Во-вторых, заданные федеральными законами рамки полномочий субъектов РФ как «полномочий по созданию условий для развития туризма» создают ситуацию правовой неопределенности, порождают коллизии, а также препятствуют региональному нормотворчеству. В то же время недопустимо использование одинаковых формулировок применительно к компетенции и предметам ведения субъектов РФ и органов местного самоуправления, поскольку туризм – это ответственность государства.

В-третьих, законодательство о туризме пренебрегает интересами туристской индустрии, акцентируя внимание на интересах туристов.

В-четвертых, пробельный характер носит регламентация вопроса о сохранении туристских ресурсов, также частично урегулировано участие местного населения в туристском процессе. Без этого устойчивое развитие туризма не представляется возможным.

В-пятых, законодатель игнорирует объективные обстоятельства, обуславливающие особую роль регионов в получении выгод от туризма, а также то, что часть проблем наиболее эффективно может быть решена только на локальном уровне.

В-шестых, дисбаланс финансовых полномочий и экономическое неравенство субъектов РФ создает препятствия для доступа населения к туризму.

Таким образом, сосредоточение «туристских» полномочий в руках федеральных властей не только не позволит достичь Цели в области устойчивого развития в туристском секторе экономики, но и существенно снижает эффективность государственной политики в данной сфере.

В ходе исследования использовались методы анализа и синтеза, а также сочетание компаративистского и формально-юридического методов. В работе учтены исследования не только ученых-юристов, но и экономистов, социологов, специалистов-практиков.

Ключевые слова: разделение предметов ведения и полномочий между органами государственной власти, федеративное государство, федерализм, туристская политика, предметы ведения, законы о туризме, туризм, устойчивое развитие туризма, международное туристское сотрудничество, международное обязательство, имплементация, Глобальный этический кодекс туризма (ГЭКТ), Рамочная конвенция по этике туризма, Цели в области устойчивого развития (ЦУР).

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E-mail: murzabekova001@mail.ru, satkynai26@mail.ru, osmonalievanj@mail.ru**PROPERTY RELATIONS IN KYRGYZ FAMILY:
LEGAL ASPECTS**

Abstract. The article provides legal analysis of features of family property relations in the custom law of the Kyrgyz people and the legislation of the Kyrgyz Republic.

Using analysis, synthesis, legal and historical law methods, the Matrimony and Family Code of the Kyrgyz SSR of 1969, the Family Code of the Kyrgyz Republic of 2003, the Code of Laws on Civil Status Acts, Matrimony, Family and Fiduciary Law of the RSFSR of 1918, The Code of Laws on Marriage, Family and Fiduciary of the RSFSR of 1926, The Ordinance of the President of the Kyrgyz Republic dated January 26, 2012 No. 17 “On declaring 2012 the Year of Family, Peace, Concordance and Mutual Forgiveness” and Family Support and Child Protection Program for 2018 - 2028 of Government of the Kyrgyz Republic were studied.

The article analyzes relevant theoretical and practical issues related to common property of spouses, separate property of spouses, relations between parents and children for joint ownership and use of each other's property, alimony responsibility of family members and property relations of factual spouses. According to the author, legal norms regulating property relations in family are important when courts consider cases in sphere of protection of property rights of family members. In particular, the authors came to the conclusion in the Kyrgyz Republic the legal regulation of property relations in family is basis for resolving contentious issues in the family law.

Key words: family, member of family, property, property relations, property, property of spouses, alimony, right to support, prenuptial agreement, division of property, agreement on payment of alimony.

Introduction. Currently, due to the involvement in the civil turnaround of new types of property, percentage of objects of property of citizens' rights has expanded significantly. Analogic processes are going on throughout the post-Soviet space. For example, in Bulgaria with the new Family Code a decisive reform of the matrimonial property law has been made. For the first time the intending spouses were allowed to choose the system of property relations in marriage (Petkova, 2011, p. 108). On the example of Albania E. Garunja reveals political and social-economic changes were associated with new phenomena (such as divorce, domestic violence, crime among young people, etc.) (Garunja, 2019, p. 151). G.B. Kovachek-Stanich and S. Samardcshich note in many jurisdictions, spouses/custom-law partners can choose which matrimonial property regime they want to be applied on their property relations. Viewed comparatively, such freedom exists in Western European countries for some time, but recently, both Eastern and Central European countries introduced the possibility of concluding marital property agreement in their legal systems, which changes the default marital property regime (Kovachek-Stanich & Samardcshich, 2016, p. 1065).

The society to a large extent needs to provide stable guarantees for protection of citizens' property rights, including those that appear in family. These guarantees have a positive effect on stability of family relationships. The proclamation in the Kyrgyz Republic of 2012 as the Year of Family, Peace, Consensus and Mutual Forgiveness is a prerequisite for the adoption and implementation of the complex of economic, legal and organizational measures to amplification social role of family. For example, in Kyrgyzstan, 2020 has been declared the Year of Regional Development, Digitalization and Support for Children; in 2017, the Government of the Kyrgyz Republic adopted the Family Support and Child Protection Program for 2018-2028.

The new regulation of family property relations is in the Family Code of the Kyrgyz Republic of August 30, 2003. The dispositive method replaced the mandatory legal regulation in this act. However, the family legislation of the Kyrgyz Republic does not fully defend property rights and interests of spouses, parents and children. Property relations of spouses have transformed significantly, for example, men and women who receive high income prefer to have the most valuable things in separate ownership, because the legal mode of the common joint property of the spouses does not always coincide to their interests.

Reinforcement of the institution of private property predetermined the appearance in the legislation of the Kyrgyz Republic of prenuptial agreement, an agreement on the division of property, an agreement on the payment of alimony and others. Though family law of the Kyrgyz Republic has been allowing prenuptial agreements for almost ten years, this phenomenon has not become widespread. In addition, more often in Kirghizia actual marriage without legal registration is sighted. For example, according to the information of the National Statistical Committee of the Kyrgyz Republic for 2018, children born out of wedlock was 36,790, approximately 20,000 children were registered at the joint request of parents, and about 17,000 were recorded only at the request of mother (Women and Men of the Kyrgyz Republic, 2019, p. 30).

Methods. Using analysis, synthesis, legal and historical law methods, the Matrimony and Family Code of the Kyrgyz SSR of 1969, the Family Code of the Kyrgyz Republic of 2003, the Code of Laws on Civil Status Acts, Matrimony, Family and Fiduciary Law of the RSFSR of 1918, The Code of Laws on Marriage, Family and Fiduciary of the RSFSR of 1926, The Ordinance of the President of the Kyrgyz Republic dated January 26, 2012 No. 17 "On declaring 2012 the Year of Family, Peace, Concordance and Mutual Forgiveness" and Family Support and Child Protection Program for 2018 - 2028 of Government of the Kyrgyz Republic were studied.

Results. According to Kyrgyz law in sphere of property relations, the differences between the subsequences of actual and registered marriage are important. The Family Code of the Kyrgyz Republic recognizes only registered marriage (Article 11), and in this part, the Kyrgyz family law does not meet modern society needs.

Modern family in Kyrgyzstan is in crisis, many families are breaking up, denial of material support to even closest relatives is widespread. Percentage of divorces and, as a result, divisions of common property is growing every year (in 2017, amount of divorces was 9,588, for 2018 – 10434 (Women and Men of the Kyrgyz Republic, 2019, p. 31)). Analogic processes are taking place in other post-Soviet countries, for example, in Poland in 2016 - 2017 percentage of divorces increased 3.5 times (Sztaudynger, 2018, p. 104). Therefore scientific study of the legal aspects of the separate and common property of spouses, the procedure for the division of property upon divorce, the practice of applying this legislation will improve quality of family law and its practice.

State support for assailable populations in Kyrgyzstan is insufficient. The main load on the livelihood of disabled citizens, children and pensioners is borne on able-bodied members of family (parents, adult children, spouses). In judicial practice of the Kyrgyz Republic, cases of collection of alimony are one of prevalent categories of causes adjudicated in civil courts. According to the information of the Judicial Department of the Supreme Court of the Kyrgyz Republic for 2018, 25,331 receiving-orders were received for execution, 3556 were verified in full. 2565 writ of debtors for alimony payment are on the wanted list. There is a tendency towards a decrease in the full extent of enforcements of a court decision and an increase in percentage of those who evade child support. Therefore, the task of growth effectiveness of the legislation of the Kyrgyz Republic on alimony and its practice.

Property relations in family originate between strictly defined entities, close people, empowered with family rights and obligations. S.A. Muratova considers as an independent concept of "family" found in the text of several articles of family law. In this partition of law, family is considered to be a single collective entity, family members are also independent subjects of family legal relations (Muratova, 2006, p. 38).

According to the author, the legislator using the term "family" in the context of rights and obligations identified this definition with the concept of "family member", keeping in mind to a separate independent entity, a person who is part of corresponding family. In practice, determining the list of family members is important. These include spouses, parents and children (adoptive parents and adopted children), and in cases and within the limits established by family law, other relatives and persons. The anchorage of the list of family members is based on an analysis of subjects of relations regulated by family law.

Researching legal status of subjects of family property relations, it should be borne in mind they must have coincident family legal capacity and legal capacity.

The next element of family property relations is objects with which family members interact and property. It should be noted that in Art. 35 of the Family Code of the Kyrgyz Republic, the term "property", as an object of family relations of spouses, includes things and property rights. Object of family property relations is property: residential building, garage, summer residence, household and personal consumption items, vehicles, building, enterprise, equipment, construction, i.e. any property of consumer, industrial, social, cultural and other purposes. The exception is certain types of property provided for by law that cannot be owned by a citizen in connection with state or public safety or in accordance with international obligations of the state.

Discussion. Theorists of Family Law M.V. Antokolskaya, K.I. Asanova, S.A. Muratova, O.A. Ruzakova and others traditionally distinguished two categories of spouses' property relations: regarding ownership of things and provision of payments.

The relatively independent category of property relations of spouses regulated by family law are relations existed to liability of spouses for payments to other subjects. However, it should be noted these relations concern other subjects and cannot be regulated by the deal. Family property relations should be classified depending on subjects and establishments for their genesis between:

1) spouses: regarding joint property, regarding separate property created by prenuptial agreement, regarding mutual payments;

2) spouses and other subjects: regarding liability of spouses for common and/or separate obligations;

3) parents and children: regarding possession and use of each other's property, regarding disposal of property of minor children, regarding provision of mutual payments;

4) other members of family: relations between able-bodied adult brothers (sisters) and minor brothers (sisters) regarding provision of maintenance, relations between grandfathers (grandmothers) and minor grandchildren (able-bodied adult grandchildren) regarding provision of support, relations between stepfather (stepmother) and able-bodied adult stepsons (stepdaughters) regarding provision of support.

According to the written sources of the adat – Erezhe (the law of biys), marriage was a property deal. Woman was a subject of purchase and sale and did not have property rights. According to M.Zh. Mukanova bride and groom were objects of contract and not subjects (Mukanova, 2003).

Marriage with payment of kalym is one of the forms of marriage according to custom law, which was widespread among the Kyrgyz. Such a marriage existed among the Turkic-speaking peoples before the adoption of Islam. Then Muslim ideologists established a kalym marriage as a form of a purchased marriage. Kalym began to play the same role as paying mahr among the Arabs (Vagabov, 1980, p. 146). Marriage was considered legally held after paying kalym – buyout for the bride. Contract was concluded by parents. By agreement of parties, marriage could be terminated subject to return of received kalym.

In the Soviet period, new family law was created through the adoption of decrees, codes, laws and other acts regulated property relations in family. In 1918, the codification of family law began. In accordance with Art. 105 of the Code of laws on acts of civil status, marriage, family and fiduciary law of the RSFSR, marriage did not create a common property of spouses. The principle of complete separability of property of spouses acted. From the point of view of K.I. Asanova, the principle of separation of spouses' property turned out to be just an anachronism, from the beginning of which judicial practice, and then the legislator, were forced to refuse (Asanova, 1999, p. 37). In the first years of the formation of the USSR, the second codification of family law was carried out by adopting the RSFSR Code of Laws on Marriage, Family and Custody of 1926, according to which property belonged to spouses before marriage remained separate. Property acquired by the spouses during marriage was considered common of the spouses. The very essence of marriage dictated need to recognize commonality of rights of each spouse to everything they obtained during their life together (Ryasantsev, 1971, p. 67; Vorozheykin, 1969, p. 16). This was the first step towards the unification of legal mode of spouses' property. In addition, Art. 125 of the Code provided for the equal shares of each spouse in common property. But by the decree of the Presidium of the Supreme Soviet of the USSR of September 15, 1945 the edition of this article was changed and size of share of property belonging to both spouses was determined by court. An important moment in the development of marital family law was the adoption on December 26, 1969 of the Marriage and Family Code of the Kyrgyz SSR. This act enshrined mode of common joint property of spouses along

with common shared property and individual property. With common joint ownership, there is complete equality of rights to own, use and dispose of property acquired by spouses in marriage. In addition, the Code did not fix all the conditions for genesis of alimony obligation between spouses, did not disclose the concept of spouse's disability, which caused discussions in the legal literature. The Code on Marriage and Family of the Kyrgyz SSR did not specify legal status of grandchildren obliged to pay child support, namely, working capacity and full age, therefore, some difficulties arose in determining amount of child support, or those who took their children for constant upbringing and maintenance were obliged to pay them forced maintenance if they refused to provide content.

Constitutional norms on the rights and freedoms have become the foundation of modern family law of the Kyrgyz Republic. The Family Code of the Kyrgyz Republic as a codified normative act contains legal norms reflecting the specifics of legal regulation of family relations, including property relations in family.

Researching examined the sources of legal regulation of family property relations, the authors concluded family law changed significantly depending on modifications in state ideology and permutations in society. There is a correction in the structure of legislation, the emergence of codified sources. In addition, in each subsequent source percentage of norms enlarged, more often individual provisions began to be detailed, many peremptory norms were replaced by dispositive ones.

Reinforcement of the dispositive principle in family law has led to the wider application of civil norms in the regulation of family property relations. One of the current issues in legal science is the question of the relations between family and civil legislation in the regulation of family relations, this problem still does not find a definite solution, while it has theoretical and practical meaning. Having studied the norms of the Family Code of the Kyrgyz Republic and the research of S.S. Alekseeva, M.V. Antokolskaya, Ch.I. Arabaev, M.I. Braginsky, N.D. Egorova, S.M. Muratbekova, A.M. Nechaeva, V.P. Nikitina, V.V. Pavlenko, L.M. Pchelintseva, A.P. Sergeev and others, the authors came to the conclusion family law regulating family relations, including property relations in family, taking into account the specifics of such relations is a priority, and in case of unresolved family law subsidiary civil law should apply.

Legal mode of spouses' property in the Kyrgyz Republic can be represented as jointly acquired and separate property. Property of spouses is material basis of their life together. The list of joint property of spouses in Art. 35 of the Family Code of the Kyrgyz Republic is far from exhaustive, which, of course, creates controversial issues and difficulties in law enforcement.

According to A.M. Belyakova, V.A. Ryasentseva and S.Yu. Chashkova in property of spouses includes things and property rights, but not debts. M.V. Antokolskaya, L.M. Pchelintseva V.A. Tarkhov and A.M. Erdelevsky believe common debts of spouses are one of components of property they acquired. Debt is essentially purchase during family life. Joint debts represent joint property. According to the author, it is necessary to include things, rights of claim and debts in common property of spouses, but the "core" of property relations of spouses will be property relations. Therefore, it will be fair to recognize the point of view of scientists in sphere of civil law, who distinguish between the categories of "property of spouses" and "property of spouses", the composition of which is not limited only to objects of property right.

To establish unity of the legal regulation of property relations between spouses regarding common joint ownership, the authors proposes to add Clause 2 of Article 35 of the Family Code of the Kyrgyz Republic: "Common property of spouses includes debts acquired by spouses (one of them) by concluding deals in interests of family". Accordingly, the rules contained in Clause 3 of Article 40 and Clause 2 of Article 48 of the Family Code of the Kyrgyz Republic when dividing common property of spouses, common debts are distributed between them in proportion to shares awarded, acquire logical completeness.

In judicial practice questions arise regarding separate property of spouses, property acquired jointly by persons, if judge declared marriage invalid; legal nature of things purchased during marriage, but with funds owned by one of spouses before marriage; legal mode of dowry, wedding gifts and gifts that one spouse made to another; legal mode of income received during marriage from use of separate property of one of spouses, etc. In many cases, it is advisable to solve these problems by concluding a marriage contract.

Joint property of spouses division is a long and complicated process during which difficulties arise in court, especially in cases where spouses divorce and at the same time have property claims to each other. Currently, there is increase in quantity of divorces in the Kyrgyz Republic. In 2017, percentage of divorces was 9,588, in 2018 – 10,434 (Women and Men of the Kyrgyz Republic, 2019, p. 31). Analogic processes take place in other post-Soviet countries, for example, in Poland (Roman, 2018, p. 2). When divorce is not often matters of division of property is peacefully resolved. Therefore, theoretical elaboration of issues related to separate and common property of spouses, and with procedure for division of property upon dissolution of marriage and their proper practical application will help to avoid disputes arising when dividing joint property of spouses.

When trialing between spouses on division of joint property, court shall establish: composition of the shared property; absence of rights of claims of other entities on property; property not subject to division; value of property. Court has right to depart from the principle of equal shares of spouses, based on interests of minor children and interest of one of spouses, in cases where other spouse did not receive income without a good reason or spent common property of spouses to detriment of interests of the family. When sharing some things problems arise due to the fact that not all types of property can be divided without damage. In this case, thing is awarded to one of spouses who has important interest in its use, and to other spouse – monetary compensation.

In absence of disagreement on division of joint property, spouses have to independently conclude an appropriate agreement (Clause 2 of Article 39 of the Family Code of the Kyrgyz Republic). This deal may determine fate of common property that spouses already possess. Spouses have right to divide common property equally or to deviate from the principle of equal shares. The Family Code of the Kyrgyz Republic does not contain special requirements for form of agreement on division of property of spouses, they are given the right to choose necessary form themselves. From the point of view of the author, preparation of such deal without notarization by a notary does not fully protect rights of spouses. When signing a deal, a notary can verify legal capacity of spouses and subsequently always confirm in court document was signed in his presence by both spouses whose legal capacity was verified. The agreement on division of common property and court decision have the same legal force. A notarized document is effective evidence in litigation.

Concluding prenuptial agreement, spouses have right to change legal mode of ownership, establish regime of joint, shared or separate property of all their property, its separate types or property of each of spouses, both existing and future. The authors believe the purpose of such contract is to change legal mode of spouses' property to maximize adaptation of this regime to their needs. Spouses have right to establish rights and obligations for mutual maintenance in marriage contract; ways to participate in each other's incomes; procedure for spending each of them family funds; property that will be transferred to each of them in case of divorce; any property provisions.

However, as the analysis of the norms of the Family Code of the Kyrgyz Republic regulating marriage contract has shown, there are lacuna and contradictions which complicates the application of this act. Important questions are raised by the determination of the legal nature of marriage contract. The position of M.Zh. Mukanova deserves attention, who insists prenuptial agreement by its legal nature is an independent civil agreement with certain specific features (Mukanova, 2004, p. 210). I.V. Zlobina, L.B. Maksimovich, O.N. Nizamiev did not consider prenuptial agreement by a kind of civil deal, but saw in it a special kind of agreement (*sui generis*), family law agreement. In our opinion, family-legal nature of marriage contract is determined by specific features, among which a strictly defined subjective composition stands out; close dependence on marriage, outside which deal cannot exist; originality of subject of contract.

According to the author, it is necessary to establish the essence of matter and subjects of marriage contract. In the Family Code of the Kyrgyz Republic there are no rules detailing rights and obligations of spouses in legal modes other than legal. Future research needs base, procedure and legal consequences of changing and terminating of prenuptial agreement, invalidating it, which will more effectively protect rights and legitimate interests of spouses. Conclusion of contract also affects the interests of third parties. Therefore, of particular importance is the study of foreclosure on spouses' property, legal mode of which is established by prenuptial agreement.

The special requirements for subjects of prenuptial agreement make it impossible to conclude deal between actual spouses, who are becoming more widespread. The negative attitude of society towards cohabitation is replaced by liberal views. The scientific interest in problem of actual marriage is growing. According to M.V. Antokol, between actual spouses, it is possible to conclude agreement to which the rules on the marriage contract can be applied by analogy with the law. Moreover, the authors believe, due to significant prevalence of actual marriages, it is advisable to explicitly allow such spouses to conclude marriage agreement, including with the condition that common joint property mode be extended to their property (Antokolskaya, 1999, p. 168-169). From the point of view of M.Zh. Mukanova although contractual relations may arise between actual spouses regarding their joint property, it is undesirable to regulate these relations by prenuptial agreement, this will only cause confusion in practice (Mukanova, 2004, p. 212).

Results. In our opinion, it is advisable to simultaneously introduce two alternative ways of establishing actual marriage: by concluding a special agreement and by adjudication. Both methods should lead to the same consequences: recognition of actual marriage by state; providing actual spouses with rights, obligations and legal protection. The authors propose to provide persons who are in unregistered marriage, opportunity to conclude property agreement between persons who are in marital relationship without registering marriage. In contract, these persons can establish legal mode of property owned or acquired by them, and settle obligations of obligation among themselves. The application of marriage contract by analogy is possible by direct reference in contract to the relevant articles of the Family Code of the Kyrgyz Republic.

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ҚЫРҒЫЗ ОТБАСЫНДАҒЫ МҮЛІК ҚАТЫНАСТАРЫ: ҚҰҚЫҚТЫҚ АСПЕКТІЛЕР

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ИМУЩЕСТВЕННЫЕ ОТНОШЕНИЯ В КЫРГЫЗСКОЙ СЕМЬЕ: ПРАВОВЫЕ АСПЕКТЫ

Аннотация. Целью исследования является юридический анализ особенностей семейных имущественных отношений семьи в Кыргызской Республике.

С применением анализа, синтеза, юридического и историко-правового метода изучены Кодекс о браке и семье Кыргызской ССР 1969 г.; Семейный кодекс Кыргызской Республики 2003 г.; Кодекс законов об актах гражданского состояния, брачном, семейном и опекунском праве РСФСР 1918 г.; Кодекс законов о браке, семье и опеке РСФСР 1926 г.; Указ Президента Кыргызской Республики «Об объявлении 2012 г. Годом семьи, мира, согласия и взаимного прощения» и Программа Правительства Кыргызской Республики по поддержке семьи и защиты детей на 2018 – 2028 гг.

В статье освещены актуальные теоретические и практические вопросы, касающиеся общего и раздельного имущества супругов, отношений детей и родителей по совместному владению и пользованию имуществом друг друга, алиментных обязательств членов семьи и имущественных отношений фактических супругов. Авторы пришли к выводу, что правовое регулирование имущественных отношений в семье является основой для разрешения спорных вопросов в сфере семейного права.

Исследовав отдельные положения семейного законодательства Кыргызской Республики, авторы сделали вывод, что данная отрасль права претерпела существенные изменения вследствие перемен в обществе и изменений государственной идеологии. Наблюдается увеличение числа источников семейного права и правовых норм, появление кодифицированных источников, большая детализация некоторых положений семейного права, замена отдельных императивных норм на диспозитивные.

Относительно самостоятельную категорию имущественных отношений супругов, регулируемых семейным правом, составляют отношения, связанные с ответственностью супругов по обязательствам перед тре-

тими лицами. С точки зрения авторов, они не могут подвергаться договорному регулированию, следовательно, составлять его предмет, поскольку указанные отношения затрагивают интересы третьих лиц,

Авторы поддерживают точку зрения, в соответствии с которой семейное законодательство, регулирующее семейные, в том числе имущественные отношения в семье, и учитывающее специфику таких отношений имеет приоритетное значение, а в случае неурегулированности их семейным законодательством субсидиарно применяются нормы гражданского права.

В статье отмечается, что в состав общего имущества супругов необходимо включать вещи, права требования и долги, но «сердцевину» имущественных отношений супругов будут составлять отношения собственности.

Для установления единства правового регулирования общей совместной собственности супругов авторами предлагается п. 2 ст. 35 Семейного кодекса Кыргызской Республики дополнить следующими положениями: «К общему имуществу супругов относятся долги, приобретенные супругами (одним из них) заключением сделок в интересах семьи».

Авторы отмечают, что перед судебной практикой встают вопросы, связанные с раздельным имуществом супругов; имуществом, приобретенным совместно лицами, брак которых признан недействительным; правовой природой вещей, купленных во время брака, но на средства, принадлежащие одному из супругов до вступления в брак; правовым режимом приданого, свадебных подарков, а также подарков, которые один супруг делал другому; правовым режимом доходов, полученных во время брака от использования раздельной собственности одного из супругов и др. Во многих случаях данные проблемы целесообразнее решать, заключая брачные контракты.

Проведенный авторами анализ норм Семейного кодекса Кыргызской Республики, регулирующих отношения, связанные с брачным договором, показал, что существуют пробелы и противоречия, которые усложняют его практическое применение, в частности определение правовой природы брачного договора. Основываясь на положениях научных трудов в сфере семейного права, авторы приходят к выводу, что брачный договор по своей правовой природе является самостоятельным гражданско-правовым договором, обладающим определенными специфическими чертами, и семейно-правовая природа данного контракта обусловлена специфическими особенностями, среди которых следует выделить строго определенный субъективный состав; тесную зависимость от брака, вне которого эта сделка не может существовать, а также своеобразие предмета договора.

Ключевые слова: семья, член семьи, имущество, имущественные отношения, собственность, имущество супругов, алименты, право на содержание, брачный договор, раздел имущества, соглашение об уплате алиментов.

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THE RIGHT OF JUVENILE CONVICTS TO PERSONAL SAFETY IN PRISONS OF THE FEDERAL PENITENTIARY SERVICE OF RUSSIA: THEORETICAL AND METHODOLOGICAL ASPECT

Abstract. The article is devoted to one of the urgent problems of ensuring the personal safety of juvenile convicts in prison. The theoretical and methodological study of the analyzed phenomenon allowed us to single out the general opinion of scientists and the factors that determine the current state of personal safety of juvenile convicts in educational colonies of the Federal Penitentiary Service of Russia, in the pre-trial detention centers of the Russian Federal Penitentiary Service, as well as at the stages of going to the place of serving the criminal sentence in the form of deprivation of liberty and those under investigation for crimes committed in places of deprivation of liberty.

The author of the article analyzes the provisions established in article 13 of the Criminal Procedure Code of the Russian Federation, the right of all convicted persons, as well as persons in custody in the pre-trial detention center of the Russian Federal Penitentiary Service, to trial for personal security is guaranteed by the penitentiary institutions of the Russian Federal Penitentiary Service, and this right is ensured by the following imperatives: 1). Article 13 of the Law of the Russian Federation of July 21, 1993 No. 5473-I "On Institutions and Bodies Executing Criminal Sentences of Imprisonment"; 2). Article 19 of the Federal Law of July 15, 1995 No. 103-FL "On the Detention of Suspects and Accused of Committing Crimes".

The article analyzes legal scientific literature on the expression of various opinions of researchers regarding the personal safety of juvenile convicts in prison. The author completely agreed with many of the stated points of theoretical researchers, and at the same time formulating the following proposition.

The author, in turn, determines that the problem of personal security of juvenile convicts in places of deprivation of liberty is also of great importance for the relations that are taking shape in the Russian penal system as a whole. This is due to the fact that punishment always involves the restriction of the rights and freedoms of persons who committed crimes in the educational colonies of the Federal Penitentiary Service of Russia, and, as a result, the special nature of the relationship between the staff of the penitentiary institutions of the Federal Penitentiary Service of Russia and convicts.

So, the urgency of the problem today is, first of all, ensuring personal security, as well as the constitutional rights and legitimate interests of juvenile convicts in the investigation of crimes committed in the institutions of the Federal Penitentiary Service of Russia, is also manifested in the fact that depriving citizens of their freedom, the state agrees to comply their legal status, to protect the life and health of the convict.

It should be noted that the concentration of persons who committed crimes in prisons, a significant proportion of which are grave and especially grave, as well as a number of other reasons entail a real threat of new crimes committed by prisoners of various nature and degree of public danger. In this regard, there is the possibility of unlawful influence on juvenile convicts who are participants in the criminal process in the framework of a case instituted on the fact of committing a crime in the institution of the Russian penal system. As a result, the author's concept is formulated - "Ensuring personal security, rights and legal interests of juvenile convicts".

This material presented in the article does not contain information (information) related to state secrets of the Russian Federation.

Key words: personal security of the convict, the penitentiary institution of the Federal Penitentiary Service of Russia, legal status of a minor convict, constitutional rights and freedoms of a convicted person in prison, NLA of international law, Constitution of the Russian Federation, PEC RF, Code of Criminal Procedure, Criminal Code, witness immunity, ensuring the safety of all participants in criminal proceedings.

An essential factor in the democratization of Russian society is the constitutional consolidation of human rights and freedoms as the highest value, as well as adherence to them in accordance with generally recognized principles and norms of international law. However, the distance between the enshrined legal orders, rights and freedoms and the opportunity to really use them is too great, because the formal recognition of the broadest rights and freedoms does not mean that a person immediately becomes able to fully use the benefits that lie at the base of them. For this, an effective socio-legal mechanism for the realization of rights and freedoms is needed today, including guarantees for their provision to juvenile convicts in prison.

This is dictated, first of all, by a break with the totalitarian past, profound political and socio-economic transformations, a fundamental update of the legislation, and finally, the need to bring the legal guaranteeing functions of various bodies of the Russian state in accordance with constitutional and international human rights obligations. In this sense, the functions of bodies executing criminal punishment in the form of imprisonment of juvenile convicts are not an exception.

It is no coincidence that currently on the agenda is the problem of the legal status of the individual as a whole and of juvenile sentenced to imprisonment serving a criminal sentence in FSI "Educational Colonies" of the Federal Penitentiary Service of Russia, in particular. The deprivation of liberty of juvenile offenders as one of the types of criminal punishment is currently the most applicable in most countries of the world, including Russia.

The execution (serving) of punishment is a very complex process, affecting all aspects of the life of an individual, giving rise to many social relations. Therefore, the legal status of convicts in general, and juvenile convicts serving sentences in FSI "Educational Colonies" of the Federal Penitentiary Service of Russia, in particular, is an interdisciplinary institution.

By virtue of their specific position, these persons acquire or lose certain rights and obligations, their implementation and execution may be carried out in special forms. The study of public relations arising in this sphere fully corresponds to the logic of developing scientific knowledge on ensuring the rights and freedoms of a person and a minor citizen of Russia in general, and the legal status of juvenile convicts serving sentences in educational colonies, in particular, reinforcing and at the same time producing theoretical and practical developments and conclusions.

Thus, the genesis of scientific research on the security problem, the rights and legitimate interests of the individual in criminal proceedings demonstrates that it is necessary to solve it, starting with the protection of certain categories of persons involved in the field of criminal procedure. To date, the existing scientific knowledge on this issue in the field of criminal procedure law of Russia and related sciences is not enough to solve new problems, the answers to which clearly do not fit into the framework of the previous theoretical concepts. There is a need to synthesize and deepen the knowledge gained about personal security in the investigation of penal crimes (carried out in the institutions of the Federal Penitentiary Service of Russia), which, in turn, requires a serious attitude to the methodology for posing the problem [24].

In turn, according to Professor S.M. Zubarev (2019), it is determined that the Criminal Executive System of Russia is an element of the law enforcement system of the state and represents an integral set of institutions and bodies that perform the functions of the execution of criminal penalties and other criminal measures prescribed by the courts, decisions on the application of measures of criminal procedural restraint in the form of detention, as well as the protection and escort of convicts and persons suspected and accused of committing crimes [20].

It should be noted that most of the definitions of the investigated problem directly connect it with complex theoretical and practical issues that require study and resolution in the field of prison policy. At the same time, its central question can be formulated as follows: how to make criminal proceedings safe for juvenile convicts involved in its field in the investigation of crimes committed in the institutions of the Federal Penitentiary Service of Russia?

Also, the problem of personal safety of juvenile convicts in places of deprivation of liberty is of great importance for the relations that take shape in the Russian penal system as a whole. This is due to the fact that punishment always involves the restriction of the rights and freedoms of persons who committed crimes in educational colonies, and, as a result, the special nature of the relationship between the staff of the penitentiary institutions of the Federal Penitentiary Service of Russia and convicts. The urgency of the

problem today is primarily the provision of personal security, as well as the constitutional rights and legitimate interests of juvenile convicts in the investigation of crimes committed in the institutions of the Federal Penitentiary Service of Russia, also manifested in the fact that, depriving citizens of their freedom, the state undertakes to respect their legal status, protect the life and health of the convict.

It should be noted that the concentration of persons who committed crimes in prisons, a significant proportion of which are grave and especially grave, as well as a number of other reasons entail a real threat of new crimes committed by prisoners of various nature and degree of public danger. In this regard, there is the possibility of unlawful influence on juvenile convicts who are participants in the criminal process in the framework of a case instituted on the fact of committing a crime in the institution of the penal system of Russia.

If we consider the fact that the activity of participants in criminal proceedings has intensified, we will see that in this case its basis is precisely the protection of the rights and freedoms of the personality of the minor convict. However, the involvement of the individual in the field of criminal proceedings is often associated with a danger that may arise at the very beginning of the criminal proceedings, that is, from the moment of its initiation or even earlier - at the initial stage of checking the application, the report of the crime. Also, if we are talking about conducting an investigation in penitentiary institutions, we support the point of view that a convicted juvenile involved in the field of criminal proceedings needs to take specific measures against him to ensure his personal safety, then, if necessary, this should apply to his relatives and loved ones.

So, in our opinion, the formation of a sense of security is the main task of ensuring security, regardless of the circumstances. We also agree with the point of view of A.V. Epikhina, who believes that the personal security of the convict is a static rather than dynamic phenomenon. Of course, personal security is a state of peace, security, but in order to ensure it, it is necessary to carry out a set of measures to eliminate those actions that in some way could pose a danger to a person who is a participant in criminal proceedings [19].

So, according to L.B. Smirnova (2018), "... to regulate the list of measures aimed at ensuring the personal safety of juvenile convicts during the investigation of crimes in the penitentiary institutions of the Federal Penitentiary Service of Russia. It follows that ensuring personal security is the implementation of measures aimed at ensuring the security of persons involved in the scope of the criminal law" [32].

Also, according to Professor L.V. Brusnitsyna (2010), "the personal security measures of the convicted person are preventive and diverse legal means that ensure the protection of relevant persons during criminal proceedings and outside it and those close to those prohibited by criminal law and other forms of post-criminal influence and differing in content (way of ensuring security), the circle of persons, to by which they can be applied and other criteria" [14,15].

We fully support this point of view and, in particular, the attempt made to broadly interpret the personal security measures of the convicted person with the definition of the circle of persons, methods and conditions for their implementation [27].

So, the personal safety of the convicted person in the penitentiary institutions of the Federal Penitentiary Service of Russia is, first of all, a state of rest, that is, being protected is out of danger. Protection is the process of achieving that feeling. In this case, a set of certain measures, actions, techniques, methods aimed specifically at preventing any danger can be considered. In addition, it is necessary to determine the means of ensuring security, as well as the object of impact. In a broad sense, the object of security is not only a person, but also a procedural procedure for the production of something, such as investigative actions, etc. [10, p.89]

So, Professor N.V. Shchedrin (2008) in his scientific article "Russian criminal law in the context of doctrinal models for constructing criminal legal sanctions", suggests considering the personal safety of convicts in a semantic, legal, doctrinal and comparative interpretation [35]. We fully support his point of view and believe that security should be considered in a comparative interpretation. So, the concepts of "protection" and "security" have an interconnected interpretation. The term "defense" is firmly included in the text of the criminal procedure legislation: "... protection of the suspect, accused, defendant from unlawful criminal prosecution" [27].

Also, according to M.P. Polyakova (2001), “the personal safety of the convicted person is connected with the protection of participants in criminal proceedings from unlawful influence on them in connection with the criminal proceedings” [29].

The investigation of penal crimes is a rather complicated and specific process. Moreover, in addition to the conditions in which it is carried out, one should take into account the high level of threats emanating from some convicts to others who have become participants in criminal procedural relations as victims, witnesses, and also suspects and accused. This is primarily due to the prison subculture. In this regard, the issue of ensuring the protection of convicts involved in the field of criminal proceedings remains open today [20].

To date, the consolidation of personal security measures in the Code of Criminal Procedure of the Russian Federation should be considered as a guarantee of ensuring its legitimate interests in criminal proceedings, a means of achieving its goals and objectives, a form of counteraction to the most dangerous types of crime (organized, professional), evidence of the aspiration of the Russian state to bring national legislation into compliance with a number of international legal acts. Therefore, we are inclined to believe that Article 11 of the Code of Criminal Procedure of the Russian Federation needs to be improved [6].

For example, the content of part 3 of the above article does not give us a complete and unambiguous understanding of what the legislator means by the term “other dangerous illegal acts”. It should be agreed with the point of view of A.Y. Epikhina, who proposes to consider this wording as evaluative, used in the text of the criminal law in many articles, that is, other assaults are similar to the threat of murder, violence, etc. At the same time, there is no definition of clear boundaries for the danger of assault.

When studying article 11 of the Code of Criminal Procedure of the Russian Federation, one can also find a flaw in it, which, in our opinion, was correctly formulated in 2004 by A.Y. Epikhin, - “... the analyzed article does not trace a causal link between the infringement of a participant in the process and the fact of his assistance in criminal proceedings. Such a relationship should be, since the threat to the participant in the process may not be related to participation in the criminal process, that is, the impact on the person can be exerted not as a participant in the process, but as an ordinary citizen, for example, on the basis of hostile relations. Otherwise, the need for extensive application of security measures in cases not directly falling under their influence is not ruled out” [6,19].

In our opinion, the connection between unlawful acts or infringement of a convicted person and his level of assistance in criminal proceedings should also be identified.

The essence of the principle of protecting the rights and freedoms of man and citizen in criminal proceedings is to protect these rights and freedoms of the convicted person who is in prison. Thus, the observance of this principle lies in the fact that officials conducting criminal prosecution protect the rights and freedoms of a person and a citizen from violation by third parties, and also follow them. In addition, compliance with this principle in criminal proceedings implies the possibility of restoring violated rights.

In the analyzed publication, the main elements of its content are:

1) The duty of prosecutors to clarify the rights, duties and responsibilities of all participants in criminal proceedings;

2) Witness immunity;

3) Ensuring the safety of all participants in criminal proceedings;

4) Compensation for damage caused by the bodies conducting criminal prosecution [30].

Of course, in our opinion, not only a mechanism for implementing these provisions of the law is necessary, but also the conditions under which security measures will be implemented. To date, this issue is the most complex and quite important in the national criminal procedure law.

It seems indisputable the need to establish guarantees of protection from the moment of danger and at an earlier stage of the criminal proceedings.

Consequently, the moment of the beginning of legal relations aimed at protecting participants in the criminal process should be due to two reasons:

1) Obtaining by government bodies or officials of the investigating authority information about the threat to a person who has information about a committed or preparing crime in the institutions of the Federal Penitentiary Service of Russia;

2) The establishment of such information by the specified authorities and persons [18].

So, in the legal science of personal security of an individual is considered within the framework of a wider category of personal rights and freedoms of citizens. In foreign concepts, this category is traditionally portrayed as the most important group of human rights, the purpose of which is to ensure the freedom of the individual from arbitrary interference by the state and its organs, in protecting the personal sphere of the individual [10, p.85-86]

At one time, the English Bill of Rights of 1689¹, the American Declaration of Independence of 1776, the French Declaration of the Rights of Man and Citizen of 1789 established the provisions that personal security, along with freedom, property and resistance to oppression, is an inalienable, natural human right [11].

In domestic legal thought, the security of an individual in the system of rights and freedoms of a citizen has found its consolidation in constitutional norms.

In turn, Articles 1 and 2 of the Constitution of the Russian Federation (1993, as amended in March 2020), proclaims the Russian Federation as a state of law, which is characterized by such relations regulated by law with citizens, in which the state considers a person, his life and health, personal inviolability and security, other rights and freedoms as the highest value, considers the recognition, observance and protection of the rights and freedoms, honor and dignity of man and citizen the main duty [3].

In the Russian Federation, without exception, everyone who is legally located on the territory of the Russian Federation is guaranteed state protection of the rights and freedoms of man and citizen [3].

The Russian Federation guarantees security, and to those citizens who are serving criminal sentences in places of imprisonment up to life imprisonment [5].

The concretization of these norms takes place in industry legislation, for example, the criminal-executive law of Russia. By securing in article 13 of the Criminal Procedure Code of the Russian Federation the right of convicted persons to personal security, the legislator considers it much broader than just the right to life and health [5].

Thus, the right of all convicted persons, as well as persons in custody in the pre-trial detention center of the Russian Federal Penitentiary Service of the Russian Federation to trial, is guaranteed by the duty of the penitentiary institutions of the Russian Federal Penitentiary Service, this right is ensured by the following imperatives: 1). Article 13 of the Law of the Russian Federation of July 21, 1993 No. 5473-I "On Institutions and Bodies Executing Criminal Sentences of Imprisonment"; 2). Article 19 of the Federal Law of July 15, 1995 No. 103-FL "On the Detention of Suspects and Accused of Committing Crimes" [8,9].

In turn, the safety of juvenile convicts and persons under the age of majority who are in custody of the pre-trial detention center of the Federal Penitentiary Service of Russia is ensured by all means available to the state:

- firstly, by the norms of the Constitution of the Russian Federation, fixing the legal status of a citizen and proclaiming his protection as the main duty of the state;
- secondly, the norms of the labor legislation of the Russian Federation, providing for guarantees and security measures for participants in the labor process in places of deprivation of liberty;
- thirdly, the norms of the criminal procedure legislation of the Russian Federation, which ensure impartial, comprehensive and fair consideration of criminal cases in the course of criminal procedure;
- fourthly, the norms of the criminal legislation of the Russian Federation establishing criminal liability for infringement on the life, health and dignity of a person and citizen, including in the performance of official duties, or of a convicted person;
- fifthly, the norms of the criminal executive legislation of Russia, ensuring the personal safety of juvenile convicts during the period of serving a criminal sentence in prison [26,27].

It can also be noted that the priority is for all executive bodies (criminal-executive inspections) that carry out sentences not related to isolation from society, as well as all penitentiary institutions of the Federal Penitentiary Service of Russia - ensuring the personal safety of juvenile convicts. Thus, it acquires significance and importance in ensuring the personal safety of a juvenile convict in prison.

¹Bill of Rights (1689) – “An Act declaring the Rights and Liberties of the Subject and Settling the Succession of the Crown”.

In turn, the administration of the penitentiary institutions of the Federal Penitentiary Service of Russia is obliged to ensure the safety of convicts by various means, among which should be allocated to: security and supervision; educational measures, including the application of penalties and incentives for juvenile convicts in educational colonies of the Federal Penitentiary Service of Russia; operational search measures; personal security measures for convicts under investigation for unlawful acts committed while serving a criminal sentence in prison; protecting the health of prisoners; transfer of convicts to a safe place, etc. [27].

In its turn, the criminal-executive legislative base of Russia obliges any official of the penitentiary institution of the Federal Penitentiary Service of Russia, whom the convicted person asked to ensure personal safety, immediately take all necessary legislative measures to eliminate the threat to the complainant.

Information about the danger to the convicted representative of the administration of the educational colony may come from various sources. For example, from the staff of the educational colony who oversee the convicts, from the operative officers of the penitentiary institution of the Federal Penitentiary Service of Russia, and from the convicts themselves.

The decision to prevent the danger threatening the juvenile convict is made directly by the head of the educational colony of the Federal Penitentiary Service of Russia. In urgent cases, security measures must be taken in his absence, but with the subsequent adoption of a decision on his own.

Given the reality and seriousness of the personal safety of the convicted person by other convicts or other persons, the head of the educational colony, upon his application, or on his own initiative, decides to transfer the convict to a safe place, for example, to another detachment of the colony, or solicits the Directorate of the Federal Penitentiary Service of Russia to transfer the convict to another educational colony [27].

As such a place, as established in Article 173 of the Internal Rules of the FSI “EC” of the Federal Penitentiary Service of Russia, in addition to other rooms, premises functioning in pre-trial detention (chamber type premises) can be used. The convict is transferred to a safe place for up to 90 days.

In the event that a minor convict is a participant in criminal proceedings, for example, as a witness, the head of the educational colony of the Federal Penitentiary Service of Russia makes a decision on ensuring the personal safety of the convict according to a reasoned decision (determination) of the person in whose proceedings the criminal case is being processed.

In accordance with Articles 6, 14 of the Federal Law “On State Protection of Victims, Witnesses and Other Participants in Criminal Proceedings” No. 119-FL of 08.20.2004, to ensure the safety of a person in custody or convicted person, the head of the penitentiary institution of the Federal Penitentiary Service of Russia has the right to accept the following measures:

- 1) Ensuring confidentiality of information about the protected person;
- 2) Replacement of documents of the protected person;
- 3) Change in appearance;
- 4) Temporary placement in a safe place;
- 5) The direction of the protected person and the person from whom the threat of violence emanates from their detention, detention and criminal sentences to different places of detention and serving sentences, including those who are in other constituent entities of the Russian Federation;
- 6) Transfer of the protected person or person from whom the threat of violence comes from one place of detention or serving a sentence to another;
- 7) Separate detention of the protected person and the person from whom the threat of violence comes;
- 8) Changing the measure of restraint or punishment to the protected person in the manner prescribed by the Code of Criminal Procedure [6,7].

In turn, the division into constitutional and sectoral legislation is determined by the special social content of constitutional rights and freedoms, the highest level of their legal registration, place and role in relation to other rights. The need to study the category of “personal security” in the science of penal law arose in connection with the transition of our country to the democratic path of development [13, p.214].

There is no unanimity in the definition of what constitutes the personal safety of prisoners. Professor A.G. Peregudov was one of the first to address the problem of personal security of the domestic penitentiary system. He suggested that personal security in correctional institutions of Russia be

understood as a system of relations and legal norms governing these relations, to ensure calmness, inviolability of life and health of employees, prisoners, other citizens involved in the activities of these institutions, their normal work and rest, as well as normal the functioning of correctional institutions in general and its units in particular [28].

A slightly different opinion was expressed by M.A. Gromov (2006), considering security in the penitentiary institution of the Federal Penitentiary Service of Russia as a state of protection of employees, convicts, other persons, as well as the prison as a whole from possible threats and dangerous encroachments [16].

In his dissertation research P.V. Dikhtievsky (2004), defines the security of the individual as created and guaranteed by the state through the norms of objective law, such a position of the individual in society in which there is the possibility of an unbroken use of rights and freedoms, and a state of protection of the vital interests of the individual from possible harm, as well as prevention dangers and threats arising in any area of public life [17].

It seems that such approaches to personal security in conditions of deprivation of liberty bring to the fore the most important human interests. Their satisfaction provides the existence and possibility of the progressive development of personality. At the same time, in the context of a modern security strategy, it seems not quite right to consider the interests of the individual through the prism of vital and secondary ones. This approach does not meet democratic ideology. In this regard, V.N. Chorny (2019) rightly notes that the category “security of the personality of the convicted person” is a comprehensive guarantee that allows the convicted person to exercise his rights, freedoms and legitimate interests in prison [34].

The practice of the execution of criminal sentences shows that the employees of the penitentiary system interpret the subjective right of convicts to personal security as the maximum acceptable level of ensuring their life and health. Often in places of deprivation of liberty (FSI “EC” of the Federal Penitentiary Service of Russia) threats of mental and sexual violence, the right to respect for physical, spiritual and moral integrity, neglect of the basic needs of the personality of a minor convict are still out of sight of personnel. It seems that this state of affairs does not correspond to the realities of today and the ongoing processes of reality in society in general and the prison sphere in particular. There is a need to move to a higher stage of development. The consequence of this should be a change in the content of the right to personal security of convicts and its presentation in a more developed form. With this approach, citizens should be fully protected from various types of threats, have the opportunity to fully develop in prison [10, p.85].

Further strengthening the security of the personality of the convicted person in places of deprivation of liberty in the area under consideration will be facilitated by the improvement of the existing criminal executive legislation of Russia and the creation of an effective mechanism for its application. The origins of the defenselessness of the personality of a minor convict in the Russian Federation as a whole and in conditions of deprivation of liberty in particular are in line with the general crisis of Russian society, the overcoming of which is likely to take in the coming decades. These circumstances require the search for new approaches to resolving brewing contradictions in the criminal-executive policy of Russia in the field of ensuring the right to personal security of juveniles sentenced to imprisonment [27,33].

At present, a strong criminal executive legislative base has been created in Russia, which regulates the basis of the legal status of juvenile convicts of criminal sentences, but it is far from perfect. The effectiveness of ensuring the legal status of juvenile offenders to any degree of criminal law and the unquestioning execution of all the requirements of a court sentence will determine the effectiveness of achieving the goals of the criminal liability of the convicted person [33].

For example, the legal status of persons sentenced to different types of criminal sentences is not the same, that is, there is an inequality in the rights of these persons. In other words, the legal status of juvenile convicts in places of deprivation of liberty is determined by the nature, degree of public danger, the gravity of the crime committed by him and the punishment imposed for this crime. The content of the sentence decisively affects the formation of the legal status of a minor convict. So, in the Criminal Executive Code of the Russian Federation, it is determined that the employee of the penitentiary institution of the Federal Penitentiary Service of Russia, who is carrying out the punishment, is obliged to show respect for the rights of the convicted person, to ensure their protection and legal implementation. It

is equally necessary to achieve the fulfillment of all duties on the part of the convict. This is the practical implementation of the principle of legality in the activities of bodies executing sentences [5,22,33].

At the same time, the main principles of supervision as a means of ensuring the personal safety of a juvenile convict in the institution of the Federal Penitentiary Service of Russia are:

1) Efficiency. The supervision of convicts involves the active use of a wide variety of - material, human, financial and other - resources. Surveillance in places of deprivation of liberty, like any useful activity of people, should be carried out consciously, purposefully, rationally, effectively;

2) Prioritization. The decision is made depending on the significance of the tasks, i.e. when supervising the staff of places of deprivation of liberty, it is recommended to perform tasks based on importance, relevance [31].

The principles reviewed reflect the main features of supervision activities in prisons. In their totality, they determine and concretize the ways and means of solving the tasks of supervision and ensure its optimal functioning; also, they enforce strict and steady observance and enforcement by the subjects and objects of supervision of laws and by-laws.

Given the above, we consider it necessary to formulate the concept of "ensuring personal security, rights and legitimate interests of juvenile convicts". This is, first of all, ensuring the safety of the rights and legitimate interests of convicts - a comprehensive institution consisting of a set of actions by officials based on the norms of criminal procedure, operational search and departmental legislation, including legal and organizational safety measures for convicts involved in the field criminal proceedings as victims, witnesses, accused and suspects in the investigation of crimes in prisons of the Federal Penitentiary Service of Russia.

Also, in our opinion, the right to personal safety of juvenile convicts in the execution of criminal sentences of imprisonment at the present stage is represented as their natural, basic right, guaranteed by international and Russian legislation, ensuring the absence of dangers and their progressive development, through the exercise of rights, freedoms and legitimate interests.

And finally, in the investigation of penal crimes, the safety, rights and legitimate interests of juvenile convicts in places of deprivation of liberty must be respected. In carrying out the above, the activities of the inquiry body will be considered effective.

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РЕСЕЙ ФЕДЕРАЛДЫ ҚЫЛМЫСТЫҚ-АТҚАРУ ҚЫЗМЕТІ ТҮРМЕСІНДЕГІ КӘМЕЛЕТКЕ ТОЛМАҒАН СОТТАЛҒАНДАРДЫҢ ЖЕКЕ БАСЫНЫҢ ҚАУІПСІЗДІК ҚҰҚЫҒЫ: ТЕОРИЯЛЫҚ ЖӘНЕ ӘДІСНАМАЛЫҚ АСПЕКТ

Аннотация. Мақала түрмедегі кәмелетке толмаған сотталғандардың жеке қауіпсіздігін қамтамасыз етудің өзекті мәселелерінің біріне арналған. Талданған құбылысты теориялық және әдіснамалық зерттеу Ресей Федералды пенитенциарлық қызметінің тергеу изоляторларында, сондай-ақ қылмыс жазасын өтеу орнына бару сатыларында кәмелетке толмаған сотталғандардың жеке қауіпсіздігінің қазіргі жағдайын анықтайтын факторлардың және ғалымдардың жалпы пікірін, бас бостандығынан айыру түріндегі және бас бостандығынан айыру орындарында жасалған қылмысы үшін тергеуде тұрған адамдарды анықтауға мүмкіндік берді.

Мақала авторы Ресей Федерациясының Қылмыстық іс жүргізу кодексінің 13-бабында белгіленген ережелерді, барлық сотталғандардың, сондай-ақ Ресей Федералды қылмыстық-атқару қызметі тергеу изоляторында қамауда отырған адамдардың жеке қауіпсіздігі үшін сот ісіне Ресей Федералды пенитенциарлық қызметінің пенитенциарлық мекемелері кепілдендірген құқығына талдау жүргізген. Бұл құқық мынадай императивтермен: 1) Ресей Федерациясының 1993 жылғы 21 шілдедегі № 5473-І «Бас бостандығынан айыру туралы қылмыстық үкім шығаратын мекемелер мен органдар туралы» Заңының 13-бабы; 2) «Қылмыстарға күдіктілер мен айыпталушыларды ұстау туралы» 1995 жылғы 15 шілдедегі № 103-ФЗ Федералды заңының 19-бабымен қамтамасыз етіледі.

Мақалада түрмедегі кәмелетке толмаған тұтқындардың жеке басының қауіпсіздігі туралы зерттеушілердің әртүрлі пікірлерін білдіруге арналған құқықтық ғылыми әдебиеттер талданады. Автор теориялық тұрғыда зерттеушілердің айтылған пікірлерімен толық келісіп, сонымен бірге келесі ұсынысты негіздейді.

Автор кәмелетке толмаған сотталғандардың бас бостандығынан айыру орындарындағы жеке бастың қауіпсіздік мәселесі, сонымен бірге, тұтастай алғанда Ресейдің қылмыстық-атқару жүйесінде қалыптасқан қатынастар үшін де өте маңызды екенін анықтайды. Бұл жаза әрқашан Ресей Федералды Қылмыстық атқару қызметінің оқу колонияларында қылмыс жасаған адамдардың құқығы мен бостандығын шектеуді қамтитындығына және нәтижесінде Ресей Федералды пенитенциарлық қызметінің пенитенциарлық мекемелерінің қызметкерлері мен сотталғандар арасындағы қарым-қатынастың ерекше сипатына байланысты.

Сонымен, бүгінде мәселенің өзектілігі, ең алдымен, жеке қауіпсіздікті қамтамасыз ету, сондай-ақ Ресей Федералды қылмыстық атқару қызметі мекемелерінде жасалған қылмыстарды тергеу барысында кәмелетке толмаған сотталғандардың конституциялық құқықтары мен заңды мүдделері болып саналады, сонымен қатар азаматтарды бас бостандығынан айыру арқылы мемлекет олардың құқықтық мәртебесін сақтауға, сотталушының өмірі мен денсаулығын қорғауға алатындығынан көрінеді.

Пенитенциарлық мекемелерде қылмыс жасаған адамдардың шоғырлануы, олардың едәуір бөлігі ауыр және ерекше ауыр, сондай-ақ басқа да бірқатар себептер сотталғандардың қоғамдық қауіптілік сипаты мен дәрежесі бойынша түрлі жаңа қылмыстарды тудыратынын атап өткен жөн. Осыған орай Ресейдің қылмыстық-атқару жүйесі мекемесінде қылмыс жасау фактісі бойынша қозғалған іс аясында қылмыстық процестің қатысушысы болып саналатын кәмелетке толмаған сотталғандарға заңсыз ықпал ету мүмкіндігі бар. Нәтижесінде «Кәмелетке толмаған сотталғандардың жеке қауіпсіздігін, құқықтары мен заңды мүдделерін қамтамасыз ету» авторлық тұжырымдамасы жасалады.

Мақалада келтірілген материалда Ресей Федерациясының мемлекеттік құпиясына қатысты мәлімдеме (акпарат) жоқ.

Түйін сөздер: сотталушының жеке басының қауіпсіздігі, Ресей Федералды Қылмыстық атқару қызметінің пенитенциарлық мекемесі, кәмелетке толмаған сотталушының құқықтық жағдайы, түрмеде сотталған адамның конституциялық құқығы мен бостандығы, Халықаралық құқық НҚА, Ресей Федерациясының Конституциясы, РФ РЕК, Қылмыстық іс жүргізу кодексі, Қылмыстық кодекс, куәгерлік иммунитет, қылмыстық процеске қатысушылардың қауіпсіздігін қамтамасыз ету.

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ПРАВО НЕСОВЕРШЕННОЛЕТНИХ ОСУЖДЁННЫХ, НАХОДЯЩИХСЯ В ПЕНИТЕНЦИАРНЫХ УЧРЕЖДЕНИЯХ ФСИН РОССИИ, НА ЛИЧНУЮ БЕЗОПАСНОСТЬ: ТЕОРЕТИКО-МЕТОДОЛОГИЧЕСКИЙ АСПЕКТ

Аннотация. Статья посвящена одной из актуальных проблем – обеспечения личной безопасности несовершеннолетних осуждённых, находящихся в местах лишения свободы. Проведённое теоретико-методологическое исследование анализируемого явления позволило нам выделить общее мнение учёных и факторы, определяющие современное состояние личной безопасности несовершеннолетних осуждённых, находящихся в воспитательных колониях ФСИН России, в следственных изоляторах ФСИН России, а также на этапах следования к месту отбывания уголовного наказания в виде лишения свободы и находящихся под следствием за совершённые преступления в местах лишения свободы.

Автором статьи анализируются положения, установленные в статье 13 УИК РФ, право на личную безопасность всех без исключения осуждённых, а также находящихся лиц под стражей в следственном изоляторе ФСИН России до суда гарантируется обязанностью пенитенциарных учреждений ФСИН Росси. Данное право обеспечивается следующими императивами: 1) статья 13 Закона РФ от 21 июля 1993 г. № 5473-1 "Об учреждениях и органах, исполняющих уголовные наказания в виде лишения свободы"; 2) статья 19 Федерального закона от 15 июля 1995 г. № 103-ФЗ "О содержании под стражей подозреваемых и обвиняемых в совершении преступлений".

В статье проведен анализ юридической научной литературы по высказыванию различных мнений исследователей по поводу личной безопасности несовершеннолетних осуждённых, находящихся в местах лишения свободы. Со многими высказанными положениями исследователей-теоретиков автор полностью согласился, при этом сформулировал следующее суждение.

Автор в свою очередь определяется с тем, что проблема личной безопасности несовершеннолетних осуждённых, находящихся в местах лишения свободы, имеет огромное значение и для отношений, которые складываются в уголовно-исполнительной системе России в целом. Это обусловлено тем, что наказание всегда предполагает ограничение прав и свобод лиц, совершивших преступления в воспитательных колониях ФСИН России, и, как следствие – особый характер взаимоотношений персонала пенитенциарных учреждений ФСИН России и осуждённых.

Так, актуальность проблемы на сегодняшний день – это, прежде всего, обеспечение личной безопасности, а также конституционных прав и законных интересов несовершеннолетних осуждённых при расследовании преступлений, совершенных в учреждениях ФСИН России, проявляется ещё и в том, что, лишая граждан свободы, государство обязуется соблюдать их правовой статус, охранять жизнь и здоровье осуждённого.

При этом следует отметить, что концентрация в пенитенциарных учреждениях лиц, совершивших преступления, значительная доля из которых тяжкие и особо тяжкие, а также ряд других причин влекут за собой реальную угрозу совершения заключёнными новых преступлений, различных по своему характеру и степени общественной опасности. В связи с этим появляется возможность противоправного воздействия на несовершеннолетних осуждённых, являющихся участниками уголовного процесса в рамках дела, возбужденного по факту совершения преступления в учреждении уголовно-исполнительной системы России. Вследствие чего, формулируется авторское понятие – «Обеспечение личной безопасности, прав и законных интересов несовершеннолетних осуждённых».

Данный материал, представленный в статье, не содержит сведений (информацию), относящихся к государственной тайне Российской Федерации.

Ключевые слова: личная безопасность осуждённого, пенитенциарное учреждение ФСИН России, правовое положение несовершеннолетнего осуждённого, конституционные права и свободы осуждённого, находящегося в местах лишения свободы, НПА международного права, Конституция РФ, УИК РФ, УПК РФ, УК РФ, свидетельский иммунитет, обеспечение безопасности всех участников уголовного судопроизводства.

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THE ORDINARY LAW OF THE INDIGENOUS NORTHERN PEOPLES OF RUSSIA IN THE XVII – XIX CENTURIES: CONVERGENCE AND RECEPTION

Abstract. This paper discusses the issues of the convergence process, which allows revealing the peculiarities of the interpenetration of customary law among some representatives of the Samoyed and Finno-Ugric peoples. The relevance of the study is due to the identification of the process of influence of customary legal views of the indigenous population of the Northern Russia on the formation of positive law.

Objective: to study the process of approximation of customary legal norms, that existed among some Finno-Ugric and Samoyedic peoples both among themselves and with the customary legal elements of ethnic groups living in the neighborhood not excluding the interception between the norms of positive law and customary legal norms of Komi, Nenets, Khanty and Mansi.

Results and scientific novelty: The work shows that the approximation of customary legal norms and institutions among these peoples occurred constantly both among themselves and with the customary legal elements of peoples living in territorial proximity with them.

Usually legal institutions, which started to be realized in the 17th century, are distinguished. However, by the 19th century an integral system of legal customs is being developed, that was applied among the studied peoples. Attention is drawn to the fact that starting from the 17th century the Russian legislator “protected” the northern peoples from illegal influence and arbitrariness on the part of the officials. By the first half of the 19th century the legislator even sanctioned the most important principles of state policy in the “Charter on the Management of Foreigners”, where normatively not only the traditional forms of using patrimonial lands for indigenous peoples were fixed, but also the possibility of codification of customary law.

The novelty of the study is seen in the fact that empirical material has been used to identify the process of interception of customary legal norms and institutions among the studied peoples.

Key words: customary law, positive law, custom, convergence, Komi, Khanty, Mansi, Nenets.

Introduction. In the context of the development of the constitutional state in Russia the relevance of the study of the usually legal aspects of various peoples, which have developed and existed over a long history is beyond doubt. A key aspect of this process is the study of customary law, which includes not only “legal customs” [1, p.96, 2, p.128, 3, p.32, 4, p.108], but also a huge variety of traditional, distinctive customary legal norms, institutions [5, p.100], legal relations, system of national values.

Among the Soviet and modern scholars who have made a certain contribution to the study of national legal practice in the historical past of the studied peoples are the following: E. V. Vershinin, G. P. Vizgalov, A. V. Golovnev, L. N. Zherebtsov, N. D. Konakov, F. V. Plesovsky and others. Despite the serious contribution of scientists aimed for the study of ethnographic and historical components, the study of social processes that took place during certain historical periods of the studied in this work ethnic groups, for the consideration of certain constituent elements of customary law, in these works usually legal imperatives and even more convergence processes in the law of Finnish Ugric Samoyedic peoples are virtually absent. In the presence of a large number of scientific works on the socio-normative culture the problems of convergence of the usual legal institutions, as well as their mutual receptions, remained

unexplored for a long time, and were not the subject of special scientific research. It should be noted that, despite a significant number of scientific works, the study of convergence in the common law of the peoples under consideration today is at the beginning of its path requiring close attention.

In this regard, the aim of this work will be to study the process of convergence of customary legal norms and institutions that existed among some Finno-Ugric (Komi, Mansi, Khanty) and Samoyed (Nenets) peoples both among themselves and with the usual legal elements of ethnic groups living in the neighborhood with them not excluding the convergence process between the norms of positive law of the Russian state and the usually legal norms of the peoples in question.

The genesis and formation of customary legal elements, as well as the duration of the convergence process, aimed at bringing the norms and institutions of customary law of different peoples closer, are determined by a fairly long historical development. However, this study presents a convergence process that has long existed in the common law of the peoples concerned in the chronological framework of the 17th-19th centuries, since the most objective analysis of customary legal norms and institutions is possible only if we study the empirical materials that have come down to us and the factology contained in historical - legal, ethnological, linguistic literature dating from designated centuries.

Methods. For a comprehensive review of the identified problems, scientific developments, publications in the legal press, factual data contained in the historical and legal, ethnological literature dating from the chronological framework of the XVII – XIX centuries were used.

The methodological basis of this study is a combination of various methods of cognition developed by modern humanities. The customary law of peoples is considered as an element of the legal space of the Russian state due to the systemic method. The historical and legal method allows you to highlight the influence of various trends in the historical development of the North of Russia on the content of the norms and institutions of customary law of the indigenous northern peoples. In addition, in carrying out the research, methods of logical analysis, synthesis, and others were used.

Discussion and results. The interpenetration and combination of customary legal norms and institutions among different peoples was determined by the need for their application in economic and economic circulation, which depended on the natural climatic conditions that dictated the appropriate way of doing business. The main sectors of the economy were hunting, fishing, and reindeer husbandry. An additional type of activity, for example, for the southern Komi was agriculture [6,7] and cattle breeding.

It should be noted that the territory of resettlement of Komi, Mansi, Khanty, Nenets is so large even today that it includes a part of the North-West and North-East of Europe, North-West of Siberia, a part of the Urals and other areas. This indicates the presence of various external contacts, the influence of neighbouring peoples and the possible mutual reception of various legal customs, norms and institutions. For example, the customary rules and institutions of the Nenets people could not be influenced by the norms applied by the Khanty, as it is not uncommon for the Nenets men to marry Khanty girls [8, p.103]. A similar example is the usually legal institution of polygamy used by the Nenets in marriage and family relations during the period under review, an analogue of which was used by Asian neighbours. Rare historical documents of the XVII century testify to the existence of polygamy: "... self-propelled zhonyr yasir ... to the family of Prince Sharuma ..." [9, p.34]. True, as noted by A. V. Golovnev, polygamy among the Nenets was not a common rule, but the privilege of rich men [10, p.44]. A similar position is shared by M. A. Zenko, mentioning the existence of the institution of "polygamy among the rich" [11, p.89] not only among the Nenets, but also among the Khanty.

Such a customary legal institution as kalym marriage, long known to Muslim law, was also widespread. Moreover, the usually legal imperatives regulated not only the conditions for paying kalym, but also its volume, which was determined by the bride's parents or her representatives. Kalym marriage was used among the Nenets, Khanty, Mansi, and Komi throughout the entire period under review. A description of this form of marriage is found in the works of researchers not only in the 18th century, but also in later works [12-14]. If the historical sources of the XVII century contain only jerky mentions of a marriage with a kalym, then by the XIX century more and more details of the conclusion of such a marriage are revealed. For example, a prenuptial agreement was concluded orally. At its conclusion, it was necessary to stipulate not only the size, type, form, but also the time of payment of the kalym. In various villages scientists noted ethnic special features of marriage [15, p.91]. K. A. Popov noted that the payment of halyards is a kind of payment "on the part of the groom in favor of the bride's family for the property

that she must bring with her as a dowry” [15, p.91]. But, F.V. Plesovsky, disagreeing with K. A. Popov, believed that “kalym is a payment for a girl” [16, p.192]. In turn, K. A. Popov specified: “the groom does not actually pay for the bride, but for the costs of wedding feasts and dowry” [15, p.91]. Moreover, according to A. V. Golovnev, kalym and dowry should have been proportionated [10, p.43]. It is important to note that these scientists are partially right, since kalym was not only payment for the bride, but also a kind of compensation by the groom's family for the dowry and expenses incurred at the wedding by the bride's family.

Another manifestation of the convergence process was legal property marks or patrimonial signs (“pass”, “tamga”, “stigma”, etc.). Such signs had, first of all, usually legal significance representing an original way of securing the rights of the owner in a traditional society. They were used both by the Komi, Khanty, Mansi, and the Nenets. In addition to defining and securing the individual's ownership of a certain thing, they were also an element of the national ornament, the basis of the alphabet (Komi has an embur), a magic sign, etc. Generic signs even signed applications, petitions and other documents of civil circulation which, for example, is testified by the Diploma of Pyotr Alekseevich to Pustozersky prison in 1707: “... But the Samoyadts were handed over to you petition for their hallmarks ...” [21].

Generic property marks were widely used in commercial relations, since each hunter, fisherman, or reindeer herder needed to distinguish his property from the property of others. Passes were usually applied to privately owned items.

For example, at the Nenets, at the time of the birth of the child, they gave them an “important deer or raw deer” depending on the sex of the child, and the ears of this animal were branded with a generic sign. The resulting “offspring from a gifted deer was considered the property of the child” [18].

The interception of customary legal institutions was also active in reindeer husbandry. It occupied important positions in the economy of the northern peoples, due to its high economic significance. Izhemtsy, Khanty, Mansi, Nenets, being closely associated with nature, were engaged in the conduct of an appropriating economy. In addition to fishing, hunting, reindeer husbandry was their traditional occupation. Izhemtsy began to breed deer from the middle of the XVII century, borrowing this type of farming from the Nenets. They introduced the “regular meridional roaming of the herd - from south to north ... Izhemtsy laid the foundation for breeding work in the tundra” [19, p.67].

Therefore, it is not surprising that in the common law of Izhemtsy and Nenets, which regulated reindeer husbandry relations, there were many similar customary legal norms and institutions that determined relations between owners of reindeer herds (usually Izhemtsy) and hired Nenets shepherds. Izhemtsy, “acquiring deer, entrusted their pasture to hired Nenets shepherds” [19, p.66], moreover, the most “experienced Samoyeds in this matter” [20, p.20]. If in the middle of the 17th century Izhemtsy were just beginning to get acquainted with the customary rules applicable in reindeer husbandry, then by the 19th century an integrated system of customary legal norms and institutions had been developed that was widely implemented in this area.

In the 17th century, mercenary and trade-exchange relations appeared between Samoyeds and Pustozersks. “The Pustozersk stone samoyad, their acquaintances and friends, and that Pustozersk samoyad from those trading people are named and their goods are taken out of the Stone ...” [17, p.12-13]; “... a messenger by self-will, hiring from a self-governing, and from Obdor to Pustoozer go Odory ostyaks on deer and on dogs, and from Pustoozer ...” [22, p.18]. This trend continued in subsequent periods. As noted by N. D. Konakov, who studied the works of I. I. Lepekhin (the 18th century), V.N. Latkina (the 19th century), there was a contractual relationship between the Nenets and Izhemtsy related to the “process of settling mutually acceptable norms of joint nature management in the tundra zone ... ” [19, p.150].

Usually, the legal norms recognized by Izhemtsy and Nenets applied in reindeer husbandry relations were aimed at protecting deer from abduction or illegal capture. Customs also regulated the use of territories for grazing deer. The principle of rational use of reindeer pastures was applied [24, p.4-5], where there were uniform customary rules and rules of conduct.

It is important to note that the northern inhabitants of the Arctic regions of Russia diligently complied with these usually-legal imperatives, therefore, there were not many conflicts in the history of the development of reindeer husbandry.

Traditional fishing relations were governed by customary law. If at the beginning of the period under review, public fishing lands predominated, in the second half of the 19th century, despite the preservation of the previous form of ownership, lifelong inherited patrimonial lands were more and more distinguished.

The usual legal institutions, that existed among the northern peoples during the period under review had a certain specificity, which was determined, first of all, by the manifest mental and economic features.

Thus, for example, customary law created not only behavioral imperatives developed over the centuries-old application, but also fixed a system of national values that were important for all members of ethnic society. It guaranteed stable social development. Even after the gradual entry of the territories inhabited by Komi, Nenets, Mansi and Khanty into the Russian state, and the subsequent declaration of land as state property, the usual legal norms and institutions of the studied peoples did not undergo significant changes, continuing, as before, to regulate emerging social relations not covered by positive law.

Sources indicate that the Russian legislator in the XVII – XVIII centuries “protected” the northern peoples from unlawful influence and arbitrariness on the part of officials, creating conditions conducive to the preservation of their traditional way of life and customary law. Thus, for example, Pyotr Alekseevich at the beginning of the 18th century in the Charter, addressed to the governor Kushelev, indicated how it had been necessary to “know the Samoyadtsy”: “... and more than that, they couldn’t fix the tax and insult to them ...” [21].

In addition, in the first half of the 19th century the Russian legislator even adopted the “Charter on the Management of Foreigners” [25], which laid down the most important principles of state policy in relation to indigenous peoples. The charter sanctioned not only the traditional forms of use of patrimonial lands, but also provided the opportunity for foreigners to codify customary law.

The convergence process took place between the norms of positive law of the Russian state and customary law of the studied peoples. It is important to note the influence of customary legal views of the population on the formation of the norms of positive law, which, for example, is reflected in the practice of developing and creating “orders”. Peasants described in them the problems they faced, and often even formulated their own proposals aimed at improving the situation. These orders were addressed to the Russian legislator. Such problems were: insolvency, poverty, lack of land, etc. [26, p.44, 27, p.42-43].

Given a number of peasant demands the legislator enacted laws, which improved the situation of peasants. For example, in 1789 the legislator allowed state peasants to acquire land from landowners [28]; in 1797, measures were taken to combat the peasant “low income” [29]; in addition, the land spread [30], etc., was normatively fixed.

If in the XVII century among the considered peoples, the norms and institutions of customary law were widely used, then by the end of the study period, public relations were regulated not only by the norms that were used in customary legal practice, but also by the norms of positive law.

Conclusion. Summing up, it should be noted that the customary law that existed among the Komi, Khanty, Mansi and Nenets for many centuries, was subjected to a process of convergence and reciprocity, which contributed to the convergence of customary law and institutions both among themselves and customary elements of peoples living in territorial proximity with them.

If earlier sources that have reached us contain, as a rule, jerky references to various legal customs, then by the 19th century for the researcher the whole palette of customary legal relations has been opened up among the northern Finno-Ugric and Samoyed peoples.

Some customary legal norms and institutions were only beginning to enter into force in the 17th century. However, by the XIX century in relation to them a holistic system is gradually being developed.

Since the 17th century Russian lawmakers have been protecting northern peoples from unlawful influence and arbitrariness on the part of officials providing indigenous northern peoples with the opportunity to use ethnic norms of customary law. In the XVIII century this trend intensifies, as the legislator adopted a number of peasant demands expressed in “orders” and enacts laws that improve their situation. In the first half of the 19th century the legislator even sanctioned the most important principles of state policy in the “Charter on the management of foreigners”, which normatively enshrines not only the traditional forms of use of patrimonial lands for indigenous peoples, but also the possibility of codifying the customary law of foreigners.

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**XVII-XIX ҒАСЫРЛАРДАҒЫ РЕСЕЙДІҢ ФИН-УГОР ЖӘНЕ САМОДИЙ
ХАЛЫҚТАРЫНЫҢ ДАҒДЫЛЫ ҚҰҚЫҒЫ: КОНВЕРГЕНЦИЯ ЖӘНЕ РЕЦЕПЦИЯ**

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**ОБЫЧНОЕ ПРАВО ФИННО-УГОРСКИХ И САМОДИЙСКИХ НАРОДОВ РОССИИ
В XVII–XIX вв.: КОНВЕРГЕНЦИЯ И РЕЦЕПЦИЯ**

Аннотация. В настоящей работе рассматриваются вопросы конвергенционного процесса, позволяющего раскрыть особенности взаимопроникновения норм обычного права у некоторых представителей самодийских и финно-угорских народов. Актуальность исследования обусловлена выявлением процесса влияния обычно-правовых воззрений коренного населения севера России на формирование позитивного права.

Целью работы является исследование процесса сближения обычно-правовых норм, существовавших у некоторых финно-угорских и самодийских народов как между собой, так и с обычно-правовыми элементами этносов, проживавших по соседству, не исключая взаиморецепцию между нормами позитивного права и обычно-правовыми нормами у коми, ненцев, хантов и манси.

Новизна исследования видится в том, что использован эмпирический материал, позволяющий выявить процесс взаиморецепции обычно-правовых норм и институтов у исследуемых народов.

При написании работы использованы научные разработки, публикации в юридической печати, фактологические данные, содержащиеся в историко-правовой, этнологической литературе, датируемые в хронологических рамках XVII – XIX веков.

Методологическую основу настоящего исследования составляет совокупность различных методов познания, выработанных современными гуманитарными науками. Обычное право народов рассматривается как элемент правового пространства российского государства благодаря системному методу. Историко-правовой метод позволяет выделить влияние различных тенденций исторического развития Севера России на содержание норм и институтов обычного права коренных северных народов. Кроме того, при осуществлении исследования применялись методы логического анализа, синтеза и др.

В данном исследовании показано, что сближение обычно-правовых норм и институтов у рассматриваемых народов происходило постоянно как между собой, так и с обычно-правовыми элементами народов, проживавших в территориальной близости с ними. Взаимопроникновение и сочетание обычно-правовых норм и институтов у различных народов обуславливалось необходимостью их применения в хозяйственно-экономическом обороте, который зависел от природных климатических условий, диктовавших соответствующий образ ведения хозяйства.

Обычно-правовым институтам, существовавшим у северных народов в рассматриваемый период, была присуща определенная специфика, которая обуславливалась, прежде всего, проявлявшимися ментальными и экономическими особенностями. Обычное право не только создавало поведенческие императивы, выработанные в течение многовекового применения, но и фиксировало систему национальных ценностей, которые были важны для всех членов этнического общества. Оно гарантировало стабильное общественное развитие. Даже после постепенного вхождения территорий, заселенных коми, ненцами, манси и хантами в состав Российского государства, и последующего объявления земли государственной собственностью, обычно-правовые нормы и институты рассматриваемых народов не подвергались значительным изменениям, продолжая, как и раньше регулировать возникавшие общественные отношения, не охваченные нормами позитивного права.

Если в более ранних источниках, дошедших до нас, содержатся, как правило, отрывистые упоминания о различных правовых обычаях, то к XIX в. для исследователя открывается вся палитра обычно-правовых отношений у северных финно-угорских и самодийских народов. Выделены обычно-правовые институты, которые в XVII веке только начинали реализовываться. Однако к XIX веку формируется целостная система правовых обычаев, применявшаяся у исследуемых народов.

Обращено внимание на то, что, начиная с XVII века, российский законодатель «оберегал» северные народы от незаконного воздействия и произвола со стороны чиновников, предоставляя коренным северным

народам возможность использовать этнические нормы обычного права. В XVIII веке данная тенденция усиливается, так как законодатель воспринял ряд крестьянских требований, выраженных в «наказах», и вводил в действие законы, улучшавшие их положение. К первой половине XIX века законодатель даже санкционировал важнейшие принципы государственной политики в «Уставе об управлении инородцев», где нормативно закрепил не только традиционные формы пользования родовыми угодьями для коренных народов, но и возможность кодификации обычного права.

Отмечено, если в XVII в. у рассматриваемых народов широко использовались нормы и институты обычного права, то к концу исследуемого периода общественные отношения регулировались не только нормами, применявшимися в обычно-правовой практике, но и нормами позитивного права.

Ключевые слова: обычное право, позитивное право, обычай, конвергенция, коми, ханты, манси, ненцы.

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NATIONAL CONTRADICTIONS IN KAZAKHSTAN SOCIETY AND WAYS OF THEIR SOLUTION

Abstract. The article focuses on the politological aspects of national contradictions in Kazakhstani society and ways to solve them, which have not yet been studied in socio-political science. The paper emphasizes that the restructuring, updating, modernization of national relations is contradictory in its way, and practice cannot but take this into account. Herewith, it should be said that the peoples of Kazakhstan can resolve national contradictions based on a commonality of the fundamental interests of all nationalities and the implementation of the correct scientific national policy. Of course, these contradictions are not resolved by themselves, their overcoming requires certain efforts, tension, and sometimes struggle. The strength of the commonwealth of the peoples of Kazakhstan lies in the fact that the democratic system and the right scientific national policy give all the opportunities to overcome these contradictions, allow society to resolve them promptly, avoiding home-base mistrust, envy, and any nationalistic, chauvinistic, extremist, tribalistic feelings in general.

The study shows that the update, reformation, modernization of Kazakhstani society revealed national contradictions in the main areas of the country's life: economic, socio-political, and spiritual. We think that the main ones among them are the contradictions between the principle of equal rights of large and small-numbered nations, and the unequal opportunities to meet their needs, between national and international in the trends of development and rapprochement of peoples; between the growth of national identity and the deepening of internationalization; between countrywide and national patriotism, etc. These and other national contradictions and problems must be resolved on a truly democratic basis, in the context of the struggle for socio-economic progress. They can be successfully resolved only based on science and the paths of the law, preserving the integrity of the country, seeking consent and mutually acceptable solutions, respecting the equal rights and freedom of people and nations. At the same time, the article focuses on discussing issues.

Key words: nation, national group, ethnic group, society, national policy, national contradiction, growth of national identity, equality, mutual respect, justice, development, rapprochement, a culture of interethnic communication.

Each of the researchers of the problem of national contradictions in society draws attention to the facet that interests him personally, aspects of national contradictions as a socio-political phenomenon. What interests us, first of all, is the politological aspects of national contradictions in Kazakhstani society.

As scientific literature review shows, national contradictions in Kazakhstani society have not yet been the subject of independent research in socio-political science. Therefore, on the materials of Kazakhstan, a politological study of national contradictions in society and methods for resolving them is of great theoretical and practical importance.

World and Kazakhstani experience show that national contradictions always have concrete historical content. We think that the complexity of their cognition, accounting, and resolution is that they are all interconnected and closely intertwined with other groups of contradictions: economic, political, legal, social, spiritual, demographic, migration, family, etc. These phenomena practically do not exist in its pure form, usually, in national life, one contradiction is intertwined with another, they mutually feed each other.

Today political scientists, sociologists, and philosophers of Kazakhstan need to consider insufficiently the studied issues: to comprehend the essence of national contradictions in Kazakhstan

society, to determine the effectiveness, ways, and means of solving them in the context of national, social progress and political and legal culture [1].

The restructuring, updating, modernization of national relations in Kazakhstani society is contradictory in its way, and practice cannot but take this into account. Further aggravation of national contradictions during the period of society reformation seems to us inevitable. It cannot be otherwise if we seriously talk about the deep transformation of economic, socio-political, and spiritual relations. Since many unresolved issues have long accumulated and driven inside, in the conditions of updating, reforming, modernization, they gradually break out, giving rise to a wide range of national requirements, national movements, national-cultural centers, national-political alliances, etc.

These movements in Kazakhstani society are very contradictory. Firstly, they fully fit into the mainstream of updating, reforming in the process of democratization and expansion of social activity, testify to the growth of national self-awareness of peoples. Secondly, they contain separatist, aggressive, and extremist features, which in some cases lead to internal national, interethnic tensions and clashes. Therefore, now the main problem is how to solve these issues. The central place should be occupied by the idea of national compromises, interethnic harmony, socio-political consensus, and the search for mutually acceptable solutions. Only such a way can save the peoples of Kazakhstani society and Central Asia from serious tensions and upheavals.

For a clearer definition of the field of analysis, it is necessary to determine that the diversity of contradictions of national and interethnic development in Kazakhstani society is determined by the objectively existing differences between nationalities in the areas of public life. Here we cannot help recalling Hegel, who said that difference is a contradiction [2]. The existing economic and social inequality of Kazakhstani people and nations was largely due to the unscientific policies of the CPSU and the uneven development of the regions of the former USSR and Kazakhstan. There is still much legal work to be done so that the regions of the Republic of Kazakhstan, all the people living in them, nations are in equal conditions, enjoy equal rights.

The peoples of Kazakhstan have opportunities to resolve national contradictions based on a commonality of the fundamental interests of all nationalities and the implementation of public consent, the right scientific national policy [3]. Of course, these contradictions are not resolved by themselves, their overcoming, solutions require certain efforts, tension, and sometimes struggle. The strength of the commonwealth of the nations of Kazakhstan lies in the fact that the democratic system and the right scientific national policy create all the opportunities to overcome these contradictions, allow society to manage them promptly, avoiding national mistrust, envy, any nationalistic, chauvinistic, extremist, tribalistic feelings in general.

The process of updating, reforming, and restructuring national relations in the Republic of Kazakhstan has revealed contradictions between the need for radical transformations and the conservatism of Kazakhstani people in methods of operation. Conservatism manifests in all areas of national relations and is a catalyst for the mechanism of inhibition, and also prevents the development of national progress. The essence of this phenomenon has its roots in the law of unity and conflict of opposites, in the unremitting struggle of the old with the new, the progressive with the reactionary, the national with tribalism, the national with cosmopolitanism, mankurtism, etc.

The contradictions between the old and the new are inherent in the national, interethnic development. In the course of the struggle between them, certain contradictions are resolved, at the same time, new systems of contradictions arise on a new qualitative basis. Therefore, everything new in the course of evolution gradually becomes old, and its newest takes its place - this is the logic of the dialectical development of national relations.

In such a way, Kazakhstani people should learn to live normally in a world of national contradictions, resolve national contradictions, avoiding squabbles, rumors, aggressiveness, bureaucracy, manifestations of voluntarism, crime and other anti-popular forms of overcoming national contradictions. But for this, in our opinion, we need to steadily raise the culture of regulating national and integration processes, improve the training of leading personnel, their ability to scientifically analyze, open up and resolve real national contradictions, to prevent interethnic clashes, conflicts, etc.

If we, Kazakhstani, really intend to manage the development of national contradictions following the law of their movement, then we will have to seriously master the science of perceived national interests, where we do not know much.

The problem of management of national contradictions is by no means reduced only to the fight against extremists, chauvinists, tribalists, and ethnocentrists, to reducing mistakes and mistakes in regulating national processes. The deepest source of national contradictions in Kazakhstan is an increase in the material and spiritual needs of nations, nationalities, national and ethnic groups, which inevitably raises new problems for society, requiring the abandonment of outdated and the approval of everything new in the national life of society. Moreover, the democratization of Kazakhstani society will uncover and reveal more and more national contradictions, the existence of which we did not previously know, at best, guessed. The fuller and deeper the “white spots” of various periods of the establishment and formation of national relations in the former USSR and Kazakhstan are explored, the more clearly the problem of national contradictions is felt, and the need to develop a new model of interethnic, interfaith tolerance [4].

Now, when the true picture of the establishment, formation, and deformation of national relations in Kazakhstan is being reconstituted, we can finally understand the tragic fate of our peoples during the Stalinism era, comprehend the zigzags of the Khrushchev’s “thaw” and voluntarism in national relations, assess the damage done to the cause of national interests during the stagnant and Gorbachev - Kolbin periods, etc.

Gradually, the broken ties between the past and present of the nations of Kazakhstan and their true relationships begin to recover, which opens up the possibility of resolving national contradictions based on a proper scientific national policy.

For a real resolution of national contradictions in Kazakhstan, it is necessary to reveal the deep mechanism of the formation and functioning of perverted forms of national policy, the process of deformation of national relations, which does not contribute to the establishment of harmonious ties between nationalities. No less important is the information about the socio-economic and national processes that took place in previous years, about the political figures who once headed our state, and about contemporaries who took responsibility for the future, the socio-economic strategy of the Republic of Kazakhstan, have a direct impact on the adoption of political decisions in matters of national and interethnic development, ensure their implementation.

In politological analysis of the causes of national contradictions, it is necessary to keep in mind such a socio-psychological phenomenon as the historical memory of the peoples of Kazakhstan, in which past wars, conflicts, famine, genocide, repression, etc. were forever imprinted. Besides, it should be recognized that the cause of the national contradictions was the absurd political decisions of the Central Committee of the CPSU, including mass repressions, unjustified deportations of peoples [5], bans on the living of representatives of certain nationalities in places of their traditional settlements, and “administrative voluntarism” in the establishment of borders between republics and regions of the USSR, including in Kazakhstan. Unjustifiably accused of nationalism and persecuted many national cadres of Kazakhstan. For example, in Kazakhstan, it cost the life of Zh. Aymautov, A. Baitursynov, A. Bukeikhanov, M. Zhumabaev, M. Dulatov, T. Ryskulov. This resulted in the expulsion from the republic of M. Auezov, A. Zhubanov, K. Satpayev; withdrawal from circulation of the books of O. Ismagulov, O. Suleimenov; a ban on the film of M. Begalin; suppression of peaceful demonstrations of student youth in Almaty and other cities of the republic. In 1930-1932 1.5 million Kazakhs irrevocably migrated outside Kazakhstan. At the beginning of the 20th century, more than 7 million people were resettled to Kazakhstan [6]. Moreover, during the two revolutions, the civil war, during the years of famine, repression, demographic depression, and persecution, approximately 4 million Kazakh people died. The consequences of this tragedy are being studied today by historians, political scientists, and sociologists. This is necessary for people "not to repeat such tragic pages of history in the future..." [7].

All these and other negative phenomena left a deep imprint in the minds of Kazakhstani people, they have to face today. The social and psychological consequences were social apathy, indifference, a consciousness of injustice, etc.

The update, reform, modernization of society has revealed national contradictions in the main areas of the life of Kazakhstan: economic, socio-political, and spiritual. We think that the main ones among them are the contradictions between the principle of equality of large, small nations and unequal

opportunities to meet their needs, the rapprochement of nations and the addiction of peoples to the ethnic territory; between national and international in terms of trends of development and rapprochement of peoples; between the growth of national identity and the deepening of internationalization; between countrywide and national patriotism, etc. These and other national contradictions and problems should be resolved on a truly democratic basis in the context of the fight for socio-economic progress. They can be successfully resolved only based on science and along the paths of the law [8], preserving the integrity of the country, seeking consent and mutually acceptable solutions, respecting the equal rights and freedoms of people and nations. Today, the Republic of Kazakhstan carefully preserves and strengthens "interethnic harmony, stability, makes a policy of further social consolidation" [9].

It is interesting to consider some manifestations of national contradictions in various regions of Kazakhstan, for example, acute ethnic conflicts in the regions of Novyi Uzen, Tulkubas, events in Kegen, Masanchi, well-known nationalist, isolationist sentiments of the Cossacks that appeared in the North Kazakhstan and West Kazakhstan regions, the revival of elements of feudal-bai relations in the southern region of Kazakhstan and much more that make up the reality of our national real life. In our opinion, these contradictions cannot be considered only a legacy of the past, qualify as random, etc. They find themselves in the form of more or less stable development trends, can acquire mass character, and require serious sociological, politological study.

National contradictions are closely related to language. Therefore, one of the important factors in resolving national contradictions is the development of languages of the peoples of Kazakhstan. During the Soviet period, many problems, acute and painful issues accumulated in their language life. For example, the Kazakh language in Kazakhstan has long been actually discriminated against. According to linguistic scientists, about 40% of the Kazakh population of the republic either did not speak their own language or superficially. In Almaty, 90% of indigenous teenagers did not speak their native language. A similar situation was typical for other towns of Kazakhstan. Also, paperwork in the Kazakh language was not conducted in all republican and regional organizations. What came of this is known to all. As a result, the language of the Kazakh people, occupying 70th place in terms of population, was in their historical homeland under the threat of extinction and ousted from public and political life. The great pain in the heart of every honest person is that the Kazakh language was used only in 10 areas of society out of 50. All these and other imbalances led to the fact that the development of national culture, the press, science, education, and national identity began to decline. In this regard, the Law on the Languages of the Republic of Kazakhstan and the elaboration of the state program for the development of the Kazakh, Russian, German languages, and other national languages in the republic are of great political and social importance.

Among the factors determining the degree and specificity of resolving national contradictions in Kazakhstan, the development of national minorities occupies a crucial place.

In Kazakhstani society, 138 national minorities live and work together with Kazakh, Russian nations. Naturally, they sometimes have specific problems associated with the realization of national interests in the field of education, culture, language, traditions, customs, way of life, religious beliefs, etc. For their solution, for example, in Kazakhstan, a system for identifying and prompt response has been created. The country has a Large and Small Assembly of People [10], and in municipal and district administrations there are commissions, departments, or special working groups, which include representatives of national minorities, national and cultural centers of small peoples, etc.

It should be said that the negative phenomena in our history, which had nothing to do with scientific national politics and caused serious damage to the development of national minorities and the strengthening of their friendship with the Kazakh, Russian and other peoples, should now be called in their own words. For example, many unsolved issues of the German, Korean, Polish, Kurdish, Greek population. In fact, for example, in no Central Asian country, they are represented as a national minority in the structures of national-state entities. Today we are faced with the task of a closer examination of the experience of the 20-30s of the last century, the revival in new forms of national councils in places of compact residence of representatives of national minorities.

When reviewing the history of the ethnosocial development of national minorities in Kazakhstani society, it is clear that the most difficult process of their development accounted for the pre-war, war and post-war years of the 20th century. Many of them were stamped by special migrants; they fell into a

completely unfamiliar socio-cultural environment. Their culture suffered the greatest losses due to the continuity gap.

Herewith, not all elements of culture have disappeared or transformed. Those associated with the development of productive forces and the expansion of production experience, production skills, professional knowledge, have largely been preserved and multiplied, despite significant deformations. The greatest loss was suffered by such elements of national culture as language, fiction, art, education, science, which form the basis of spiritual culture. In addition, due to well-known reasons, the spiritual side of everyday life, the culture of service, and behavior, which were preserved mainly in everyday communication and did not receive development in all areas of society, were subjected to deformations.

At the same time, it should be noted that in Kazakhstani society certain successes have been achieved in the development of national minorities, which contributes not only to overcoming national contradictions, but also strengthening the culture of interethnic communication among the population. Many talented writers, painters, artists, doctors, engineers, economists, agronomists, educators, scientists have grown here. For example, according to our estimates, today more than 100 thousand students representing national minorities study at universities and colleges of the Republic of Kazakhstan. There are approximately 8 thousand scientific employees and university faculty in the republic, of which more than 4 thousand have the degree of Doctor of Science, Candidate, PhD, and Master. Schools with instruction in the native language are opening, specialists are being trained at pedagogical institutes, colleges, and universities. For example, there are departments at the Kazakh National University at the Faculty of Journalism, the Kazakh National Pedagogical University, and Kokchetav University, where students study in German, Korean, Uigur, and other languages. Today dozens of languages of national minorities of the republic are studied in circles and educational institutions. Thus, the scope of use of these and other languages of national minorities is expanding, which means that opportunities are created for their further development.

A great contribution to the national and cultural revival of national minorities, and the resolution of national contradictions in the republic, is made by the publication of newspapers, magazines, books in the languages of national minorities, radio and television broadcasts, the creation of national associations, cultural centers, etc. In connection with the task of national and cultural revival of national minorities of the country, it is necessary to study their history, traditions, and customs, contradictions in their national life. For this, we need to attract scientists from both Kazakhstan and abroad. Moreover, we need to move on to establishing ties between national minorities and their ancestral home, especially in the fields of education, language, culture, science.

A set of measures should be elaborated for the development of national minorities in Kazakhstan, providing concrete steps for the development of language, culture, and education. In no time, a solution to this problem cannot be provided. Therefore, it is necessary to develop a phased program for its implementation, the basis of which should be measured to expand local training of personnel, teaching groups of students, undergraduates, doctoral students, interns from representatives of national minorities, especially backward ones, both in republican and foreign universities and research institutes.

Our public has the right to ask every social scientist, politician, representative of the creative intelligentsia, media worker of Kazakhstan: what have you done in observing national, interethnic harmony, in strengthening the friendship of peoples and the culture of interethnic communication?

Life dictates to us to be wiser, go to mutual development, mutual understanding of peoples, find a cure for getting rid of not only old, but also new ailments in the sphere of national relations. In no case should one allow mistrust between the peoples of Kazakhstan in actions capable of sowing seeds of doubt and suspicion between representatives of different nationalities.

It is known that Kazakhstan, possessing unique treasures of minerals, essentially in the Soviet period did not have the right to use all this wealth. For example, Kazakhstan disposed of only 7% of its industry [11]. All this put the republic in a humiliating position.

It is no secret that the omnipotent ministries and departments of the center - Moscow behaved like conquerors in a foreign country, pumped out the national wealth of Kazakhstan and other republics, neglecting the needs of the socio-economic development of the national republics, the peculiarities of their ecology, culture, traditions. Only the criminal, bureaucratic indifference to the fate of people and peoples could impose the unilateral, monocultural development of the Central Asian republics, turn vast territories

of Kazakhstan into atomic training grounds, etc. All this gave rise to friction in interethnic relations, devalued local national politics.

We should say that the national feelings of nations are very scrupulous and easily vulnerable. Even if they are hurt by people of other nationalities unconsciously, in the form of a joke, through negligence, the result is usually negative. For example, in the media, in connection with the December 1986 events in Almaty, the words “kunaevschina” appeared in the resolution of the Central Committee of the Communist Party of the Soviet Union - “Kazakh nationalism”, which could not but affect the national feelings of the Kazakh people. The public correctly qualified the wording “Kazakh nationalism” as not only unreasonable, but also as insulting to the entire Kazakh people. To this we would add: not only the Kazakh, but also the entire multinational Kazakhstani people. A whole commission dealt with this, which concluded that what happened was a consequence of publicity and democracy. But estimates, conclusions were made from old, dogmatic, subjective, imperial positions and approaches. The media added fuel to the fire. It was reprehension, indignation, rebellion, the reaction of the Kazakh people in connection with the appointment of Moscow “emissary” Kolbin as the leader of Kazakhstan, who did not know the features, specifics, history of Kazakhstan.

As the resolution of national contradictions in Kazakhstani society, the growth of the national identity of peoples will continue. Given the socio-psychological phenomena, it is logical to assume that the growth of national consciousness, along with positive aspects, can have negative ones, i.e. aggravate national contradictions. For example, the excessive enthusiasm of the Kazakhstani Uyghur for his culture and historical past led to the idealization of his history, revaluation of his people, and underestimation of the contribution, achievements of the Kazakh, Russian and other peoples of Kazakhstan and Eurasia.

The growth of the national identity of the Chechen population of Kazakhstan, for example, may be accompanied by manifestations of national arrogance, conceitedness, national hostility, intolerance and other negative phenomena. Therefore, during the period of growth of national identity, it is important to prevent distortions and deformations in it. However, in the country, it is necessary to develop a legal person and a high moral and political personal culture [12].

To sum up, we can conclude that the existing national contradictions in Kazakhstani society are primarily associated with the socio-economic factor and the violation of the scientific principles of national policy. The peoples of the Republic of Kazakhstan can resolve these contradictions based on agreement, a commonality of the main interests of all nationalities. The negative tendency of self-isolation of nationalities, imposed today by false dealers of the national, is a dead-end for ethnic and social development. The research on national contradictions and the search, identifying ways and means of resolving them will help develop and bring together all friendly peoples. Today, the friendship of the peoples of Kazakhstan is being tested by the independence of the state. Some people believe that independence is supposedly a matter of an indigenous nation. This view is deeply mistaken. The sovereignty and independence of Kazakhstan is the business of all citizens. Now the solution of national contradictions and the problem as a whole must promote the unification and unity of all 140 nations, nationalities, national and ethnic groups of Kazakhstan into a friendly family and the development of a democratic, fair, civil society that has a future.

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ҚАЗАҚСТАН ҚОҒАМЫНДАҒЫ ҰЛТТЫҚ ҚАЙШЫЛЫҚТАР ЖӘНЕ ОНЫ ШЕШУ ЖОЛДАРЫ

Аннотация. Мақалада әлеуметтік-саяси ғылымда әлі де зерттелмеген қазақстандық қоғамдағы ұлттық қайшылықтардың саяси аспектілері және шешу жолдары қарастырылады. Жұмыста ұлттық қатынастарды қайта құру, жаңарту, жаңғырту өзара қайшы келеді және тәжірибенің ескермеуі ықтимал екендігі де

айтылған. Бұл ретте Қазақстан халқы барлық ұлттың байырғы мүдделерінің ортақтығы және қолайлы ғылыми ұлттық саясат жүргізу негізінде ұлттық қайшылықты шешуге қабілетті деп айтуға болады. Әрине, қайшылықтар өз-өзінен шешілмейді, оларды жеңу белгілі бір күш-жігерді, шиеленісуді, кейде күресті қажет етеді. Қазақстан халқы достастығының күші демократиялық құрылым, дұрыс ғылыми ұлттық саясат осы қайшылықтарды шешу үшін барлық мүмкіндік тудырады, қоғамға ұлттық сенімсіздік, қызғаныш, жалпы кез келген ұлтшыл, шовинистік, экстремистік, трайбалистік сезімге жол бермей, уақтылы шешуге мүмкіндік береді.

Зерттеу көрсеткендей, қазақстандық қоғамды жаңарту, реформалау, жаңғырту ел өмірінің экономикалық, әлеуметтік-саяси және рухани сынды негізгі салаларындағы ұлттық қайшылықты анықтады. Олардың ішіндегі ең маңыздысы – ірі және саны аз халықтың тең құқықтық қағидаты мен қажеттілігін қанағаттандырудың бірдей емес мүмкіндіктері, халықтың даму және жақындасу үдерісіндегі ұлттық және интернационалдық және ұлттық сана-сезімнің жетілуі мен интернационацияландыруды тереңдету арасындағы қайшылықтар және т.б. Ұлттық қайшылық пен мәселелер әлеуметтік-экономикалық прогресс үшін күрес контекстінде шынайы демократиялық негізде шешілуі тиіс. Оларды тек ғылым мен заң, ел тұтастығын сақтау, келісім мен өзара тиімді шешім іздеу, адам, халықтың тең құқығы мен бостандығын құрметтеу негізінде ғана жемісті шешуге болады. Сонымен қатар, мақалада пікірталас мәселелеріне де назар аударылған.

Түйін сөздер: ұлт, ұлттық топ, этникалық топ, қоғам, ұлттық саясат, ұлттық қайшылық, ұлттық сана-сезімнің жетілуі, тең құқылық, өзара құрмет, әділдік, даму, жақындасу, ұлтаралық қатынас мәдениеті.

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НАЦИОНАЛЬНЫЕ ПРОТИВОРЕЧИЯ В КАЗАХСТАНСКОМ ОБЩЕСТВЕ И ПУТИ ИХ РЕШЕНИЯ

Аннотация. В статье рассматриваются политологические аспекты национальных противоречий в казахстанском обществе и пути их решения, которые еще не изучены в социально-политической науке. В статье подчеркивается, что перестройка, обновление, модернизация национальных отношений по-своему противоречива, и практика не может этого не учитывать. При этом, следует сказать, что народы Казахстана, способны разрешить национальные противоречия на основе общности коренных интересов всех национальностей и проведения правильной научной национальной политики. Конечно, эти противоречия не разрешаются сами собой, их преодоление потребует определенных усилий, напряжения, а иногда и борьбы. Сила содружества народов Казахстана состоит в том, что демократический строй, правильная научная национальная политика создают все возможности для преодоления данных противоречий, позволяют обществу разрешить их своевременно, не допуская национального недоверия, зависти, вообще любых националистических, шовинистических, экстремистских, трайбалистических чувств.

Исследование показывает, что обновление, реформирование, модернизация казахстанского общества выявило национальные противоречия в основных сферах жизнедеятельности страны: экономической, социально-политической и духовной. Нам думается, главные среди них - это противоречия между принципом равноправия больших и малочисленных народов, и неодинаковыми возможностями удовлетворения их потребностей; между национальным и интернациональным в тенденциях развития и сближения народов; между ростом национального самосознания и углублением интернационализации; между общенациональным и национальным патриотизмом и т.д. Эти и другие национальные противоречия и проблемы должны решаться на подлинно демократической основе, в контексте борьбы за социально-экономический прогресс. Плодотворно решать их можно только на основе науки и на путях закона, сохранения целостности страны, поиска согласия и взаимоприемлемых решений, уважения равных прав и свобод людей, народов. Вместе с тем, в статье уделено внимание и дискуссионным вопросам.

Ключевые слова: нация, национальная группа, этническая группа, общество, национальная политика, национальное противоречие, рост национального самосознания, равноправие, взаимоуважение, справедливость, развитие, сближение, культура межнационального общения.

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VALUE-MOTIVATIONAL SPHERE OF THE DEVIANT STUDENTS AND ACADEMICALS COUNSELING IN HIGHER SCHOOLS

Abstract. The problem of academic counseling, including in the context of addressing the issues of training psychological personnel, has recently become the object of numerous, often disparate studies. Unfortunately, there are not so many fundamental studies of this problem, and practical experience does not always remain studied and appreciated. Objective: analysis of problems of deviant behavior in the context of the processes and results of deformations of the system of values of the students and the educational community. The method of research is a theoretical analysis of the problem of deviant behavior of the students in the context of the processes and results of deformations of the value system of an individual and the educational community. Results and conclusions. Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/tras) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers and other specialists. Technological, social, psychological, political and economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication. The article analyzes the problems and directions of the deviant development of the person and the person's relationship at the student age, the effects and approaches to organizing and improving the psychological and socio-pedagogical support of a young person as a person, partner and future professional in the process of his study at the university - academic psychological counseling.

Key words: academic counseling, deviating behavior, deviation, value-motivational sphere, students, education.

Introduction. The problem of academic counseling, including in the context of addressing the issues of training psychological personnel, has recently become the object of numerous, often disparate studies. Unfortunately, there are not so many fundamental studies of this problem, and practical experience does not always remain studied and appreciated. The standard for modern society's requirements for graduates of schools and universities is quite high. Physical health, adaptability, adequacy, independence, activity, a developed communicative culture, decision-making ability, initiative, these and many other qualities of secondary and higher school graduates largely determine the awareness of search and choice in a situation of uncertainty, the awareness of one's position in relation to diverse, socially significant problems and issues. All this is no less valuable than the assimilation of a certain amount of knowledge. A country in which they do not care about children and youth, as well as a country in which young people and children are deified and are exalted on a pedestal, has no future. In order to take care of it, to provide assistance to youth, specialists and society as a whole need knowledge of the main trends in the development of youth (sub)culture, its relationship with trends in the development of culture of a particular community in general, knowledge of the psychological characteristics of young people, their relationships with people of other age groups, etc. The sciences of youth (sociology of youth, psychology of youth, and others) are quite numerous, but are in their infancy. Young people are studied as a social community, the features of its socialization, upbringing, the process of social continuity and the inheritance by young people of the knowledge and experience of older generations, lifestyle features, the formation of life plans, value

orientations, and the fulfillment of social roles. Youth is defined as a special socio-demographic group, characterized by the fact that the people included in it experience a period of social maturity, adaptation to the adult world and future changes, youth - a period of knowledge, labor and moral experience, the ability to inherit the best traditions of previous generations and replenish their own creativity. The destruction of the universality of the rules that guaranteed the survival and development of peoples and people, the development of culture, leads not only to the destruction of culture (lack of culture), but also to the loss of their potentials of viability and extinction by communities (Bryant, 2001).

Materials and Methods. The method of research is a theoretical analysis of the problem of deviant behavior of the students in the context of the processes and results of deformations of the value system of an individual and the educational community.

Results. Despite the universality of cultures and societies formed by people of different cultures, there are social norms in any community (Arpentieva, Gorelova, Kassymova, Lavrinenko, Shumova, Malinichev, Simonov, Kosov, Garbuzova, Stepanova, 2020; Badalov, Brovkina, Arpentieva, Kalinin, Kassymova, 2020; Kassymova, Lavrinenko, Kraynova, Gasanova, Kamenskaya, Kosov, Arpentieva, Gorelova, 2020; Triyono, Mohib, Kassymova, Pratama, Adinda, Arpentieva, 2020). These standards are adopted and revised by the community. According to these norms, the community lives. The norm acts as a stereotype, and the violation of the norm - the disruption of stereotype. Social norms, regulating the behavior of people, regulate the most diverse types and aspects of professional, personal and other relationships. They are organized into a certain hierarchy of legal, moral, and other norms, distributed according to the degree of social significance, rigidity / flexibility, completeness / incompleteness, etc. The norms generally contribute to social integration. Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/tras) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers and other specialists. Technological, social, psychological, political and economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication (Schwartz, Cieciuch, Vecchione, Davidov, Fischer, Beierlein et al., 2012; Pickering, 1979). The destruction of the universality of the rules that guaranteed the survival and development of peoples and people, the development of culture, leads not only to the destruction of culture (lack of culture), but also to the loss of their potentials of viability and extinction by communities. Social norms are assigned by the individual in the process of (re) socialization. Anomia is a state in which a significant number of people are in a position characterized by disintegration with stable social institutions, the rejection of their norms and rules (Merton, 1938; Parsons, 1966). Deviant behavior means deviations that do not entail repression and are not associated with violations of legal and moral norms. There are several models of deviance, but in whole the deviation is the result of opposition to the norms of society (Bryant, 2001; Porshnev, 2008). E. Durkheim considers the deviation from the norms is not only negative, but also a positive start. Deviation in its essence confirms the role of norms, including norms and values. It gives a person a more multi-component and multi-level understanding of the diversity of norms and life in general. Deviation contributes to social change; it reveals alternatives to the existing order, leads to the improvement of social norms and social life in general. However, if you rely on the research of another scientist, B.F. Porshnev, A. Milgram, F. Zimbardo, V. Frankl and B. Bettelheim (Porshnev, 2008; Bettelheim, 1991; Didenko, 1999; Eco, 2000; Frankl, 2011; Milgram, 2008; Zimbardo, 2013), their followers and researchers, we can see that up to 90% of people are conformal and easily suggestible, and only a small proportion of people are capable of creativity, including deviations (Doliński, Grzyb, Folwarczny, Grzybała, Krzyszycha, Martynowska, Trojanowski, 2017). However, deviations are still common. Deviations destroy the “magic world” of the game of norms (Huizinga, 2014).

Different sources of social deviations include the following sources (Cieciuch, Schwartz, Davidov, 2015; Bryant, 2001):

1. in the process of socialization and appropriation by the individual of patterns of behavior and attitudes, social norms and values, situational or systemic failures, failures, deformations arise;

2. dysfunctional families: super-long paternal and maternal discipline; insufficient parental supervision; lack of affection between children and parents; lack of value cohesion in the family and the problems of cultural transmission in the family associated with death, divorce, etc.;

3. inwell-off families, norms learned from childhood can be revised or rejected in the course of interaction with a crisis-changing, foreign cultural ("appeal") or acultural (de-socialization) surrounding reality, in particular, with a deviant ("subcultural") social environment.

Two aspects of the influence of the social process as an objective factor on the social development of youth can be distinguished. On the one hand, the changing objective and subjective conditions of the macroenvironment mediate the features of inclusion in the social structure of society, which affects both the formation of the social image of the young generation and the degree of development of the social structure itself. On the other hand, the factors of social technological progress and cultural development as a whole, reflecting and appearing in the minds of young people, affect their needs, interests, and value orientations in their behavioral programs, which, ultimately, also affects the social makeup of young people. The reform processes taking place in Russia are changing the emphasis in the problem of youth socialization. According to E. Erickson (Erickson, Erickson, 1998; Scheck 2014; etc.), the age of youth is built around an identity crisis, consisting of a series of social and personal choices, identifications and self-determination. If a young man fails to solve these problems, he develops an inadequate identity, the development of which can go along four main lines: 1) avoiding psychological intimacy, avoiding close interpersonal relationships; 2) erosion of a sense of time, fear of growing up and change; 3) erosion of productive, creative abilities, inability to concentrate on any main activity; 4) the formation of "negative identity", the rejection of self-determination and the selection of negative role models. Comparing the degree of professional, religious and political self-determination of a young man, the researchers of the school of E. Erickson note that four main options for the formation of identity can be distinguished: 1) "Uncertain, vague identity" means that the individual has not yet entered a time of crisis, has not developed any clear-cut convictions, has not chosen a profession. 2) "Early, premature identification", i.e. a predetermined development option, when an individual, before the due date, was included in the corresponding system of relations, and he did this not on his own, having gone through the trials of the crisis, but under the influence of others. 3) The "trial of roles" or the stage of "moratorium" is characterized by the fact that the individual is in the process of a normative crisis of self-determination. 4) "Mature identity" indicates that the crisis is over and the sense of self-identity is defined. The indicated options for the formation of identity can be considered in two meanings: as stages in the development of personality and as its types. In other words, the individual in his development can go all the way to the formation of identity or, under the influence of any factors, be fixed at one of the stages, in which case the features of this stage turn into characterological qualities of the person and are integral entities.

Youth is a period when a young man / woman continues to reflect on his/her relations with his/her family in search of his/her place among loved ones. Two approaches have always existed and opposed in organizing university education in Russia: 1) university studies should be based on the freedom and interest of students; 2) training should be compulsory and regulated, otherwise the youth will not study. The dominant aspect of the worldview of a modern student is individualism, and the higher education system in which he is located develops his own requirements. The main ones are: a unified training program; following the norms and standards of student life; forced group and flow community; forced dependence on teachers and local bureaucracy. The only encouraged way to isolate is excellent study in the general plan. Modern students are characterized by the absolutization of "attitude towards me." Changes in the educational process are often outwardly declared to be oriented towards partnership and cooperation; in fact, a stable attitude towards resistance and opposition continues to exist. Most students exhibit more stereotypical and consumer behavior than would be expected from youth. Therefore, any innovations are unpleasant, uncomfortable for students whose adaptive capabilities are lower than desired and necessary. A student is often alienated from the product of his labor, because according to this "forced model of relations" he writes his works not for himself, but for the teacher or for the sake of assessment. The "good student", as a rule, is alienated minimally, he works with interest, and the bad student maximally: works with disgust and often focuses not so much on learning as on trying to avoid it. The student is alienated from the labor process and because any work can be done for him by others, and the training itself, having become paid, has lost many motivating opportunities for the development of a

young man. The irrationality and destruction of the self along with self-concentration, anxiety and aggressiveness make up what can be called the accentuated personality of the student. Social, pedagogical and psychological practice shows that certain restrictions on access to education or distortions in the quality of education turn out to be serious social costs for society - criminalization of some young people, bribery, protectionism, etc. The effectiveness of innovations currently being implemented in the field of education largely depends on whether innovations can ensure the availability of education for all youth groups and help minimize social inequality in society

An important role is also played by the organization of training and education. Traditionally, there are several basic teaching strategies that are oriented to a different extent on the development of students' potential. The first strategy involves the use of a traditional assimilation scheme: clarification of new material, memorization, reproduction and delayed use. The quality of mastering the content of the discipline is determined by the exam. At the same time, students show a strong dependence on how the teacher gave the material at the lecture, how demanding it was during the survey. Making a mistake, they found it difficult to detect and correct it. They experienced greater difficulty when it was necessary to use what they had learned in practice. The second strategy is mastering in the form of problem-based learning. The student independently masters the initial terms and formal logical generalizations, formulates, regardless of the teacher, the questions that arise. A meaningful generalization is given in the form of an educational task, the difficulty and ambiguity of the solution of which for both the student and the teacher provides the possibility of joint search, generalized solutions and practical orientation of training. The following is a solution to a number of practical problems that allow the student to feel the result of their activities "here and now". The effectiveness of self-training is determined by the characteristics of the process and the results of solving the proposed problems. Assessment by teachers of student activities is replaced by a self-reflective assessment of the student and teacher. The need for an exam with this learning strategy is unprofitable. A certain part of students in these learning conditions almost do not use the created opportunities for creative self-development. However, another part of the students shows great confidence in non-standard learning situations, is not afraid to share their own opinions, and listens more to alternative points of view. With the implementation of this form of training, the ability to set goals is manifested, especially when setting and formulating educational tasks. The third strategy - involves the activities of an individual program with the appeal for advice to the teacher. The student and teacher are placed in a situation of choosing the optimal teaching and learning strategy for themselves. Students are given some time to "try on" themselves to the chosen form of assimilation. In other words, the locus of control moves inside the subject. The conditions are created for the formation of internal motivation for assimilation. Students who studied on the basis of the third strategy, as well as those who studied in conditions of difficulty, show signs of positive changes in the structure and dynamics of educational and professional activities. These strategies in different measures serve the prevention and correction of deviations: in dialogic forms a person is given the opportunity to recognize and choose a model of behavior, in monologues - it is strictly limited by alien norms. In this sense, the adragogical model, the research model, the experimental model, and many other problem-oriented and developing (facilitating) orientations are in many respects close to the models of psychotherapeutic (advisory-oriented) pedagogical communication L.A. Petrovskaya and M.R. Arpentieva (Minigalieva M.R., 2012).

Discussion. Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/tras) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers and other specialists. Production-technological, socio-psychological and politico-economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication. Modern societies began to exist in the spirit of principles and rules of life, that values are formed spontaneously and exists in individual forms (Kudzieva, 2014; Schwartz, Cieciuch, Vecchione, Davidov, Fischer, Beierlein et al., 2012; Schwartz, 1992). This makes these norms very vulnerable to deviations, and crushes the very understanding of deviations, "reducing" them to individual versions of the "norm". The destruction of the universality of the rules that guaranteed the survival and development of peoples

and people, the development of culture, leads not only to the destruction of culture (lack of culture), but also to the loss of their potentials of viability and extinction by communities (Vasileva, 2014) .

The comprehensive support of studying youth is a system of social, psychological and pedagogical ways and methods that promote personal, social and professional self-determination of a person during the formation and development of her abilities, value orientations and self-awareness, increasing its competitiveness in the labor market and adapting to the conditions for the realization of one's own professional career. A significant part of the social, psychological and pedagogical support is psychological counseling - a specially organized dialogue about the problems that arise during training. Social, psychological and pedagogical support is carried out in the direction of optimizing the psychological state of a person as a result of a complete resolution or reduction of the relevance of internal, psychological problems and external, socio-behavioral and situational problems that impede labor, professional, social self-realization at each stage of an individual's life, small groups, collectives, formal and informal associations. In a broad sense, socio-psychological-pedagogical support includes psychological, in a narrower - psychological support acts as an independent phenomenon and the scope of professional activity. However, it is appropriate to talk about its allocation in those cases when social and pedagogical support and its bodies for one reason or another do not function in a university, organization, or territory "at the place of residence," but various kind of psychological advice, clubs, etc. The main areas of social, psychological and pedagogical support are psychological, social and pedagogical prevention, counseling, diagnostics and correctional and developmental assistance, which can be carried out both one-time and systemically (in the form of support). The main methods are psychological education and counseling, diagnostics, developing (habilitating) trainings and corrective (rehabilitating) programs, etc. Social, psychological and pedagogical support of students is an integral part of the optimization of the learning process. It is solved by such techniques as: 1) the creation and awareness of students of the favorable prospects for educational and professional activities, personal and interpersonal (partnership) improvement; 2) humanization of education: a) load optimization in accordance with the individual psychological characteristics, moral and social resources of the student through the selection of individual tasks and modes of work in the process of training and education b) optimization of the form and content of the load in connection with the dynamics of working capacity, which is realized through the improvement of load conditions, active students usually learn a new topic in the first lesson, passive and slow can learn new training material only after some timeжс) - optimization of the load in accordance with the motivation to study, taking into account the fact that if the student has formed cognitive motivation in relation to the subject, then the effectiveness of studying it will be higher; 3) optimization of the learning and subject environment as a condition of activity in accordance with hygienic standards (temperature, lighting, noise, etc.); 4) the humanization of the social environment and the interaction of participants in the educational process, contributing to the formation of a positive attitude not only to the subject being studied, but also to the teacher and peers. The tasks of social, psychological and pedagogical support for students are 1) creating a favorable psychological climate in the learning process, 2) helping students to develop an individual educational path focused on the effective combination of various forms of training, 3) psychological and socio-pedagogical work aimed at educating, including - habilitation (formative) and rehabilitation (restoring) types. That is, the upbringing of a holistic personality, its internal and external harmony, the full functioning of a social unit and a multifaceted human being. In addition, in recent years there has been an increasingly pronounced deterioration in the physical and mental health of the young population of the Russian Federation. In this regard, educational institutions for students in need of psychological, pedagogical and medical-social assistance play a special role. Problematic in the activities of these institutions is an unstructured system of interaction to accompany the student. So far, a holistic approach, organically linking the theoretical foundations with substantive and organizational-methodological components of the activities of specialists in the framework of socio-pedagogical support, support for the development of students and schoolchildren, has not been proposed.

Conclusions. Deviant (innormal) behavioris a social behavior that deviates of the students in its motives, value orientations and results from the accepted in a given society, social stratum, group of norms, values, ideals, that is, normative standards. In the context of our work, it is necessary to emphasize the importance of relying on the student's life experience. As well as the importance of a research, creative attitude towards him and life in general.

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ДЕВИАНТТЫ СТУДЕНТТЕРДІҢ ҚҰНДЫЛЫҚТЫҚ-МОТИВАЦИЯЛЫҚ СФЕРАСЫ ЖӘНЕ ЖОҒАРЫ ОҚУ ОРНЫНДАҒЫ АКАДЕМИЯЛЫҚ КЕҢЕС БЕРУ

Аннотация. Академиялық кеңес беру мәселесі, соның ішінде психологиялық кадрларды даярлау мәселелерін шешу аясында соңғы кездері көптеген шашыраңқы зерттеулердің нысанына айналды. Өкінішке қарай, аталған мәселе жайында іргелі зерттеулер көп емес, ал практикалық тәжірибе әрқашан зерттеліп, шынайы құндылығымен бағаланады. Мақалада студенттік жас кезеңдегі жеке тұлғаның және адамдар арасындағы қарым-қатынастың девиантты даму мәселелері мен бағыттары, жоғары оқу орнының оқу үдерісінде жас адамды тұлға, серіктес және болашақ маман ретінде психологиялық және әлеуметтік-педагогикалық қолдау ұйымдастыруға және жетілдіруге әсері мен тәсілдері – академиялық психологиялық кеңес беру жұмыстары талданған. Болашақ психолог, мұғалімдер мен әлеуметтік қызметкерлердің, басқа да мамандықтарға көмек беретін мамандардың даму мәселесіне ерекше назар аударылады. Авторлар жас тұлғаның тұлғалық, тұлғааралық және кәсіби дамуының өзара әсері мен өзара әрекеттесу мәселелерін қарастырады. Авторлар қазіргі жастар өміріндегі негізгі өзгерістерді ашады, оқуда да, кеңес беруде де оқушының өмірлік тәжірибесіне сүйенудің маңыздылығы көрсетілген. Сонымен қатар, олар студенттердің ізденісін, білімге, өзіне және адамдарға, жалпы өмірге деген шығармашылық қатынасын қалыптастыру мен дамытудың маңыздылығын атап көрсетеді. Студенттерді әлеуметтік, психологиялық, педагогикалық қолдау міндеттеріне мыналар кіреді: 1) білім беру үдерісінде қолайлы психологиялық климат құру; 2) білім берудің әртүрлі формаларын тиімді үйлестіруге бағытталған білім алушылардың жеке білім беру бағытын құруға көмектесу; 3) оқытуға бағытталған психологиялық, әлеуметтік, педагогикалық қолдау және білім беру, оның ішінде абилитация (қалыптастырушы) және оңалту (қалпына келтіру) түрлері. Тәрбиенің мақсаты – оқыту мен тәрбиелеу арқылы жеке тұлғаны қалыптастыру және дамыту, ішкі және сыртқы үйлесімділікке жету, қоғам мүшесі және жеке тұлға ретінде толыққанды қызмет ету. Жоғары оқу орындарының қызметіндегі аса проблемалық мәселенің бірі – құрылымдардың өзара байланысының құрылым жүйесінің жоқтығы. Осы уақытқа дейін студенттер мен білім берудің басқа пәндерін дамытуды әлеуметтік-педагогикалық және психологиялық қолдау шеңберінде мамандар қызметінің мазмұны және ұйымдастырушылық-әдістемелік компоненттері арқылы теориялық негіздерді органикалық байланыстыратын тұтас тәсіл жүзеге асырылмаған. Авторлар түрлі дәрежедегі оқушылардың әлеуетін дамытуға, ауытқу мен басқа да бұзылыстардың алдын алуға және түзетуге бағытталған бірқатар негізгі оқыту стратегияларын сипаттайды. Бірінші стратегия келесідей ассимиляцияның дәстүрлі схемасын қолдануды көздейді: жаңа материалды нақтылау, есте сақтау, көбейту және кейін пайдалану. Пәннің мазмұнын меңгеру сапасы емтихан арқылы анықталады. Сонымен бірге, студенттер мұғалімнің материалды қалай ұсынатындығына және бақылау үдерісі қалай ұйымдастырылғанына аса тәуелді екенін көрсетеді. Қате жіберген кезде оқушылар оны тану және түзету қиын екенін байқайды. Екінші стратегия – проблемалық оқыту түріндегі шеберлік. Мәнді жалпылау білім беру тапсырмасы түрінде беріледі, оны шешудің күрделілігі мен анық еместігі оқушы үшін де, мұғалім үшін де бірлескен ізденіске, жалпыланған шешімдерге және оқытудың практикалық бағыттылығына мүмкіндік береді. Мұнда норма мен ауытқудың салыстырмалы маңызы бар, ал тәжірибе қайта қарауға жатады деген ой туындайды. Үшінші стратегия мұғалімнен кеңес сұрай отырып, жеке бағдарлама бойынша іс-әрекеттерді қамтиды. Студент пен оқытушы тек нақты адамдарға арналған оқыту мен оқудың оңтайлы стратегиясын таңдау жағдайында болады. Студенттерге таңдалған білім беру түріне «еніп көруге» біршама уақыт беріледі, осылайша мінез-құлық пен көзқарас нұсқаларын қарастырады, бұл әртүрлі тәртіп бұзудың алдын алу мен түзетудің ең жақсы әдісі. Бұл тұрғыдан алғанда адрогогикалық, зерттеу және эксперименттік модель, басқа да проблемалық-бағытталған және дамытушы (жеңілдететін) бағдарлар өзекті болып саналады. Олар негізінен Л.А. Петровская мен М.Р. Арпентьеваның психотерапиялық (кеңестік-бағытталған) педагогикалық қарым-қатынас моделіне жақын.

Түйін сөздер: академиялық кеңес беру, девиантты мінез-құлық, құндылықтық-мотивациялық сала, студенттер, білім.

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ЦЕННОСТНО-МОТИВАЦИОННАЯ СФЕРА ДЕВИАНТНЫХ СТУДЕНТОВ И АКАДЕМИЧЕСКОЕ КОНСУЛЬТИРОВАНИЕ В ВУЗАХ

Аннотация. Проблема академического консультирования, в том числе в контексте решения вопросов подготовки психологических кадров в последнее время становится объектом многочисленных, часто разрозненных исследований. Фундаментальных исследований этой проблемы, к сожалению, не так много, а практический опыт не всегда остается изученным и по достоинству оцененным. В статье анализируются проблемы и направления девиантного развития личности и взаимоотношений человека в студенческом возрасте, эффекты и подходы к организации и совершенствованию психологической и социально-педагогической поддержки молодого человека как личности, партнера и будущего профессионала в процессе его обучения в вузе – академического психологического консультирования. Особое внимание уделяется проблемам развития будущих психологов, педагогов и социальных работников, других специалистов помогающих профессий. Авторы рассматривают проблемы взаимовлияния и взаимодействия личностного, межличностного и профессионального развития молодого человека. Авторы раскрывают основные изменения в жизни современной молодежи, отмечается значимость опоры на жизненный опыт обучающегося как в образовании, так и в консультировании. Они также подчеркивают важность формирования и развития у студентов исследовательского, творческого отношения к образованию, к себе и людям, к жизни в целом. Задачи социальной, психологической и педагогической поддержки студентов включают: 1) создание благоприятного психологического климата в учебном процессе, 2) помощь студентам в разработке индивидуального образовательного маршрута, ориентированного на эффективное сочетание различных форм обучения, 3) психологическая, социальная и педагогическая поддержка, направленная на обучение и воспитание, в том числе абилитационного (формирующего) и реабилитационного (восстанавливающего) типов. Цель образования – формирование и развитие средствами обучения и воспитания целостной личности, достижение внутренней и внешней гармонии, полноценное функционирование как члена социума и индивида. Наиболее проблемным в деятельности учреждений высшего образования является неструктурированность система взаимодействий подструктур учреждения. До настоящего времени целостный подход, органически связывающий теоретические основы с содержательной и организационно-методической составляющими деятельности специалистов в рамках социальной, педагогической и психологической поддержки развития студентов и иных субъектов образования, не реализован. Авторы описывают ряд базовых стратегий обучения, которые в разной степени ориентированы на развитие потенциала студентов, профилактику и коррекцию девиаций и иных нарушений. Первая стратегия предполагает использование традиционной схемы ассимиляции: уточнение нового материала, запоминание, воспроизведение и отсроченное использование. Качество усвоения содержания дисциплины определяется экзаменом. В то же время студенты демонстрируют сильную зависимость от того, как преподаватель преподносит материал и как организует процесс контроля. Совершая ошибки, студенты обнаруживают, что их трудно осознать и исправить. Вторая стратегия – овладение в форме проблемного обучения. Содержательное обобщение дается в виде учебного задания, сложность и неоднозначность решения которого как для ученика, так и для учителя дает возможность совместного поиска, обобщенных решений и практической направленности обучения. Здесь закладывается представление о том, что норма и отклонение имеют относительное значение, а опыт поддается переосмотру. Третья стратегия предполагает деятельность по индивидуальной программе с обращением за советом к педагогу. Студент и преподаватель находятся в ситуации выбора оптимальной стратегии преподавания и обучения именно для них – конкретных людей. Студентам дается некоторое время, чтобы «примерить» себя к выбранной форме обучения, и таким образом просмотреть варианты поведения и отношений, что является лучшим способом профилактики и коррекции различных нарушений. В этом смысле актуальными являются адрагогическая модель, исследовательская модель, экспириентальная модель и многие иные проблемно-ориентированные и развивающие (фасилитирующие) ориентациями. Они во многом близки к модели психотерапевтического (консультативно ориентированного) педагогического общения Л.А. Петровской и М.Р. Арпентьевой.

Ключевые слова: академическое консультирование, девиантное поведение, девиация, ценностно-мотивационная сфера, студенты, образование.

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META-TECHNOLOGIES OF BUSINESS AND PROFESSIONAL CONSULTING IN EDUCATIONAL ORGANIZATIONS

Abstract. The article is devoted to the analysis of the main principles of business and professional consulting as a practice of interpersonal relations and the being of its subjects. The main problems of clients connected with violations of their intrapersonal and interpersonal relations, as well as relations to their own life (being) in general, subjects of business consulting as participants in business processes and life, in general, are considered. The purpose of the study is to analyze the basic principles or meta-technologies of business and professional consulting in educational organizations. The article summarizes the basic concepts and concepts of business and professional consulting, reflecting its meaning as helping the socio-psychological practice of developing people and educational organizations. Relying on the tetrad of principles of psychological counselling, isolated in the school of C.R. Rogers, as well as the leading principles of organizational counselling in educational organizations, the authors consider their manifestations and features in the main aspects and dimensions of advisory interaction. Traditionally, such dimensions are distinguished: power/management system, competence/experience system, love/system of relations. Each of these dimensions is associated with one or another intention of consultative relations in educational organizations: transformational, dialogical, and relational. Within each of these intentions, the basic principles of business and professional consulting in educational organizations are manifested as meta-technologies or meta-technology groups. In addition, the authors consider the principles of business and professional consulting in educational organizations in relation to the life of the consultant and the client as a whole, as "meta-technologies of life".

Key words: business consulting, professional consulting, congruence, concreteness, competence, human resources management, empathy, meta-technologies, relationships.

Introduction. Modern management of cadres, as well as professional training of personnel, is an area of very complex changes, requiring high professionalism from a specialist, advanced training through continuous training, and self-training [1-5]. On this path, part of the researchers focuses on the issue of competencies, and part - on the leading principles and problems of education. However, the leading point is the moment that we have designated as "meta-technology." The metatechnological analysis of the specialist's activity is supplemented by the metatechnological support of this activity: comprehension of the most significant aspects and the development of these aspects [6-10]. The purpose of the study is to analyze the basic principles or meta-technologies of business and professional consulting in educational organizations. The training of modern business and professional consultants is a process that relies not only and not so much on the translation of professional knowledge and skills (technologies), psychological

education, but also the transfer of values and associated meta-technologies - education. In addition to universal values and professional spiritual, moral, and ethical imperatives, principles or meta-technologies of business and professional consulting in educational organizations play an important role in this process. Unfortunately, this issue remains one of the least studied and developed, despite the many approaches, business, and professional consulting school models. Business and professional consulting in educational organizations, in our opinion, is a helping socio-psychological practice of optimizing business relations. Socio-psychological business and professional consulting is a complex, polymorphic phenomenon associated with the help of different groups of clients in solving problems of their relationships with themselves and the world: intrapersonal, interpersonal, intragroup, and intergroup, intraorganizational and interorganizational functioning, development and restoration (habilitation and rehabilitation). It includes diagnostic issues, identified problem areas of the organization, managers and employees, and support/coaching, marketing consulting, advertising and marketing improvement, PR management, recruitment, and retraining / advanced training/training and business games for personnel development, that is, HR management. It also includes issues of management consulting/consulting or personnel management, conflict resolution, and the organization of cooperation, team building in the workforce/team. The scope of business and professional co-counseling in educational organizations includes the functions and research of the functions of managing human relations and corporate culture and the scientific organization of labor, including time management, management of the structure of the labor activity. Business and professional consulting includes the same work with personal, group, and organizational crises and work with organizational development, innovations, futuropractors, and foresight of the organization and business/industry/market, etc. A separate area of business and professional consulting in educational organizations includes negotiation technologies and mediation. Recently in business and professional consulting a lot of attention has been paid to the problems of self-learning / self-developing organizations and organizational missions. The tasks of this practice include decision-making management and playing technique, situation management/problem management, or problem management. An important direction of business management is the development of strategies and opposition to aggression, "business sharks", etc. Typology of types of business and professional consulting, as described by I.A. Prigogine and Yu. N. Lapygin, shows a huge variety of his tasks, technologies, and forms [11,12]. Socio-psychological business counseling as an ideological (helping) practice, a sphere of professional activity, is formed at the "junction" of managerial and organizational psychology, psychology of large and small groups, clinical psychology and psychotherapy, psychosocial counseling and social work [13,14]. Clients in the context of socio-psychological, including business counseling, as opposed to clinical psychological counseling and psychotherapy focused on the problems of the personality as such, are not considered as patients suffering from dysfunctions of mental processes (activities) or, moreover, organic the causes of their violations, needing the help of a psychotherapist, but as clients seeking to correct more or less pronounced, conscious, extensive and profound, problems of social functioning and development which are shown for individual and group subjects to imagine themselves and/or others of their subjects, the world as a whole (in the internal or external to the individual or group level) to optimize its being and relationships as businesses. Thus, clients can strive to reduce dissonance or deformation, restore harmony, and develop themselves and relationships with the world in the context of business objectives, realizing themselves and enabling others to realize themselves. In carrying out its own tasks, socio-psychological business counseling allows overcoming the truncation of diagnostics and assistance (treatment) in medical psychotherapy and psychiatry, in classical socio-psychological counseling and social work, in pedagogy and pedagogical counseling. For all of these approaches and practices, practical and theoretical reductionism is somehow typical as ignoring the social and psychological factors of impairment and reducing the counseling and psychotherapy to art related to specific people and situations. Business and professional consulting is addressed to the system (multi-level, multi-component, and dynamic) understanding of more or less universal and unique problems of business relations and problematic business situations. It is very important to take into account the socio-psychological aspects of helping people who demonstrate certain signs of violations or difficulties (general or partial socio-psychological incompetence) in their relations with society, business organizations, individuals, themselves. Modern concepts of socio-psychological business counseling oppose the "object" and fragmented, successful and static approach to a person, organization, problems of

everyday and crisis reality, limitations, and errors, which transform the dialogue. This significantly expands the range of problems and clients that can be helped, changes the context itself, semantic accents, consideration of clients' problems as a process of enhancing and supporting the processes of self-realization and mutual realization of members of communities and organizations. Also very important is the search for meta-technologies and general principles of socio-psychological business and professional consulting as a practice of applying scientific knowledge and methods of research and modeling of the reality being studied. Many clients who have received "situationally effective", results-oriented immediate assistance, after some time encounter delayed results of such assistance, some of which, as a practice of urgent approaches shows, are destructive towards the individual and their social connections, organization, and management, to business.

Main bullets. The problems that customers encounter in business relationships in educational organizations can be described as problems related mainly to violations and difficulties in understanding business situations, themselves, or others around them - not only in professional-business, but also in intimate-personal relationships. These difficulties are localized on value-role, conceptual-semantic and directly interactive levels of business activity: in the sphere of relations of business entities to themselves, people and the world, in the sphere of ideas about themselves, people and the world, their understanding of actors, as well as in the sphere of influence people at each other, power-transformative relations. From the point of view of social psychology as a science, business and professional consulting is a specially organized dialogue aimed at improving the quality of life of a business organization and its members, as well as increasing the haste of business and harmonization of business relations, psychological support for the development of the individual, organization, and business, and also to the correction of errors and problems of functioning and development, disharmony intrapersonal, interpersonal, intragroup and intergroup (interorganizational) plans. At the same time, in modern, integrative business and professional consulting models in educational organizations (systemic and strategic approaches, paradoxical and provocative counseling, procedural and participatory/evergetic approaches), research and development of people's attitudes to themselves and the world and activation of internal resources of clients' self-development, as opposed to the preceding, becomes the focus traditional models of technology assistance and expert correction of personal and organizational "deficiencies": the answers to the question "why" and "who" is more important than the answer to answer the questions "how" and "under what circumstances." Assistance in understanding and transforming problems, central to traditional, scientific models, plays an auxiliary function within this model. In most modern models and approaches, two trends are combined: a metatechnological and spiritual-moral analysis of helping relationships. In a concrete situation, in real practice of helping relationships, these two tendencies merge into a single whole. Such a merger does not take place simply and painlessly: practitioners associated with the medical tradition continue to try to keep the priority of technologies and the never-ending quest for a "substrate" of psychological and mental disorders; and practitioners turned to the sociological tradition, try to interpret what is happening with the client in terms of the impact of the "social environment", circumstances, and also to limit the development of specific technologies of assistance. The study and formation of business-method-technologies is consulted and its spiritual and moral comprehension, as well as attempts at spiritual and moral comprehension of human life, remains sporadic and, with the exception of a few independent trends, such as religious-oriented, paradoxical-provocative, system-strategic, procedural democratic and participatory - often remain outside the purview of the majority of clients and specialists. The science and practice of advisory psychology "forgives" experiments to the most famous representatives of these trends, admiring the charisma and individuality of the latter, however, traditional models continue to dominate in everyday practice, "moderated" by elements of existential-humanistic models. Helping relationships themselves continue to be an area related more to art: as outlined in the studies of the followers of C.R. Rogers and many other schools base principles are not closely related to technologies of different approaches [15]. That is why the goal of our research is to correlate the principles of counseling in different areas and schools, to form ideas about consulting meta-technologies that are common to different approaches, paradigms, and traditions. The idea of meta-technologies allows combining reflecting primarily the moral and ethical aspects and principles of counseling and its technologies and technological methods.

Theoretical analysis of the concept of meta-technology shows that meta-technology can be viewed as arbitrary, carried out by the subject within the framework of his current desire for development, self-

realization, the process of influencing the technology that transforms it to increase the productivity and efficiency of life. Being a meta-technology, this group of technologies should contain a mechanism by which the subject inductively acts on the external and internal environment, transforming it in accordance with the goals of development. Meta-technology is an instrument of inductive influence on the space of psychological technologies, including those that provide its (life) activity and development. Metatechnology increases the efficiency (accelerating, enhancing the effect) of a person's impact on the external and internal environment. Technologies are developing slowly, and, due to the multiplicity of the different resources and limitations available to each of them, produce slower and less pronounced results. As for psychological counseling and psychotherapy, helping a person as a soul to another person, a soul, the integrating concept with which almost all technologies and schools of help are explicitly or implicitly associated is the concept of love, specified in the practice of helping relationships, as mutual understanding or understanding of a person by a person/group, organization, etc. The process and the result of understanding what is happening by the subjects of business and professional consulting themselves, each other, and the world around them. The notion of mutual understanding is revealed by various theorists and practitioners in a system of more or less generalized meta-technological principles (meta-technologies), allowing achieving a state of harmony as a dialogue with the world. The meta-technological perspective of understanding business and professional consulting allows you to combine disparate ideas and models into a single complex, to introduce in business and professional consulting not just value-semantic, but spiritual and moral aspects of being a person, organization, community. Man and organization begin to be seen as cosmic realities, whose life includes love and suffering, rise and crash, order and chaos, development and involution, violations in the development and being of which are mistakes and lessons, correcting and learning which they educate and educate themselves and others, improving business - improving the world. A person is able and needs to reflect on himself and the world, to improve, to achieve the opportunities that he possesses as a cosmic being, to achieve cosmic identity - the life of the soul, and to overcome the limitations that everyday circumstances impose, to overcome the existing identity, the limitations of life his "rational body". On this path, socio-psychological business counseling is already emerging as a practice of spiritual and moral development; it is trying to go beyond the "mental" nature of traditional and humanistic models into a "supermental", in a love relationship. That is why such models are difficult to implement. Being models that transcend the boundaries of the traditional rational and even rational, they show to man, humanity, real, but no less fantastic artifacts of "healings" and development that are inaccessible to those who walk "under the law" of reason and reason. "But if you are driven by the spirit, then you are not under the law" [16, Galatians 5:18]. Meta-technological comprehension opens the way to universal approaches and the "golden rules" of correction and development of business and its subjects, which is impossible at the previous levels and the previous understanding of helping relationships.

Second-order bullets. From the point of view of a modern business and professional consulting model, several sources exacerbate the breakdown of relations between a business organization and its members with themselves and the world, leading to organizational, managerial, mental and psychosomatic disorders, collapses, crises, diseases, accidents and "broken destinies", other forms of suffering and dysfunctions:

1) egocentrism, manifested as selfishness and concentration on desires ("continuous growth", "leadership in the field", etc.), ignoring one's own needs and states, as well as the states and needs of surrounding organizations and people, communities, overdeveloped feeling self-importance and significance, "mission", leading to states of "insensitivity" and the behavior of people and organizations by the type of cyclic auto stimulation, in which attempts at self-maintenance are overlapped by self-destructive behavior, destructive and auto-destructive behavior ie, including substance abuse and suicides;

2) alienation and psychological (inter) dependence of people and organizations against the background of undeveloped empathy, giving rise to a tendency to aggressive and alienated behavior, multiple and deep conflicts with others, sociopathic disturbances and feelings of isolation, perversions in the area related to the excessive emphasis of the "power" relationship "Subordination", for example, sadomasochism, etc.;

3) insincerity of relations between people and organizations, associated with the phenomenon of "double connection" and targeted manipulation (Maccabiallism), distortion of communication and

relationships, resulting in acute, traumatic crises, “accidents” and “breaks” of relations in the lives of people and organizations, as well as chronic mental and psychosomatic disorders, the fixation of life scenarios among members of the community (organization);

4) life denial as dissatisfaction among people and organizations with themselves, around people and the world, rejection and intolerance towards others, the prevalence of competitive-consumer, modifying relations of interaction strategies, aggressively dictatorial or depressive and asthenic forms of response to the world that “cannot be improved” and does not seek to be “improved” [18,19].

The states of acceptance and love, empathy and reflection, as well as congruence, authenticity largely arise “automatically”: a person comprehends the essence of love and the fact that love is not constant comfort, on the contrary, it implies more or less significant tests, and “Gifts of fate” [18], she is not the end, but all being, she is not permissiveness, but freedom and responsibility, she is the integrity of life, not the division into good and bad, etc. A person and an organization also comprehends that it is easier not to wait for help, but to render it yourself: to the same or even more needy people and groups [11,12,20-36]. The purpose of a business is not the maximum profit for the sake of profit, power, etc., but the service of societies, a joint, if possible harmonious, development.

However, a person and an organization often try to preserve “glasses” of ignorance, adjusting themselves to conformity with perceptions and patterns of behavior that have nothing to do with the reality of his world and the reality of spiritual, moral, socio-economic, personal-psychological, and psychosomatic health. Passively expecting help and support from the world, they limit their own resources and responsibilities, hindering the improvement of business relations, overcoming a difficult situation, based on the ideas of success and failure, normal and abnormal, effective and inefficient, productive and unproductive, about power, love, experience, about acquiring consumption and about serving donation, about dictatorship and hard imposing and about participatory and consensus, about conciliation and compromise and upholding “their line” uncompromising stubbornness on health and disease, of happiness and suffering, etc. The actively changing such business organization and its representatives understand that the responsibility for disruption of functioning and obstacles to development and activity in resolving problems related to the resolution and prevention of organizational crises and gardens in business lies with itself: the world’s help is necessary, but only because does not block internal resources, and does not mask the inaction of the individual and the organization itself, and does not even contribute to weighting the existing limitations and problems. As K. Durkheim writes: “Essence’s carrying capacity is well-manifested when we can part with what it holds and holds. Only if we always leave what makes us rich in the world, the Essence will give us again and again” [4, p.16]. What are the paths or “meta-technologies” of this process? Answering this question, the holy elders of Optina call for “doing deeds of love”: even if the soul of a person seems to him and those around him “barren”, doing “deeds of love”, a person gives her a place in his life, inside himself: “If you find that there is no love in you, but you wish to have it, then do works of love, although at first without love. The God will see your desire and diligence and will put your love in your heart” [7, p.324]. In the psychological language, the expression “do the work of love” means: to care for, share with each other and caring for each other, donating time and energy to each other, to help the world around us; endure each other and the burden of life as such (to maintain “tolerance for uncertainty”, to exercise “coping”, to show “resilience”, going through crises, to develop “the ability to let go” difficulties, other people and themselves, giving events and people “explain themselves”); respect yourself and others (to maintain dignity and honor in relationships, correct your own mistakes, and not only and not so much the mistakes of others; everyone has the will and freedom to change and stay sick or healthy, happy or unhappy, lucky and unlucky, a pariah or a star - at the same time it goes along with others: without others, help, and help from them, the development will not take place. This is the “meta-technology” of the modern, post-humanistic model of business and professional consulting: they do not give a guarantee read-only immediate result, but they always give birth to more than what a person can “count on.” It is also important to note that relations of mutual aid should be the leading mode of help. In modern counseling, the most famous is the tetrad of client relationship principles, highlighted in the school of C.R. Rogers [15]. If we consider the peculiarities of their manifestation in different areas - the dimensions of business advisory relations, we can formulate several business and professional consulting meta-technologies. The basic (ethical) principles of psychological counseling were related to C. Rogers and his students with the main characteristics of everyday interactions (relationships) [15]. Daily business

relationships – their most common patterns – were viewed by researchers as disharmonious, desacralized (anomic), and disruptive and hindering the development of a person’s relationship, an organization with itself and the world. This is an illusory relationship, highlighting the external "ostentatious", "seeming", distorted reality, and not internal.

Table 1 – Relationships and interactions in everyday life and counseling

Relationships and interactions in everyday life (pathogenic)	Relationships and interactions in counseling (developing)
<p>Conditional acceptance as rejection, hate or alienation, intolerance, intolerance, the other and I act as a means of achieving the goal, disrespect, personal contact as a contact of social masks and roles ("Image")</p> <p>Evaluative understanding, non-reflective, unconscious, barriers, and blockades of understanding - unaware understanding of what is happening, hypothetical understanding, a connection of understanding with the causes and underlying ideas and experiences underlying experience (experience reproduction)</p> <p>Insincerity, deceit, inconsistency with oneself and the world, permanent conflict, self-efficacy, and social inefficiency, incongruence, and inauthenticity</p> <p>Concreteness as depersonalization and lack of orientation, communication with phantoms of one’s own experience, irrelevance as a fatality, discontinuity, and fragmentation of interaction, depersonification as alienation and personal non-representation</p>	<p>Unconditional acceptance, love and tolerance (tolerance), I and the other - act as goals, respect, the vision of God in oneself, friend and world, transpersonal contact as a contact of inner entities ("Essence") - soul - people</p> <p>Non-judgmental understanding, empathy, the gift of sympathy and reflection, awareness overcoming and studying blockades and barriers of understanding, the emergence of understanding, finitism of understanding (connection with results, including goals of understanding) (accumulation of experience)</p> <p>Sincerity, honesty, integrity, conformity to oneself and the world, the ability and desire to resolve conflicts, self-efficacy, and social efficiency, congruence and authenticity</p> <p>Concreteness as personalization - turning to a specific interlocutor, the subject matter of the discussion, its non-factor, continuity and integrity, personification as personal representation, involvement in dialogue with the interlocutor</p>

Consider now the “relational” dimension or intention of business and professional consulting. It is important to note that self-help and mutual assistance, voluntary, disinterested, including non-professional, service to others is an important resource for overcoming crises of business, organization, and person. “Deeds of love” allow you to experience your importance and necessity, competence and wisdom, surprise and vital interest, a sense of belonging and independence.

Table 2 – Love ("relational intention")

Relationships and interactions in everyday life (pathogenic)	Relationships and interactions in counseling (developing)
<p>Inadequate functioning and refusal of self-realization, egocentrism and envy, existential emptiness. lack of implementation, lack of internal and external borders, the accumulation and correction of errors, "blind spots", "sins" and other personal and interpersonal problems</p> <p>Betrayal, excessive trust or distrust, lack of verification and change - an unwillingness to change and correct, indulging the sins of others, desires (individual and collective), conspiracies, etc., the dependence of life on the surrounding social world. hierarchy and</p> <p>Rivalry, relationships as overcoming obstacles and creating obstacles for oneself and each other (passive and active aggression - anger, frustration and revenge, a desire to win at any cost, even after losing), retaining anger and impossibility of concentration</p> <p>Helping “poor”, downgrading “upstarts”, compensation, preferences and other means of “equalizing rights”, “democracy”, “legitimacy” and “justice”, dividing people into “big” and “small”, Iona or Icarus complexes, complexes inferiority and bloated self-importance, codependency, value-destroying relationships - desacralization and corruption, fictions and anti-fictions of relationships, principle of desires</p>	<p>Self-realization, full functioning, freedom from envy and egocentrism, other personal problems like realization, existential fulfillment,</p> <p>service as a realization of destiny, unity of personal and social interest, and interest of the soul</p> <p>Confidence, verifiable and verifiable, readiness to correct and change, refusal to indulge in the sins and mistakes of others, “sympathize” with those who destroy themselves and others, refusal from collusion</p> <p>“Second democracy” as a change of the world through itself and low law as a change from the bottom up</p> <p>Confrontation and cooperation, and cooperation as an aid in the implementation of others (joint development), mutual gain, absence of anger, releasing anger, tension without aggression, productive aggressiveness as a concentrated effort</p> <p>True relationships (non-positive), resacralization, self-worth and value of others, the ability to distinguish between the "worm" and "God" in oneself and others, facilitation, activation, mediation and mediation, changes in attitude (values), relations are necessary, meaningful, developing, supporting values, purity of relations, fasting, moral culture, ignoring fictitious differences and attention to the essential, reality principle</p>

Thus, helping relationships are not as asymmetrical as it is commonly believed: all its participants are developing, although in different ways and different ways. This is the brief essence of the business and professional consulting. The next intention is transformative. Transformative intention characterizes the peculiarities of the relations of power, acceptance, and influence on the world and from the world. For business in the modern world, this is one of the most problematic intentions of interaction: humanity has practically no established “culture of violence”, like the “culture of freedom”. Influencing the world, business often doesn’t count on anything but its own benefits. Business consultants of various ranks in pursuit of haste also often cease to reckon with something other than their own interests. The desire for power to change the world and change, for comfort and unhindered multiplication of resources and development spheres, is paramount, counseling is modified and loses its psychological content, desacralized, and primitive. An example is numerous studies, “monitoring”, courses, “coaching”, focus groups, trainings that imitate serious work and offer to calm and “anesthetizing” ersatz changes to campaigns and their members.

Table 3 – Power ("transformative intention")

Relationships and interactions in everyday life (pathogenic)	Relationships and interactions in counseling (developing)
<p>Incompetent use of incentives and punishments, the use of power "for the sake of power itself" or the fear of power and the avoidance of punishment and rewards, the desire to “keep the pendulum” of events and properties, highlighting only one part of reality and ignoring the other, avoiding thoughts about the consequences and causes, dedication by desires, “administrative delight” as enjoying power, “field behavior”, reeling between the positions of the master and the slave</p> <p>Coercion and fear of power forced helplessness or delirium of omnipotence, asymmetry and manipulation, non-confirmation and refusal to confirm others, active and passive aggression like bullying/stalking and gas gliding, enjoying and alleviating your fears — life and death from the sufferings of others, unwillingness to ask for forgiveness from yourself and peace</p> <p>Ownership and possessiveness, fear of scarcity, division into victims, and conquerors. slaves and masters, pariahs and stars, relationship relations, everyday betrayal as accusations of use, deception, etc., the breaking of others' secrets, gossip - persecution, excessive affection, jealousy and co-dependence and exploitation, fear and attempts of invasion and fear - attempts of intrusive presence (persecution), lack of self-worth</p> <p>Wines and revenge, appropriation of power and responsibility, its usurpation or denial of responsibility, “legal discussions” about the sins and mistakes of others, pride and the asymmetry of responsibility, blaming others and myself, condemnation and self-condemnation as destruction and self-destruction</p> <p>The absence of a culture of violence and a culture of freedom, deformation of the relations of power, and the inability to let go of control over oneself and the world</p>	<p>Competence in the use of punishments and rewards, the use of confrontation (“do not care about the client’s soup”) in the form of paradoxical and silent frustration-support, strengthening and extinction (taking into account and using the integrity of life and its “pendulum” and reflexive transformation mechanisms),</p> <p>use of synergistic and finitist phenomena (paralleling and hysteresis, mutual amplification, self-unfolding of events)</p> <p>Constructive - goal-oriented and value-given (protecting) aggression, awareness of life and recognition of aggression, readiness to ask forgiveness from oneself and the world, awareness of the fears of life and death, as well as choice, forced spontaneity, and confirmation of the awareness of power by the client, confirmation as self-assertion and approval of the world - maintaining the merits of others and yourself</p> <p>Professional relationships and mutual disclosure, respect for someone else’s space and time, concealing client’s secrets and protecting one’s own secrets, lacking fear of scarcity (“love and time are opposites”, etc.), rejecting accusations against others and myself, from betrayals and the preservation of the love and support of the other regardless of the circumstances and the “benefit”;</p> <p>Translation of responsibility, freedom as responsibility, covering of “sins” and voluntary sacrifices as means of “getting out of the circle of revenge” (ignoring or accepting “stopping”), absence of conviction and covering of sins, clearing them from acceptance and asking of the past (“I washed away I am your sin ”)</p> <p>A culture of violence and a culture of freedom, the ability to omit and the ability to be free</p>

The next intention is dialogic or understanding. In the framework of this intention, meta-technologies are being implemented, answering the question of how it is possible (development) to understand oneself and the world, what are the ways of this understanding and mutual understanding. Similarly, A. Längle, C. Durkheim notes that development and healing are possible only when the subject learns to understand himself and his failures "as blockages of self-realization, in which his own transcendental Essence should manifest." While a person, a group, an organization is looking for ways of self-realization only in self-affirmation in the outside world, the experience of unity with other people and groups, cooperation, unity with remaining only a prerequisite and condition for the Essence of all things, reality, being-in-world. Uniting with the world and achieving understanding of how transparency is the beginning of integration with being [4].

Table 4 – Competence (“understanding intention”)

Relationships and interactions in everyday life (pathogenic)	Relationships and interactions in counseling (developing)
<p>Dreams of ignorance, the illusion of omniscience and narcissism, illusions of justice, etc., imitation of ignorance, defocusing and stereotypy (“heuristic” and moral anomy) reduction of information, the closeness of openness to education and training concerning oneself and others, narrowing the limits of competence “disintegration”, burnout and professional deformations, fear of understanding as loss of support, “poking the nose in their affairs”, forcing self-disclosure, striving to “catch” a client and remain inaccessible to oneself, fear of destruction of one’s own experience</p> <p>Refusal of innovations or pseudo-innovations</p> <p>Sacrifice and creation of a scapegoat, a collective reprisal of a scapegoat (“identified patient”) to feel the sense of power and “pay” for one’s sins, unconsciousness and its imitation for impunity, a triumph of ignorance and hatred for “too clever” and others different from the “gray mass”, non-acceptance or complete dependence on the opinions of others, the desire for immediate understanding, interrogation and disintegrating analytics (“interpretation from the ceiling”), fragmentary understanding</p> <p>Ecstatic distance and ethical impassability, a life of desires and norms are the basis for understanding life — past and future, waiting for a miracle, searching for magical means, abandoning one's own efforts to understand, not being ready to understand and avoiding understanding, fear of uncertainty and frustration from uncertainty, narrowing the context of foreign understanding, obsessive indoctrination and flight into health, experiments of the consultant over the client and the world, alienated knowledge and skills</p> <p>Inability to speak directly and sincerely, inability to speak politely and observe ethical norms of dialogue, demonstration of “spirituality”, “freedom from prejudice,” etc., stalking as an attempt to control someone else’s “image”, psychiatrization and sociopatization</p>	<p>Openness to education and training in relation to oneself and others, insight and “scientific ignorance”, openness, focus, value or spiritual knowledge (“spiritualized mind”), including insight, awareness and expansion of competence, acceptance of new knowledge with love without fear of losing forever vital pillars, “request for access to information” and “waiting for self-disclosure”, “mutual disclosure”, initiative for self-disclosure. and accessibility of the consultant, value and confidence in their own experience</p> <p>Openness to innovations, essential changes (development)</p> <p>The skill of non-doing, inaction, silence - silence, trusting the client as an expert and following him, meta-understanding, stopping the cycle of violence with an effort to understand what is happening (“effort to understand”), responsibility for understanding, rejecting unconsciousness in favor of vegetation, wisdom, clarity within and outside of a person, development without rhinestone and constant consideration for the fears of others, “taking into account” the opinions of others, the absence of coercion and commitment of understanding, slowness, integrating impressions, their return to the client, systematic comprehension</p> <p>Aesthetic distance, tolerance for uncertainty, joint creative search and routine work of reflection and awareness, aesthetic appearance, determine the understanding of the value and needs of the present, broadening the context of comprehension, refusal of indoctrination and work in the field of concepts and ideas of the client or paradoxical indoctrination as initiation of the recheck of doctrines client by the client, the client’s and consultant’s experimental knowledge is hidden knowledge that is relevant in the dialogue</p> <p>The ability to speak directly and call a spade a spade, honesty, politeness, and tact, - adherence to the ethics of dialogue, help in finding comprehension, the increment of information, dialogue, the ability to recognize mistakes and "defeats" in dialogues with psychopaths and another amateur "phantoms" ("Sit quietly on the threshold of your home, and sooner or later the corpse of your enemy will be carried by").</p>

Table 5 – Life orientations

Relationships and interactions in everyday life (pathogenic)	Relationships and interactions in counseling (developing)
<p>Dissatisfaction with life, life negation, limitation, lack, a lack of reverence for life and ingratitude,</p> <p>the prevalence of competitive-consumer, modifying relations of interaction strategies, aggressive dictatorial or depressive and asthenic forms of reaction to the world, lack of confidence is fussing</p> <p>Organizational, professional, and personal deformations, corruption, deprofessionalization, transgression, psychosomatic and mental disorders, burnout and disharmony of world outlook and life activity</p> <p>Misfortune, intermittent and broken identity, uselessness and rejection, insignificance,</p> <p>“Hunger games” - social cannibalism, self-centeredness and marginalization,</p> <p>"Patchwork" of consciousness and values (faith)</p> <p>Alienation from the world, weakness and dependence, the desire to dictate to the world, the primacy of legal arbitrariness, the separation and asymmetry of the professional and non-professional world, the world of "our own" and "others", etc.</p>	<p>Pleasure to live, life affirmation, excess, gratitude, reverence for life and the universe, its parts,</p> <p>the prevalence of cooperating relations, social service relations, commercialization does not turn into commodification, equal friendly and optimistic-quiet forms of responding to the world, confidence, no fuss</p> <p>Development, overcoming difficulties, resistance to corruption, growth of professionalism, transcendence, internal peace and confidence in the harmony of the world, the harmony of life</p> <p>Happiness, harmony, integrity and continuity of life and being, participation as participatory, social service and mutual assistance, experience and awareness - the experience of necessity, value and love</p> <p>Unity with the world, dialogue with the “world soul”, nature and society, family, family, others, self, the primacy of the ethical foundations of life,</p> <p>harmony and interconnection of professional and non-professional world</p>

Conclusion. Traditionally, there are three leading dimensions of business advisory relationships: power, competence, love. Each of these dimensions is associated with one or another intention of business advisory relations: transformative, dialogical, and relational. Within each of these intentions, the basic principles of business and professional consulting manifest themselves, as has been shown, as certain meta-technologies or groups of meta-technologies. In addition, these principles can be considered in relation to the life activity of a business consultant and the client as a whole, as “life meta technologies”. Thus, the previously identified meta-technologies are possible in the general system of specialist’s life orientations.

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БІЛІМ БЕРУ ҰЙЫМДАРЫНДАҒЫ БИЗНЕС-КЕҢЕС ЖӘНЕ КӘСІБИ ҚЫЗМЕТТІҢ МЕТА-ТЕХНОЛОГИЯЛАРЫ

Аннотация. Мақала тұлғааралық қарым-қатынас тәжірибесі ретінде іскерлік және кәсіби кеңес берудің негізгі қағидаттарын және білім беру мекемелеріндегі субъектілерін талдауға арналған. Клиенттердің ішкі және тұлғааралық қарым-қатынастарды бұзуға қатысты негізгі мәселелері, жалпы өз өміріне (тұрмыста), бизнес-үдерістерге, білім беруге және жалпы тіршілік иесі ретінде бизнес-консалтинг субъектілеріне қатынасы қарастырылады. Зерттеу мақсаты – білім беру ұйымдарындағы кәсіптік және кәсіптік кеңес берудің негізгі принциптерін немесе мета-технологияларын талдау. Мақалада бизнес пен кәсіби кеңес берудің негізгі ұғымдары мен тұжырымдамалары жинақталған, оның адамдар мен білім беру ұйымдарының әлеуметтік-психологиялық даму практикасына көмек ретіндегі маңызы көрсетілген. К.Р. Роджерс мектебіндегі психологиялық кеңес беру қағидасы дәптеріне, сондай-ақ білім беру ұйымдарындағы ұйымдас-тырушылық кеңес берудің жетекші принциптеріне сүйене отырып, авторлар оның көрінісі мен ерекше-ліктерін негізгі аспектіде және кеңес берудің екіжақты қарым-қатынас аспектісінде қарастырады. Мұндай өлшемдер келесідей дәстүрлі түрде ерекшеленеді: билік / басқару жүйесі, құзіреттілік / тәжірибе, махаббат / қатынастар жүйесі. Осы өлшемдердің әрқайсысы білім беру ұйымдарындағы трансформациялық, диалогтық және реляциялық сынды консультативтік қатынастар мақсатына байланысты болып келеді. Аталған мақсаттың әрбірінде білім беру ұйымдарындағы іскерлік және кәсіби кеңес берудің негізгі қағидаттары мета-технология немесе мета-технологиялар тобы түрінде көрінеді. Сонымен қатар, авторлар білім беру ұйымдарындағы кеңес беруші мен клиент өміріне қатысты «өмірдің мета-технологиялары» іскери және кәсіби кеңес беру қағидаларын қарастырады. Дәстүрлі түрдегі іскерлік кеңестік қатынастардың мынадай жетекші үш өлшемі бар: күш, құзіреттілік, махаббат. Бұрын анықталған мета-технологиялар маманның өмірлік бағдарларының жалпы жүйесінде кездесуі мүмкін.

Түйін сөздер: бизнес-консалтинг, кәсіби кеңес беру, келісімділік, ерекшелік, құзіреттілік, қызметкер басқару, эмпатия, мета-технологиялар, қатынастар.

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МЕТА-ТЕХНОЛОГИИ БИЗНЕС-КОНСУЛЬТИРОВАНИЯ И ПРОФЕССИОНАЛЬНОГО КОНСУЛЬТИРОВАНИЯ В ОБРАЗОВАТЕЛЬНЫХ ОРГАНИЗАЦИЯХ

Аннотация. Статья посвящена анализу основных принципов делового и профессионального консультирования как практики межличностных отношений и бытия ее субъектов в образовательных учреждениях. Рассмотрены основные проблемы клиентов, связанные с нарушениями их внутриличностных и межличностных отношений, а также отношения к их собственной жизни (бытию) в целом, субъектам бизнес-консалтинга как к участникам бизнес-процессов, образования и жизни в целом. Целью исследования является анализ основных принципов или мета-технологий делового и профессионального консультирования в образовательных организациях. В статье обобщены основные понятия и концепции делового и профессионального консультирования, отражающие его значение в качестве помощи социально-психологической практике развития люди и образовательные организации. Опираясь на тетраду принципов психологического консультирования, выделенных в школе К.Р. Роджерса, а также ведущие принципы организационного консультирования в образовательных организациях, авторы рассматривают их проявления и особенности в основных аспектах и аспектах консультативного взаимодействия. Традиционно различают такие измерения: система власти / управления, система компетенции / опыта, любовь / система отношений. Каждое из этих измерений связано с тем или иным намерением консультативных отношений в образовательных организациях: трансформационными, диалогическими и реляционными. В рамках каждого из этих намерений основные принципы делового и профессионального консультирования в образовательных организациях проявляются в виде мета-технологий или групп мета-технологий. Кроме того, авторы рассматривают принципы делового и профессионального консультирования в образовательных организациях в отношении жизни консультанта и клиента в целом как «мета-технологии жизни». Традиционно существуют три основных аспекта деловых консультативных отношений: власть, компетентность, любовь. Каждое из этих измерений связано с тем или иным намерением деловых консультативных отношений: трансформирующим, диалогическим и реляционным. В рамках каждого из этих намерений основные принципы делового и профессионального консультирования проявляются, как было показано, в виде определенных мета-технологий или групп мета-технологий. Кроме того, эти принципы можно рассматривать в отношении жизнедеятельности бизнес-консультанта и клиента в целом как «мета-технологии жизни». Таким образом, ранее выявленные мета-технологии возможны в общей системе жизненных ориентаций специалиста.

Ключевые слова: бизнес-консалтинг, профессиональное консультирование, конгруэнтность, конкретность, компетентность, управление персоналом, эмпатия, мета-технологии, отношения.

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VALUE-MOTIVATIONAL SPHERE OF THE DEVIANT PEOPLE AND PSYCHOTHERAPY OF EDUCATIONAL RELATIONSHIPS

Abstract. The objective of this article is to analyze the problems of deviant behavior in the context of the processes. The method of research is a theoretical analysis of the problem of deviant behavior in the context of the processes and results of deformations of the value system of an individual and the community. Results. Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/trans) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers, and other specialists. Production-technological, socio-psychological and politico-economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication. Modern societies began to exist in the spirit of principles and rules of life, that values are formed spontaneously and exists in individual forms. This makes these norms very vulnerable to deviations and crushes the very understanding of deviations. Conclusions. In working with deviations in the framework of academic psychological counseling and psychotherapy of educational disorders (didactogeny), it is important to understand that value deformations are not only a person and their relationships, but also the social context, including state and national programs and deformations. Therefore, work with violations is related to helping a person to remain human or to help restore human status in the foot despite the circumstances, anomie, and desacralization of macro-social crises and injuries.

Key words: values, deviations, individuality, psychology, society, anomie, desacralization, psychotherapy, academic psychological counseling.

Introduction. Psychotherapy of relationships between people presupposes an understanding of the fact that relationship disturbances act as a result of violations of the personal development and functioning of the participants in a relationship. Also, the relationship itself can be pathologic or psychotherapeutic. Psychotherapeutic relationships help a person to properly understand the boundaries of relationships, reflect cultural prescriptions and cultural prohibitions, their functionality or dysfunctionality, the scope of applicability, and variability. Relations psychotherapy is also focused on the correction of the value-semantic aspects of violations of human behavior in activities and communication with other people. The

purpose of the study is an analysis of problems of deviant behavior in the context of the processes and results of deformations of the system of values of the individual and the community. Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/trans) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers, and other specialists. Production-technological, socio-psychological and politico-economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication. Modern societies began to exist in the spirit of principles and rules of life, that values are formed spontaneously and exist in individual forms. This makes these norms very vulnerable to deviations, and also crushes the very understanding of deviations, “reducing” them to individual versions of the “norm”. The destruction of the universality of the rules that guaranteed the survival and development of peoples and people, the development of culture, leads not only to the destruction of culture (lack of culture) but also to the loss of their potentials of viability and extinction by communities [1-45]. Deviant (innormal) behavior is a social behavior that deviates in its motives, value orientations and results from the accepted in a given society, social stratum, group of norms, values, ideals, that is, normative standards. Equilibrium (stability) of social interaction involves the integration of the actions of many, which is violated by the deviant behavior of one or several people. There are different types of societies, so behavior that is deviant in one society will not be so in another.

Materials and Methods. The method of research is a theoretical analysis of the problem of deviant behavior in the context of the processes and results of deformations of the value system of an individual and the community.

Results. Despite the diversity of cultures and societies formed by people of different cultures, there are social norms in any community. These standards are adopted and revised by the community. According to these norms, the community lives: both in ordinary, routine periods, and in periods of crises, changes. It uses norms for survival. Deviation from these norms or their non-observance is called social deviation or deviation. Social norms are requirements, prescriptions and expectations from a person or a group of people of a certain behavior, as well as a certain attitude (including certain values). The emergence and functioning of social norms, their place in the social (re) organization of the community is determined by the objective need for meaningful and formal streamlining of the life of societies, survival and improvement, correction and development. Social norms embody a more or less abstract model of social interactions, enabling individuals to anticipate and coordinate their actions and relationships, as well as the actions and attitudes of other participants in societies and relationships. They provide an opportunity to build and rebuild their own behavior and their own relationships. The content of social norms is derived primarily from the real behavior of individuals and social groups (in professional activities, in intimate-personal communication/interaction of people, etc.). It is here that social norms are reproduced day by day. Their action is often spontaneous, not always fully understood. The norm acts as a stereotype, and the violation of the norm - the disruption of stereotype. However, in an implicit form, each norm contains an “anti-norm”: a variant or variants of behavior and relations that are possible and which are considered non-normal, including deviant, and which are not considered as such. So, there are two main models: 1) everything that is not allowed is prohibited; 2) all that is not prohibited is allowed. With the external similarity of these models, they are significantly different. In the first case, we are talking about the fact that there is a narrow corridor (a fixed list) of prescriptions that a person and society can and even must follow to be considered “normal”. In the second case, there is some fixed list of prohibitions, and a huge number of permitted, including never before previously implemented options. In the first case, we are talking about a conservative community experiencing “worst times”, usually pre-collapse or collapse, including a totalitarian community. The community ceased to “multiply” since it curtailed any creative processes and rejected any changes in advance. In the second case, we are talking about a developing community that has created a system of rules that guarantee the safety of creativity, but no more.

Social norms, regulating the behavior of people, regulate the most diverse types and aspects of professional, personal, and other relationships. They are (self)organized into a certain hierarchy of legal, moral, and other norms, distributed according to the degree of social significance, rigidity/flexibility, completeness/incompleteness, etc. The norms generally contribute to social integration. However, there

are norms for disintegration and isolation, including deviants. Secondly, the norms serve as a kind of scripts, that is, a kind of "instructions" for individuals and social groups performing certain roles. Thirdly, the norms contribute to the control of deviant behavior and its carriers (creators). Fourth, the norms ensure the stability of the society, including, they can be aimed at maintaining social balance/harmony, they can regulate the creative and norm-creative activity. By the nature of the regulation of social behavior, norms are distinguished - expectations and norms - rules. The first of them only slightly outline the framework of socially approved behavior. Their violation is associated with disapproval from society or a social group but does not entail any active sanctions or repression. The norms relating to the second group are distinguished by a greater degree of rigor. They define the limits of acceptable behavior, as well as activities that are considered unacceptable and therefore prohibited. Their violation leads to punishment, repression, isolation - exclusion from the community. By scope of activity, norms can be divided into group ones, operating on the scale of one or several groups, and general, functioning on the scale of the whole society. Norms also (trans) form habits and routines, they create customs and traditions. In most modern societies, the most significant important and significant norms acquire legal status and are enshrined in laws. In traditional communities, such norms were fixed and fixed in spiritual and moral imperatives, including the folklore of the people.

Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/trans) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers, and other specialists. Production-technological, socio-psychological and politico-economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication. Modern societies began to exist in the spirit of principles and rules of life, that values are formed spontaneously and exists in individual forms. This makes these norms very vulnerable to deviations, and also crushes the very understanding of deviations, "reducing" them to individual versions of the "norm". The destruction of the universality of the rules that guaranteed the survival and development of peoples and people, the development of culture, leads not only to the destruction of culture (lack of culture) but also to the loss of their potentials of viability and extinction by communities. Social norms are assigned by the individual in the process of (re)socialization. Behavior that corresponds to the norms defined in society is designated as conformist. In contrast to conformist, there is deviant, or deviant behavior. There is also the notion of de-socialization: total loss of norms, up to a culture, and deformation of norms, replacing them with pseudo-norms or norms of "subculture", for example, deviant culture (criminal, "splitting", etc.).

In general, the regulatory systems of society are more or less unchanged. The norms themselves change, their attitudes change. Deviations from the norm are just as "normal" as a result, as well as following them. Although at all times and in all communities, people sought to suppress undesirable, deviating forms of human behavior and relationships, they also stimulated these norms, especially during times of long "stagnation" and "fading" processes of life processes, and in times of crises that destroy the usual patterns of being. Sharp deviations from the average norm, both on the positive and on the negative side, are generally viewed as threatening the stability of the society. In most communities, the management of normal and deviant behavior and relationships is asymmetric: deviations in the bad direction are condemned, and in the good, they are encouraged. Depending on whether "productive" or "destructive" is considered a deviation, the forms of deviation are placed on a contour. At one extreme of the deviation scale there is a group of people who display the most disapproving behavior, at the other extreme there will be a group with the most approved deviations. It is usually noted that any behavior that causes disapproval of public opinion is called deviant, and the deviant is viewed as a person who "goes astray" or deviates from the norm, forcedly or by virtue of freedom of choice became "asocial". In the narrow sense, deviant behavior means deviations that do not entail repression and are not associated with violations of legal and moral norms.

There are several basic models of deviance. The first models are proposed by biologists or biologists. So, in the theory of "congenital offender" by Ch. Lombroso, physical features are the cause of the deviation. W. Sheldon records the dependence of the psycho type on the physique and notes that, depending on the structure of the body, people tend to show certain deviations. The evolutionary approach

(C. Darwin, C. Lorenz) is based on the opinion that changing of man is a manifestation of specific hereditary programs. It is initially aggressive, based on instincts. In psychogenetics (F. Galton, G. Mendel, T. Morgan) it is noted that hereditary advances do not mix, but are passed from generation to generation in the form of fixed discrete units. The second model is a sociological one. In the theory of anomie of E. Durkheim, the deviation is considered as a consequence of a violation or lack of clear social norms [6]. R. Merton believes that the deviation increases when there is a gap between the goals approved in a given culture and the social means of achieving them [7; 8; 9]. K. Shaw and G. McKay believe that social disorganization is "to blame": deviations occur when cultural values, norms, and social ties are destroyed, weakened, or become contradictory. The main idea of culturological theories of the explanation of the deviation (T. Selin, N. Miller, E. Sutherland, R. Klauord, L. Oulin) are conflicts between the norms of subculture and the dominant culture. The theory of labels (labeling, branding, stigmatization) (G. Becker, E. Goffman) assumes that deviation is a kind of label that some groups with the majority and / or power "hang" on the behavior of weaker groups, minority groups. In the theory of stigmatization (deviation is a kind of "stigma", a stigma that separates marginals and "converts" from "normal", "citizens", etc. In radical criminology (O. Turk, P. Quinni) the deviation is the result of opposition to the norms of society [1].

The third model is psychological. Psychoanalytic theory (S. Freud and others) notes that conflicts inherent in personality cause deviation in neo-psychoanalysis (C. Horney) see the reasons for deviations in the deficit of human contact relationships, proximity to people, and deformations of goals and values. In behaviorism (D. Watson, E. Tolman, B. Skinner, and others) deviations are the result of inadequate social learning or lack of training. In the humanistic approach (K. Rogers, G. Allport) deviant behavior arises - the result of unwillingness or impossibility to self-realize in the prevailing conditions of education. In an empirical approach (D. Halagan, J. Kaufman), researchers classify behavioral deviations, where each behavioral distinguishable persistent symptom gets its name. B.F. Porshnev's socio-psychological approach distinguishes types of groups that differ in their level of development/socialization, including the readiness to be subjects of culture [9].

Expanded understanding of the deviation gave E. Durkheim in the theory of anomie, which reveals the importance of social and cultural factors. The main cause of the deviation is "lack of regulation", "laxity", anomie. Anomia is a state of disorganization of society, when values and others, the norms and standards ("normatives") emanating from them, as well as social connections and roles built on their basis, either are absent or become unstable, ambivalent. E. Durkheim considers the deviation ordinary as much as conformism. For him, a deviation from the norms is not only negative but also a positive start. Deviation in its essence confirms the role of norms, including norms and values. It gives a person a more multi-component and multi-level understanding of the diversity of norms and life in general. The reaction of society and social groups to deviant behavior clarifies the limits of applicability and "vitality" of social norms, strengthens and ensures social, psychological, spiritual unity, and, of course, the fight against deviations, acts as a channel for community management by the state. In the absence of deviations, the state would not be possible in principle: where there are no grounds for violence and control, there is no state. Deviation contributes to social change, it reveals alternatives to the existing order, leads to the improvement of social norms and social life in general. However, if you rely on the research of another scientist, B.F. Porshnev [9], as well as the famous works of A. Milgram, F. Zimbardo, V. Frankl and B. Bettelheim [10-19], their followers and researchers, we can see that up to 90% of people are conformal and easily suggestible, and only a small proportion of people are capable of creativity, including deviations [20]. However, deviations are still common. This suggests that the majority of deviations are also "normative", they represent a conditionally undesirable channel for the realization of human desires and needs. Conditional undesirability means that the community not only "closes its eyes" on the deviation, but also encourages it (at the level of a social contract, social conventions). Another thing is the deviations, which destroy the "magic world" of the game of norms (J. Huizinga) [21]. For such "deviations" that deprive the community of illusions, a person is subjected to severe punishment, expelled, or destroyed as a heretic. The total denormalization of attitudes and behaviors in the postmodern culture, the introduction of the ideas of "tolerance" and "multiculturalism" led to the fact that deviations, and, behind them, lack of culture, became normal. S. Merton believed that deviation arose if there is a gap between the goals of society and at the same time the means to achieve them. According to T. Parsons, anomia is a state in which a significant number of people are in a position characterized by disintegration

with stable social institutions, the rejection of their norms and rules [7; 8]. This is very significant for their own personal stability and the successful functioning of social systems. The basis of psychoanalytic theories of deviant behavior is the study of conflicts occurring in the consciousness of the individual. According to the studies of Freud and his followers, the source of deviations is the area of the unconscious. The unconscious is the psychic energy in which the primitive human being that knows no boundaries is concentrated. This is a concentration of the experience of man and humanity, not influenced by culture. Unfortunately, it is impossible to consider as a person the one who "did not taste the influence of culture", as the phenomenon of "Mowgli" and other people who grew up in isolation from society shows.

Usually, these and other theories are deviant towards destruction and involution. However, in any society there are always people whose behavior is ahead of the existing norms and standards, these are people of progress and evolution. This kind of behavior is most characteristic of society in times of various social realignments. At the same time, in times of stagnation of development, creative, developing culture and man, the behavior and values of such people, as well as in times of open social clashes and active crises, can be easily confused with the behavior and values "deviating" towards degradation, a-culture. At the same time, the value deformations and transformations are the most serious, but they also differ most easily. Besides, behavioral transformations can seem very "productive", even if they lead to a breakdown of relationships. For example, the promotion of multiculturalism as a culture of "co-existence" of different cultures ended not only with ghettoization, but also with self-ghettoization of individual groups, since the idea and value of multiculturalism was a negative idea concerning the cultural development of humanity. This is clearly seen in the example of the concept of "tolerance", leading to a breakdown of any boundaries and rules, including those that have protected people and culture for centuries, stimulated development, and helped to survive in times of crisis. Therefore, they now often pin hopes on the post-postmodern, new, updated but integral, rather than "patchwork" doctrine of being a person by man, holistic ideas about narrative and legal norms, and other norms and norms of life, activities, and relationships of people. The causes and goals that cause and stimulate social deviations can be many; they change with the development of society. However, the leading and unchanging source of deviations that makes this phenomenon objective and always characteristic of human society is social, psychological, and moral inequality as unequal opportunities in satisfying needs and desires. Inequality is primarily due to the shortcomings or impossibility of human development, becoming its subject of culture. Other sources of social deviations include the following sources [2,3,22,24]:

1. in the process of socialization and appropriation by the individual of patterns of behavior and attitudes, social norms and values, situational or systemic failures, failures, deformations arise;
2. dysfunctional families: super-long paternal and maternal discipline; insufficient parental supervision; lack of affection between children and parents; lack of value cohesion in the family and the problems of cultural transmission in the family associated with death, divorce, etc.;
3. in well-off families, norms learned from childhood can be revised or rejected in the course of interaction with a crisis-changing, foreign cultural ("appeal") or acultural (de-socialization) surrounding reality, in particular, with a deviant ("subcultural") social environment.

Anomie (the state of absence of norms) exists in a constantly changing, unstable society, a society where the ideas of "patchwork" are being introduced, etc., peculiar to postmodern, where there is no uniform and unchanging system of norms. In such a situation, it is difficult for an individual to choose a line of normative behavior, which subsequently generates an individual's deviant behavior.

In a reformed or crisis society, old norms are usually destroyed, daily norms change or "shift", but new general norms are not created. The problem of the formation, interpretation and application of the norm becomes very complex. It is often decided in favor of such a "normalization" of deviations, in which even legal, and not only moral laws become ordinary. So, in modern Russia, starting from the end of the XXth century, corruption and other forms of deception and violence became normal and practically uncontrollable. The price of human life has declined to a critical, infinitely small size: the state completely abandoned its concern for citizens. And in recent years, the state has moved to openly unlawful exploitation of the population, a violation of the laws of the Constitution. The moral laws, thanks to his efforts, ceased to be considered as such, already at the turn of the century. Various types of violence and deception have become every day. As a result, we have a society that exists in a state of protracted

collapse: the collapse itself understood as a systematic destructiveness of normal functioning and a blockade of development and productive change, has normalized. Of course, the deviance of society and deviant behavior was, is, and will be, as long as society exists. However, the question was always 1) about the level of deviations (a healthy community avoids destroying cultural norms and values; 2) about the direction of "deviations" (a healthy community selects innovations that promote development, evolution, and not degradation, involution); 3) on the way to normalize deviations (revolutions and injuries or evolution and step-by-step innovations). Social control, as a mechanism for organizing a community on the part of the state and the self-organization of society, is a common necessity and feature of the life of society. However, even for the sake of self-preservation, it is impossible to "eliminate", "overcome" deviance and its manifestations: "deviance" is the second part of the continuum "normal - abnormal", that is, part of the culture. And what the old and steadily developing, self-conscious culture does is offering ways for overcoming, preventing, or "pacifying" ("draining") deviations that are not destructive to norms. Unstable, temporary, doomed to destruction, acultural communities, foster deviations and create "tolerant" favored modes, normalizing deviations of various types, up to criminal offenses (using techniques such as "J. Overton windows", etc.). The modern world provides humanity with very large opportunities for productive and negative changes, that is, it creates the most complex problems of managing them. The solution of these problems is connected with the preservation of moral laws and the careful attitude (restoration) of community traditions, the construction of boundaries and rules of relations between representatives of different cultures and subcultures, principles of the value of life and human dignity, as well as non-violence and responsible freedom.

Discussion. Deviations in human behavior in different ages are manifested in a variety of forms, such as aggression and autoaggression, alcoholism and drug addiction, offenses and crimes, and new forms of the addiction. The problem of the (re/tras) formation of a system of values is touched upon in the multitude of works by modern and classic scientists, pedagogues, social workers and other specialists. Production-technological, socio-psychological and politico-economic changes in worlds have led to the destruction and desacralization of the customary system of values, such as moral norms, their representation in interaction with fatherland, family and friendship, professional and work communication. Modern societies began to exist in the spirit of principles and rules of life, that values are formed spontaneously and exists in individual forms [25-30]. This makes these norms very vulnerable to deviations, and crushes the very understanding of deviations, "reducing" them to individual versions of the "norm". The destruction of the universality of the rules that guaranteed the survival and development of peoples and people, the development of culture, leads not only to the destruction of culture but also to the loss of their potentials of viability and extinction by communities [31-46].

Conclusions. Deviant (innormal) behavior is a social behavior that deviates in its motives, value orientations and results from the accepted in a given society, social stratum, group of norms, values, ideals, that is, normative standards. Equilibrium (stability) of social interaction involves the integration of the actions of many, which is violated by the deviant behavior of one or several people. There are different types of societies, so behavior that is deviant in one society will not be so in another. Effective and productive psychotherapy of interpersonal and intergroup relations presupposes an understanding of the fact that relationship disturbances act as a result of impaired personal development. It is important that the relationship can be "pathological" or psychotherapeutic. Pathological attitudes leading to the breakdown of community, isolation and crises either ignore the deformations or encourage the most radical and destructive ones. They interfere with the reflection of the boundaries of the rules and norms of relations, prohibitions, and prescriptions. Psychotherapeutic relationships help a person to properly understand the boundaries of relationships, reflect cultural prescriptions and cultural prohibitions, their functionality or dysfunctionality, the scope of applicability, variability. Relations psychotherapy is also focused on the correction of the value-semantic aspects of violations of human behavior in activities and communication with other people. In relationship psychotherapy, an important point is the consideration of cultural peculiarities of a problem situation for people in which there are an understanding and transformation of norms and standards of behavior and relationships. The development of cross-cultural competence means for a consultant the development of sensitivity to cultural differences, to the positive and negative consequences of violations of prescriptions and prohibitions, as well as being a subject of culture. Similarly, the client learns to be a subject of culture and a subject of relationships. The subject of relations

is, first of all, a cultural subject. Outside the boundaries and framework of culture, relations between people as people are impossible. In working with deviations in the framework of academic psychological counseling and psychotherapy of educational disorders (didactogeny), it is important to understand that value deformations are not only a person and their relationships, but also the social context, including state and national programs and deformations. Therefore, work with violations is related to helping a person to remain human or to help restore human status in the foot despite the circumstances, anomie and desacralization of macro-social crises and injuries. It is important for a person to understand that he is connected not only with the current situation and his deformations but also with universal human experience, humanity as a whole, that culture is a source of faith in life and in itself, which it can and must replenish with its own labor. It is important to understand that the psychologist is one of the important, but not the only helpers of a person on his way to himself, therefore, general support in the family, educational institution, at work, etc.

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ДЕВИАНТТЫ АДАМДАРДЫҢ ҚҰНДЫЛЫҚТЫҚ-МОТИВАЦИЯЛЫҚ СФЕРАСЫ ЖӘНЕ БІЛІМ БЕРУ ҚАТЫНАСТАРЫНДАҒЫ ПСИХОЛОГИЯЛЫҚ КӨМЕК

Аннотация. Девиантты мінез-құлық – мотив, құндылық бағдарынан және белгілі бір қоғамдағы, әлеуметтік қабат, норма, мұрат тобынан, яғни нормативті стандарттардан қабылдау нәтижесінде туындайтын әлеуметтік мінез-құлық. Әлеуметтік өзара қарым-қатынас теңдігі (тұрақтылығы) бір немесе бірнеше адамның девиантты мінез-құлық әсерінен бұзылатын көп адамның іс-әрекеттерін біріктіруді қамтиды. Зерттеудің мақсаты – девиантты мінез-құлық мәселелерін жеке тұлға мен қоғамның құндылықтық жүйесін қалыптастыру үдерістері мен нәтижелері тұрғысынан талдау. Зерттеу әдісі – индивидті мінез-құлық мәселелеріне теориялық талдау, жеке тұлға мен қоғамның құндылық жүйесін қалыптастыру үдерістері мен нәтижелері.

Нәтижелер мен қорытындылар: бір немесе басқа кез келген жастағы адамның мінез-құлқындағы ауытқу агрессия мен авто-агрессия, алкогольизм мен нашақорлық, қылмыс пен құқық қорғау, сондай-ақ девианттың жаңа формасында, тәуелділік түрінде көрінеді. Мінез-құлықтың өзгеруі мен құндылықтар жүйесін қайта құру және түрлендіру мәселесін көптеген классик ғалымдар мен мұғалім, психолог, әлеуметтік қызметкер, дәрігер және басқа ғылым салалары қарастырады. Дүниедегі технологиялық, әлеуметтік-психологиялық, саяси, экономикалық, құқықтық және басқа өзгерістер құндылықтардың жойылуына және десакрализацияға әкеледі. Адам өмірінің рухани-адамгершілік негіздері, олардың ата-ана және отбасы, достары және басқа да маңызды адамдармен жеке-жеке қарым-қатынастағы, кәсіптік және іскерлік байланыстағы көріністері әлсіреуде. Зерттеушілер адамның өмірінде жеке формада жүзеге асырылатын рухани қағидалар мен ережелер бар деген тұжырымға келеді, бұл адамның мінез-құлқына аса әсер етеді және ауытқу, бұзылу, деформация құбылысын түсінуді қиындатады. Академиялық психологиялық кеңес беру және білім беру бұзылыстарының психотерапиясы шеңберіндегі ауытқу бойынша жұмыс істеу барысында (дидактогения) құндылық штамы жеке тұлға мен оның қарым-қатынастарының қайнар көзі ғана емес, әлеуметтік контекст, оның ішінде мемлекеттік және ұлттық бағдарлама мен штамдар екенін нақты түсінген жөн. Сондықтан бұзушылық бойынша жұмыс жүргізу адамның өміріне көмектесуге немесе жағдайға, аномияға және макросоциалық дағдарыстар мен жарақаттан арылуға қарамастан адам мәртебесін қалпына келтіруге септеседі. Адамның қазіргі ахуалмен және деформациялармен ғана емес, жалпыадамдық тәжірибемен, тұтастай адамзатпен

байланыстылығын, мәдениеттің өмірге және өзіне деген сенімнің негізі екенін, өз күшімен толықтыра алатын және қажет ететінін түйсінген жөн. Психологтың маңызды, әсіресе, адамның өзін табу жолындағы басты көмекшісі емес екенін түсінген жөн, сондықтан отбасында, оқу орнында, жұмыста және т.б. жалпы қолдау көрсету қажет.

Түйін сөздер: құндылықтар, ауытқу, даралық, психология, қоғам, аномия, десакрализация, психотерапия, академиялық психологиялық кеңес беру.

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ЦЕННОСТНО-МОТИВАЦИОННАЯ СФЕРА ДЕВИАНТНЫХ ЛЮДЕЙ И ПСИХОЛОГИЧЕСКАЯ ПОМОЩЬ В ОБРАЗОВАТЕЛЬНЫХ ОТНОШЕНИЯХ

Аннотация. Девиантное поведение - это социальное поведение, которое отклоняется по своим мотивам, ценностным ориентациям и является результатом принятия в данном обществе социального слоя, группы норм, ценностей, идеалов, то есть нормативных стандартов. Равновесие (стабильность) социального взаимодействия предполагает интеграцию действий многих, что нарушается девиантным поведением одного или нескольких людей. Цель исследования - анализ проблем девиантного поведения в контексте процессов и результатов деформации системы ценностей индивида и сообщества. Метод исследования - теоретический анализ проблем девиантного поведения в контексте процессов и результатов деформации системы ценностей индивида и сообщества. Результаты и выводы: девиации в поведении человека того или иного возраста проявляются в самых разных формах, таких как агрессия и аутоагрессия, алкоголизм и наркомания, преступность и нарушения правопорядка, а также в новых формах отклоняющегося, в том числе аддиктивного поведения. Проблемы ресоциализации и трансформации системы ценностей и источников деформаций поведения рассматриваются многими учеными классики и педагогами, психологами, социальными работниками, медиками и иными специалистами практиками. Технологические, социально-психологические, политико-экономические, правовые и иные изменения в мире приводят к тому, что происходит деструкция ценностей и десакрализация. Разрушаются духовно-нравственные основы жизни человека, их проявления в общении с родителями и семьей, в интимно-личностно-общении с друзьями и иными значимыми людьми, на работе в профессионально-деловых отношениях. Исследователи приходят к заключению о том, что существуют духовные принципы и правила жизни, которые реализуются в жизни человека в индивидуальных формах, что делает поведение человека весьма вариативным и затрудняет понимание самого феномена девиаций, деструкций и деформаций. В работе с девиациями в рамках академического психологического консультирования и психотерапии образовательных нарушений (дидактогений) важно понимание того, что ценностные деформации имеют источником не только личность и ее отношения, но и социальный контекст, включая государственные и национальные программы и деформации. Поэтому работа с нарушениями связана с тем, чтобы помочь человеку остаться человеком или помочь восстановить человеческий статус во многом вопреки обстоятельствам, аномии и десакрализации макросоциальных кризисов и травм. Человеку важно понять, что он связан не только с текущей ситуацией и деформациями, но и общечеловеческим опытом, человечеством в целом, что культура – источник веры в жизнь и в себя, который он может и должен пополнять собственным трудом. Важно понимать, что психолог – один из важных, но не единственных помощников человека на пути к самому себе, поэтому важна общая поддержка в семье, образовательном учреждении, на работе и т.д.

Ключевые слова: ценности, девиации, индивидуальность, психология, социум, аномия, десакрализация, психотерапия, академическое психологическое консультирование.

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ФОРМИРОВАНИЕ КОММУНИКАТИВНЫХ УМЕНИЙ ПОДРОСТКОВ С НИЗКИМ УРОВНЕМ ЭМПАТИИ

Аннотация. Коммуникативные умения включаются в структуру эффективного общения и отражают уровень владения человеком средствами коммуникации. Однако ни сам процесс формирования коммуникативных умений, ни потенциальные ресурсы повышения его успешности системно не организованы, что усугубляется неизбежным снижением уровня эмпатии нового «цифрового» поколения. В исследовании, представленном этой статьей, использованы теоретические (анализ, обобщение, моделирование, целеполагание) и эмпирические (констатирующий и формирующий эксперименты, тестирование) методы; методы количественной обработки данных (Т-критерий Вилкоксона, коэффициент ранговой корреляции rs Спирмена); психодиагностические методики («Коммуникативные и организаторские склонности» (КОС) В.В. Синявский, В.А. Федорошин; «Тест коммуникативных умений» Л. Михельсон, в адаптации Ю.З. Гильбух; «Диагностика уровня эмпатии» В.В. Бойко. Реализованная целевая программа способствует развитию коммуникативных умений подростков с низким уровнем эмпатии, посредством развития эмоционального интеллекта подростков, узнавания эмоций и их выражения, распознавания чувств собеседника и понимания его мыслей; развития осознанности восприятия невербальных и вербальных средств общения и умения использовать их; формирования представлений подростков о возможности проявления негативных эмоций в общении, овладения умением выражать отрицательные чувства.

Ключевые слова: подростки, эмпатия, коммуникативные склонности, организаторские склонности, коммуникативные умения.

Введение. Современному подростку сложно быть эмпатичным в условиях компьютеризированного общества, уменьшение контактов вне онлайн жизни возвращает холодность в реальном общении, неумение и нежелание понимать другого, ложное представление об эмоциях, что в конечном итоге приводит к изоляции и одиночеству. Поэтому с социальной точки зрения развитие эмпатии будущих активных участников общественной жизни является актуальной проблемой психологической науки [1-3]. К тому же, наиболее сензитивным для формирования умений сопереживания оказывается именно подростковый период [4]. В психолого-педагогической литературе широко освещен вопрос формирования либо только коммуникативных умений [5-7], либо эмпатии [8-10]. В этой работе обсуждаются представления об уровне коммуникативных умений как следствия низкого уровня эмпатии.

Известно, что коммуникация является не только обменом информацией, она также представляет собой акт общения и социального взаимодействия, содержащий определенный смысл, построение межличностных отношений [11]. Отличием является то, что общение относится к психологическим явлениям, а коммуникация представляет собой форму взаимодействия, говоря о которой нужно конкретизировать область ее применения (психическая, информационная, организационно-экономическая). Одной из важных составляющих процесса общения являются коммуникативные умения, которые, в свою очередь, создают условия успешных взаимоотношений с людьми, характеризующихся гармоничностью и бесконфликтностью.

До настоящего времени исследователи не пришли к единому мнению в отношении точного определения эмпатии [12,13], но многие представления ученых сводятся к тому, что эмпатия

является перцептивной стороной общения (коммуникативной компетентностью), так как в процессе взаимодействия индивид получает с помощью чувственного познания информацию о собеседнике [14,15]. Впоследствии эти сведения последовательно обрабатываются компонентами эмпатии: когнитивным (осознание состояния другого), эмоциональным (принятие чувств другого), действенным (понимание решения о необходимых действиях). Низкий уровень эмпатии, как следствие, отсутствие коммуникативной компетентности, не позволяет человеку эффективно взаимодействовать с окружающими, строить отношения, устанавливать контакты. Поэтому эмпатию необходимо научиться использовать, раскрыть рациональный, эмоциональный и интуитивный каналы, сформировать правильные установки, развить проникающую способность и умение идентифицировать себя с другими.

Подростки, обладающие низким уровнем эмпатии, зачастую имеют проблемы с установлением контактов с окружающими, они испытывают негативные эмоции в большой группе людей, чувствуют себя в ней некомфортно. Из-за низкого уровня эмпатии подростки не понимают причины поступков других людей и их эмоциональное состояние в той или иной ситуации. Работать в коллективе для них чуждо, уединение является предпочтительней. Некоторая отстраненность таких подростков от коллектива довольно часто не принимается в социуме, поэтому окружающие попросту их игнорируют. Вследствие всех перечисленных препятствий подростку с низким уровнем эмпатии трудно развивать свои коммуникативные умения.

Методика. Экспериментальная работа, представленная в статье, осуществлялась в три этапа: подготовительный (обобщение различных источников информации, научных данных, определение теоретических основ исследования, подбор методов и методик исследования), опытно-экспериментальный (констатирующий и формирующий эксперимент, разработка и реализация программы), аналитический (анализ и интерпретация результатов повторной диагностики, формулирование выводов исследования) [16-18].

Были использованы три методики: «Коммуникативные и организаторские склонности» (КОС) В.В. Синявский, В. А. Федорошин, «Тест коммуникативных умений» Л. Михельсон, в адаптации Ю.З. Гильбух, «Диагностика уровня эмпатии» В.В. Бойко; применены парный критерий Т-Вилкоксона, коэффициент ранговой корреляции r_s , Спирмена.

Удалось выявить значимую корреляционную связь между коммуникативными умениями и эмпатией: $r_{с\text{эмп}} = 0,76$. Корреляция имеет положительную направленность, то есть при увеличении показателей эмпатии пропорционально увеличиваются показатели коммуникативных умений. Таким образом, первое положение гипотезы о том, что уровень коммуникативных умений взаимосвязан с уровнем эмпатии, подтвердилось.

По методике В.В. Синявского, В.А. Федорошина низким уровнем коммуникативной компетентности обладают 42% испытуемых, уровнем ниже среднего – 4%, средний уровень выявлен у 24%, высокий уровень – у 15%, и очень высокий уровень тоже у 15%.

По методике Л. Михельсона в адаптации Ю.З. Гильбух зависимым типом общения обладали 42% испытуемых, компетентный тип выявлен у 46%, агрессивный тип – у 12%.

По методике В.В. Бойко низкий уровень эмпатии выявлен у 38% человек, заниженный уровень – у 4%, средний уровень – у 46%, высокий уровень эмпатии – у 12%.

В основу реализованной программы легли апробированные тренинговые технологии развития коммуникативных умений подростков. Длительность программы составляла 8 занятий по 60 минут (2 раза в неделю).

Цель программы – формирование коммуникативных умений подростков с низким уровнем эмпатии, стимулирование социального развития и личностного роста.

Структура занятия: Приветствие (5 минут). Цель – создать положительную установку на работу, раскрыть тему занятия. Разминка (5 минут). Цель – подготовить участников к дальнейшей деятельности, привести их в нужное эмоциональное состояние, стимулировать активность в группе и погружение в тему занятия. Основное содержание (40 минут). Цель – с помощью различных тренинговых упражнений и игр формировать коммуникативные умения участников. Рефлексия (9 минут). Цель – осознание участниками полезности проведенного занятия и своего эмоционального состояния, возможность вспомнить изученное, определить его новизну для себя и

возможности применения в своей реальной жизни. Прощание (1 минута). Цель – смысловое завершение и закрепление положительного впечатления о занятии.

Результаты. После реализации программы формирования коммуникативных умений у подростков с низким уровнем эмпатии была проведена повторная диагностика по тем же самым методикам.

Результаты исследования уровня коммуникативных умений подростков до и после реализации программы по методике «Коммуникативные и организаторские склонности» (КОС) В.В. Синявского, В.А. Федорошина представлены на рисунке 1.

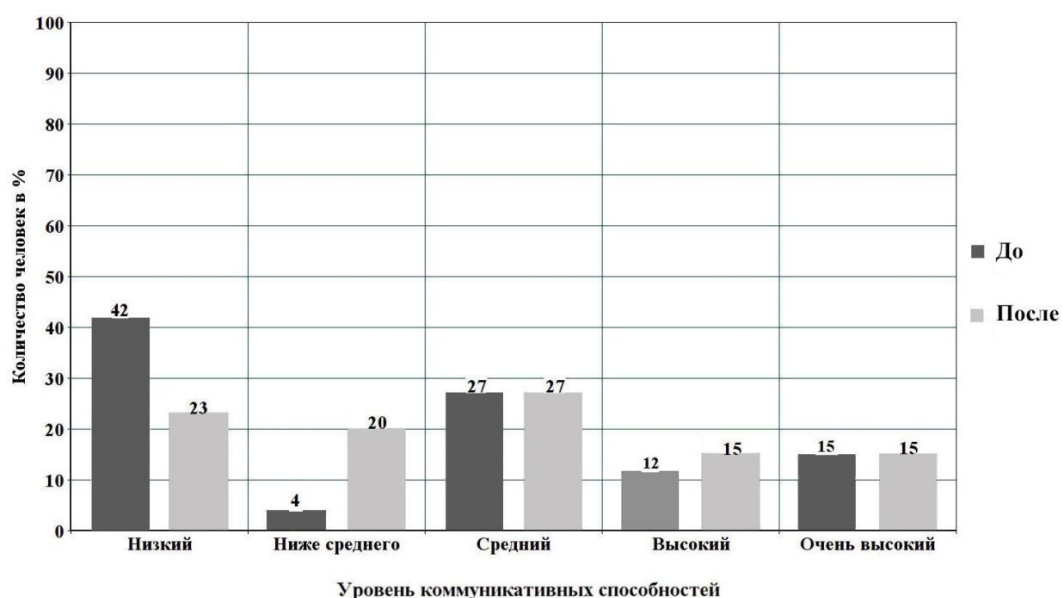


Рисунок 1 – Распределение уровней коммуникативных склонностей подростков по методике «Коммуникативные и организаторские склонности» Синявского В.В., Федорошина В.А. до и после реализации программы

Повторная диагностика показала, что после проведения программы уменьшилось на 19% количество подростков с низким уровнем коммуникативных склонностей (до – 42%, после – 23%).

Увеличилось на 16% количество подростков с уровнем коммуникативных склонностей ниже среднего (до – 4%, после – 20%). Подросткам стало проще устанавливать контакты с другими людьми, они чувствовали уже себя увереннее в новой компании и были готовы принимать участие в групповых мероприятиях.

Количество учащихся со средним уровнем коммуникативных склонностей осталось неизменным (и до, и после формирующего эксперта – 27%).

Количество подростков с высоким уровнем коммуникативных склонностей увеличилось на 4% (до – 12%, после – 15%). Один учащийся перешел со среднего уровня на высокий и стал стремиться заводить новые знакомства, новая обстановка перестала его смущать, начал проявлять больше инициативы не только в общении, но и в групповой деятельности.

Количество учащихся с очень высоким уровнем коммуникативных склонностей осталось неизменным (15%).

Результаты исследования уровня коммуникативных умений подростков до и после реализации программы по методике «Тест коммуникативных умений» Л. Михельсон, в адаптации Ю.З. Гильбух представлен на рисунке 2.

Повторная диагностика показала, что после проведения программы уменьшилось на 15% количество подростков с зависимым типом общения (до – 42%, после – 27%).

На 15% увеличилось и количество подростков с компетентным типом общения (до – 46%, после – 61%). Эти подростки научились общаться на равных, адекватно реагировать на критику, принимать сочувствие и поддержку.

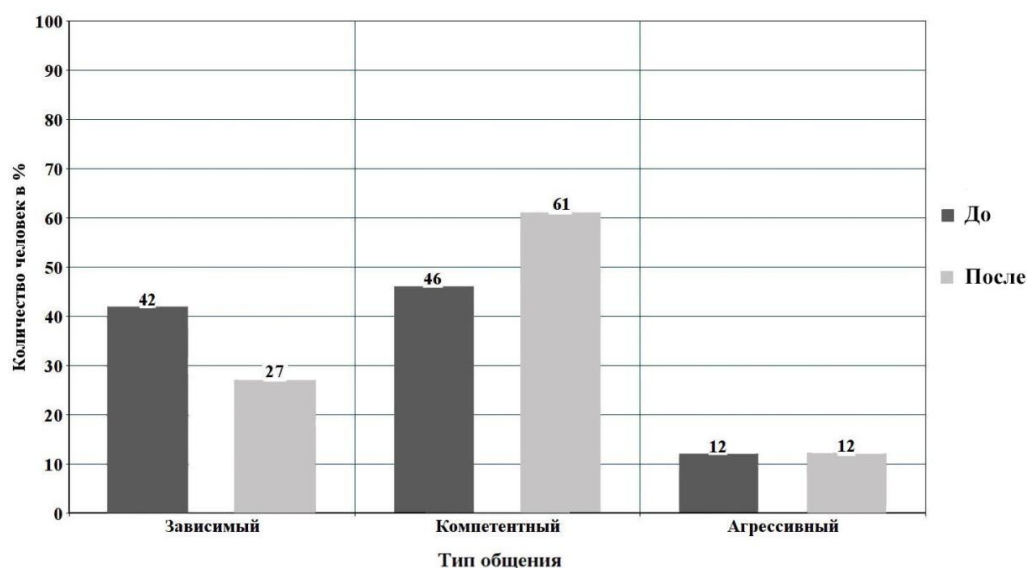


Рисунок 2 – Распределение типов общения подростков методике «Тест коммуникативных умений» Михельсон Л., в адаптации Гильбух Ю.З. до и после реализации программы

Количество учащихся с агрессивным типом общения осталось неизменным (12%), этим школьникам было рекомендовано принять участие в дополнительной программе по коррекции агрессивности.

Результаты исследования уровня коммуникативных умений подростков до и после реализации программы по методике «Диагностика уровня эмпатии» В.В. Бойко представлена на рисунке 3.

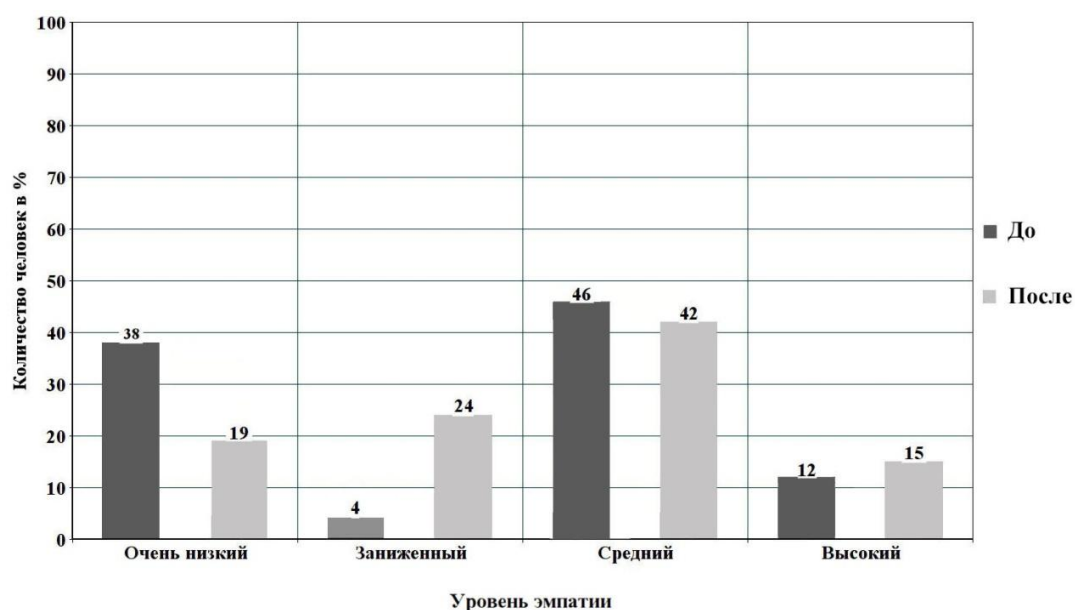


Рисунок 3 – Распределение уровней эмпатии по методике «Диагностика уровня эмпатии» Бойко В.В. до и после реализации программы

Повторная диагностика показала, что после проведения программы вдвое снизилось количество подростков с очень низким уровнем эмпатии (до – 38%, после – 19%).

Часть испытуемых (20%) из группы с очень низким уровнем эмпатии перешла на более высокий (заниженный) уровень (до – 4%, после – 24%). Они научились больше понимать эмоциональное состояние другого человека, проявлять сочувствие, стали более интересоваться личной информацией собеседника.

Уменьшилось на 4% количество подростков со средним уровнем эмпатии (до – 46%, после – 42%). Один учащийся перешел со среднего уровня эмпатии на заниженный (он не принимал участия в формирующем эксперименте) и стал меньше интересоваться личными проблемами близких людей, отстраняться от друзей, возникла холодность в общении с ними.

Увеличилось на 4% количество учащихся с высоким уровнем эмпатии (до – 12%, после – 15%). Один подросток перешел со среднего уровня эмпатии на высокий, он научился заводить непринужденную беседу с любым человеком, с любопытством слушать рассказ собеседника, принимать близко к сердцу сообщенную ему информацию, с легкостью копировать манеру поведения другого человека.

Для проверки гипотезы исследования была выполнена математическая обработка экспериментальных данных с помощью Т-критерия Вилкоксона.

Сопоставлены показатели первичной и повторной диагностики уровня коммуникативных умений подростков по методике «Коммуникативные и организаторские склонности» (КОС) В.В. Сияевского, В. А. Федорошина.

Гипотезы Т-критерия Вилкоксона:

H_0 : интенсивность сдвигов в направлении уменьшения уровня коммуникативных умений подростков с низким уровнем эмпатии не превосходит интенсивность сдвигов в направлении увеличения уровня коммуникативных умений подростков с низким уровнем эмпатии.

H_1 : интенсивность сдвигов в направлении уменьшения уровня коммуникативных умений подростков с низким уровнем эмпатии превосходит интенсивность сдвигов в направлении увеличения уровня коммуникативных умений подростков с низким уровнем эмпатии.

За нетипичный сдвиг были приняты отрицательные значения. Значение Т-критерия Вилкоксона вычислялось по формуле.

$$T_{\text{эмп}} = \sum R_r,$$

На рисунке 4 выполнено построение оси значимости:

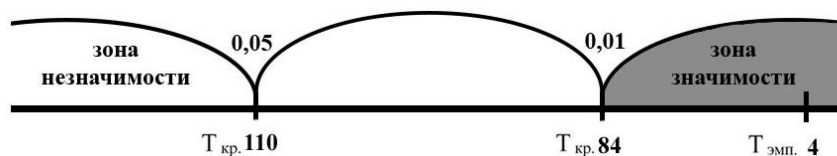


Рисунок 4 – Ось значимости парного критерия Вилкоксона для показателей методики «Коммуникативные и организаторские склонности» (КОС) Сияевский В.В., Федорошин В.А.

Полученное значение $T_{\text{эмп.}}$ находится в зоне значимости, принимаем гипотезу H_1 : интенсивность сдвигов в направлении уменьшения уровня коммуникативных умений подростков с низким уровнем эмпатии превосходит интенсивность сдвигов в направлении увеличения уровня коммуникативных умений подростков с низким уровнем эмпатии.

Таким образом, второе положение гипотезы исследования о том, что уровень коммуникативных умений подростков с низким уровнем эмпатии возможно изменится в результате проведения психолого-педагогической программы, подтвердилось.

Близкие к нашим результатам показатели выявлены и в других исследованиях [19-21], авторы которых говорят о решении задач, таких как: необходимость установить отношения, способствующие эффективному сотрудничеству, проявлять инициативу в планировании совместной работы, уважительно относиться к собеседникам, их личностям, интересам.

В предыдущих наших исследованиях также были названы факторы, влияющие на процесс развития коммуникативных умений [22,23]:

Внутренние (психофизиологические особенности подростка (тип нервной системы, темперамент, особенности речи и т.п.); уровень интеллекта подростка, его умственные способности; личностные особенности (эмоциональная устойчивость, уровень возбудимости, застенчивости, впечатлительности, экстраверсия/интроверсия); психическое здоровье подростка (наличие/отсутствие различных синдромов, неврозов и т.п.).

Внешние (сформированность культуры общения в семье; стиль воспитания, применяемый в семье подростка; переизбыток или недостаток внимания со стороны родителей; уровень коммуникативной культуры образовательного учреждения, где обучается подросток; культура общения общества сверстников, где подросток проводить большую часть времени; положение подростка в группе сверстников (принятие или непринятие социумом); продолжительные дружеские контакты или их отсутствие).

И внутренние, и внешние факторы были учтены нами в процессе подготовки и реализации целевой психолого-педагогической программы формирования коммуникативных умений подростков с низким уровнем эмпатии.

Для усиления их действия были составлены и соотнесены с рекомендациями других исследователей [24-28] практические рекомендации педагогам, родителям и подросткам по формированию коммуникативных навыков подростков с низким уровнем эмпатии.

Они соответствовали темам занятий обсуждаемой целевой программы и организации взаимодействия субъектов общения на уроке, на перемене, вне урока в школе и дома, вне школы и вне дома. Формат статьи позволяет назвать здесь только основные рубрики этих рекомендаций. На уроке (групповая работа на занятиях, обратная связь в конце урока, создание проблемной ситуации в рамках темы урока, у доски. На перемене (заинтересованность в эмоциональном состоянии учащихся, привлечение в дискуссии малоразговорчивых подростков, управление конфликтными ситуациями между подростками, между учеником и педагогом. Вне урока (привлечение необщительных подростков к социальным, научным и творческим проектам, организовывать участие необщительных подростков в школьной самодеятельности и социально полезной работе, следить за тоном общения с подростком). Рекомендации родителям (проявлять эмоции и чувства, помнить, что ребенок – это другой человек, быть конгруэнтным, заинтересованным, одобряющим, доверяющим, общительным, умеющим организовать общую семейную деятельность, подавать пример вербальной и невербальной коммуникации, соблюдать автономию подростков. Рекомендации подросткам (стараться вступать в коммуникации с располагающими намерениями, на комфортной дистанции, сохраняя зрительный контакт и открытую позу, доброжелательную интонацию, активное слушание формулирование правильных вопросов, поддержание малого разговора, вербализации разговора как умение слышать).

Соблюдение этих рекомендаций в процессе реализации целевой программы показало, что её участники стали лучше понимать чувства других людей и выражать свои эмоции, сопереживать, использовать вербальные и невербальные средства коммуникации, выходить из конфликтной ситуации, открыто выражать свою позицию.

Заключение. Проведенное исследование свидетельствует о том, что психолого-педагогическая программа формирования способствует развитию коммуникативных умений подростков с низким уровнем эмпатии, посредством развития эмоционального интеллекта подростков, тренировки узнавания эмоций и их выражения, распознавания чувств собеседника и понимания его мыслей; развитие осознанности восприятия невербальных и вербальных средств общения и умения использовать их; формирования представлений подростков о возможности проявления негативных эмоции в общении, овладение умением выражать отрицательные чувства и конструктивно решать конфликтные ситуации; выходить на контакт с людьми, оказывать поддержку, находить позитивное в человеке; владеть собой при сложных коммуникативных обстоятельствах, развивать умения конструктивного межличностного взаимодействия.

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ЭМПАТИЯ ДЕНГЕЙІ ТӨМЕН ЖАСӨСПІРІМДЕРДІҢ КОММУНИКАТИВТІ ДАҒДЫЛАРЫН ҚАЛЫПТАСТЫРУ

Аннотация. Қарым-қатынас дағдылары тиімді қарым-қатынас құрылымына кіреді және адамның коммуникация құралдарын меңгеру деңгейін көрсетеді. Алайда коммуникативті дағдыларды қалыптастыру үдерісі де, табысын арттырудың елеуетті ресурстары да жүйелі түрде ұйымдастырылмаған әрі бұл жаңа «цифрлық» буынның эмпатия деңгейі төмендегендіктен күрделене түседі. Мақалада келтірілген зерттеуде теориялық (талдау, жинақтау, модельдеу, мақсат қою) және эмпирикалық (анықтау және қалыптастырушы

эксперименттер, тестілеу) әдістері қолданылды; мәліметтерді сандық өңдеу әдістері (Вилкоксонның Т-тесті, Спирменнің дәрежелік корреляция коэффициенті r_s); В.В. Синявский мен В.А. Федорошиннің психодиагностикалық әдістері («Коммуникативті және ұйымдастырушылық тенденциялар» (СBS); Л.Михелсон, Ю.З. Гилбух бейімдеген «Коммуникативті дағдыларды тексеру»; В.В. Бойконың «Эмпатия деңгейінің диагностикасы»).

Экспериментті анықтау кезеңінде коммуникативті дағдылар мен эмпатия арасындағы маңызды корреляцияны анықтауға мүмкіндік туды ($r_{s \text{ emp}} = 0.76$). В.В. Синявский, В.А. Федорошин мәліметіне сәйкес, зерттеуге алынғандардың 42%-ның коммуникативті құзыреттілік деңгейі төмен, орташа деңгей 4%, орташа деңгей 24%-да анықталды. Ю.З. Гильбух бейімдеген Л.Михелсон әдісі бойынша қарым-қатынастың тәуелді түрі зерттеуге алынғандардың 42%, біліктілердің 46%, агрессияшылдардың 12%-да анықталды. В.В. Бойконың дерегі бойынша адамдардың 38%-да эмпатияның төмен деңгейі, 4%-да төмен деңгейі, 46%-да орташа деңгейі, 12%-да эмпатияның жоғары деңгейі анықталды. Талқыланған мәселені талдау жұмысы қалыптастыру бағдарламасын құруға және жүзеге асыруға септесті.

Бағдарлама мақсаты – эмпатия деңгейі төмен жасөспірімдердің коммуникативті дағдыларын қалыптастыру, әлеуметтік дамуды ынталандыру және жеке тұлғаның жетілуі. Іске асырылған бағдарлама жасөспірімдердің коммуникативті дағдыларын дамытуға арналған оқыту технологияларына негізделген. Бағдарламаның ұзақтығы 60 минуттан тұратын 8 сеансты құрады (аптасына екі рет).

Тиімділігін арттыру үшін мұғалім, ата-ана және балаларға эмпатия деңгейі төмен жасөспірімдердің коммуникативтік дағдыларын қалыптастыру бойынша практикалық ұсыныстар жинақталды және басқа зерттеушілердің тұжырымдарымен корреляцияланды. Олар талқыланатын мақсатты бағдарлама сыныптарының тақырыбына сәйкес келді және сыныпта, сабақтан, сыныптан тыс уақытта мектепте және үйде, мектептен және үйден тыс қарым-қатынас субъектілерінің өзара әрекетін ұйымдастыру.

Мақсатты бағдарламаны іске асыру барысында аталған ұсыныстарды орындау қатысушылардың басқа адамның сезімін жақсы түсініп, жанашырлық танытып, эмоциясын білдіріп, вербалды және бейвербалды байланыс құралдарын қолданғанын, жанжалды жағдайдан жол тауып шығу мен өз ұстанымдарын ашық білдіре бастағанын көрсетті.

Осылайша қайталанған диагностика көрсеткендей, бағдарламадан кейін коммуникативті бейімділік деңгейі төмен жасөспірімдер саны 19%-ға азайды, ал құзыретті байланыс түріндегі жасөспірімдер саны 15%-ға артты (46%-ға дейін, кейін 61%). Бұл жасөспірімдер тең сөйлесуді, сынға лайықты жауап беруді, жанашырлық пен қолдау көрсетуді үйренді. Эмпатия деңгейі өте төмен топтағы кейбір зерттелушілер (20%) жоғары деңгейге көшті (4%-ға дейін, кейін 24%). Олар басқа адамның эмоционалды жағдайын жақсы түсінуді, жанашырлық танытуды және әңгімелесушінің жеке ақпаратына қызығушылық арттыруды үйренді.

Іске асырылатын мақсатты бағдарлама эмпатия деңгейі төмен жасөспірімдердің келесідей коммуникативті дағдыларын дамытуға ықпал етеді: жасөспірімдердің эмоционалды интеллектісін дамыту, эмоцияны тану және оны білдіру, әңгімелесуші сезімін тану және ойын түсіну; қарым-қатынастың бейвербалды және вербалды құралдарын қабылдау және қолдана білу қабілеттерін дамыту; қарым-қатынаста жағымсыз сезімді білдіру қабілетін игере отырып, қарым-қатынас барысында жағымсыз эмоция мүмкіндігі туралы идеяларды қалыптастыру.

Түйін сөздер: жасөспірімдер, эмпатия, коммуникативті тенденциялар, ұйымдастырушылық тенденциялар, коммуникативті дағдылар.

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FORMATION OF COMMUNICATIVE SKILLS OF TEENAGERS WITH LOW EMPATHY LEVEL

Abstract. Communication skills are included in the structure of effective communication and reflect the level of a person's proficiency in communication means. However, neither the process of formation of communication skills, nor the potential resources for increasing its success are systematically organized, which is aggravated by the inevitable decrease in the level of empathy of the new "digital" generation. The research presented in this article uses theoretical (analysis, generalization, modeling, goal-setting) and empirical (ascertaining and formative experiments, testing) methods; methods of quantitative data processing (Wilcoxon's T-test, Spearman's rank correlation coefficient r_s); psychodiagnostic techniques ("Communicative and organizational tendencies" (СBS) V.V. Sinyavsky,

V.A. Fedoroshin; "Test of communication skills" L. Mikhelson, adapted by Yu. Z. Gilbukh; "Diagnostics of the level of empathy" by V.V. Boyko.

At the ascertaining stage of the experiment, it was possible to identify a significant correlation between communication skills and empathy: ($r_{s_emp} = 0.76$). According to V.V. Sinyavsky, V.A. Fedoroshin, 42% of the subjects had a low level of communicative competence, a level below the average - 4%, the average level was found in 24%. According to L. Mikhelson's method, adapted by Yu.Z. Gilbukh had a dependent type of communication in 42% of the subjects, the competent type was revealed in 46%, the aggressive type in 12%. According to V.V. Boyko low level of empathy was found in 38% of people, an underestimated level - in 4%, an average level - in 46%, a high level of empathy - in 12%.

Analysis of the state of the discussed problem led to the creation and implementation of a formative program.

The goal of the program is to form the communication skills of adolescents with a low level of empathy, to stimulate social development and personal growth.

The implemented program was based on training technologies for the development of adolescents' communicative skills. The duration of the program was 8 sessions of 60 minutes (twice a week).

To enhance its effectiveness, practical recommendations for teachers, parents and children on the formation of the communication skills of adolescents with a low level of empathy were compiled and correlated with the conclusions of other researchers. They corresponded to the topics of the classes of the target program under discussion and the organization of interaction between the subjects of communication in the classroom, at recess, outside the classroom at school and at home, outside school and outside the home.

Compliance with these recommendations in the process of implementing the target program showed that its participants began to better understand the feelings of other people and express their emotions, empathize, use verbal and non-verbal means of communication, get out of a conflict situation, openly express their position.

Thus, repeated diagnostics showed that after the program, the number of adolescents with a low level of communicative inclinations decreased by 19%, and the number of adolescents with a competent type of communication increased by 15% (up to 46%, after - 61%). These adolescents have learned to communicate as equals, to adequately respond to criticism, to accept empathy and support. Some of the subjects (20%) from the group with a very low level of empathy moved to a higher level (before - 4%, after - 24%). They learned to better understand the emotional state of another person, show sympathy, and become more interested in the personal information of the interlocutor.

The implemented target program contributes to the development of the communication skills of adolescents with a low level of empathy, through the development of emotional intelligence of adolescents, recognition of emotions and their expression, recognition of the interlocutor's feelings and understanding of his thoughts; development of awareness of perception of non-verbal and verbal means of communication and the ability to use them; the formation of adolescents' ideas about the possibility of negative emotions in communication, mastering the ability to express negative feelings.

Key words: adolescents, empathy, communicative tendencies, organizational tendencies, communication skills.

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PROFESSIONAL PEDAGOGICAL MOBILITY AND SPECIFIC FEATURES OF ITS FORMATION

Abstract. Researching the content of the issue of professional and pedagogical mobility, we note the following. At the present stage of development of modern society, the problem of professional and pedagogical mobility is especially relevant. It is characterized by the growth of intensive and progressive changes in society, covering all spheres of human life, including the professional sphere. For a modern specialist to be successful and necessary, he must be mobile, ready for changes, able to quickly adapt to changing conditions, that is, he must be professionally mobile.

Great importance is attached to the consideration of professional and pedagogical mobility as a pedagogical category. Concepts such as "mobility", "professional mobility", "pedagogical" are analyzed. On the basis of research and supplementation of these concepts there is a problem of independent understanding of professional and pedagogical mobility as a characteristic of the individual, which is reflected in the process of professional activity, readiness to develop, self-structuring and adapt to changes in the changing professional environment.

The article clarifies the need to create a personal professional image, to organize and implement practical activities to get closer to this person, to detail the main steps for reorganization in connection with the changing conditions of the professional and pedagogical environment.

Key words: professional and pedagogical mobility, teacher, creativity, communication, diagnostics, model, extensive, intensive, innovation, deepening.

Introduction. One of the hallmarks of modern society is the dynamism of transformations, characterized by rapid reorientation to one of the leading areas of professional activity, which reflects the new requirements for professional training, including in the field of education.

In order to be successful and demanding, the future teacher must be able to quickly design and implement new types of educational conditions, adapt to new conditions of the professional and pedagogical environment, analyze the changing educational processes and, accordingly, develop self-knowledge, self-development. , be able to implement their own design, i.e. be professionally mobile.

In many scientific literatures [1-5] professional mobility is explained by a change in the position of the place where the professional structure of people or individuals takes place, ie the transition of people from one professional group and stratum to another.

A number of sociological studies on these indicators show a relatively low level of professional mobility of teachers. In this regard, the task is to expand the ability to preserve spiritual values to be a special social sphere, to develop and accumulate the intelligence of the nation, as well as to provide favorable conditions for personal development and professional development of future teachers.

At present, there is an activity that can reflect the personal qualities that determine the intellectual development as a goal. Therefore, it is necessary to talk about the creation of a continuously connected term of the integrative process of conceptual models of new education.

In modern social conditions, pedagogical education is often associated with the development of personal qualities of the future specialist, his practical skills for the effective implementation of professional activities. This principle determines the purpose of training a specialist who has a set of

theoretical knowledge and practical experience of pedagogical activity, which determines the formation of one of the most important professional and personal qualities of the educational process in a pedagogical university.

Teachers and psychologists link the achievement of this goal with the revision of the objectives of professional training. Productive activity aimed at obtaining educational products is of special importance and allows the future teacher to form their own professional activity, which combines cognitive-practical, cultural and new spiritual products.

Many educators have a poorly developed ability to apply their knowledge, skills and abilities in practice, to make non-standard decisions based on most situations, to be inflexible to the changing conditions of the professional environment, to understand the contradictions of their own professional activities. and on this basis leads to the formation of professional self-development. Novice teachers are especially faced with such problems.

University graduates, even if they have specific pedagogical experience and master the specific qualities of a mobile specialist, are not always able to implement them in their professional activities. Therefore, there is a need for students of pedagogical universities to study the process of formation of professional and pedagogical mobility. The analysis of the data shows that many of the identified characteristics of this phenomenon are still poorly understood and require further processing. All of the above allows us to clarify the following contradictions:

- at the socio-pedagogical level - between the modern system of education and the requirements of society for an individual capable of expressing professional and pedagogical mobility;
- at the scientific and pedagogical level - between the need for the formation of professional and pedagogical mobility of teachers;
- at the scientific and methodological level - between the actual formation of professional and pedagogical mobility, which has an empirical, spontaneous nature.

Clarification of contradictions allows to identify the problem of research, which consists in the need to develop approaches, tools and pedagogical conditions that ensure the formation of professional and pedagogical mobility of future teachers in the teaching process at the university.

The relevance and inadequacy of these issues in pedagogical theory and practice are covered by the choice of research topic.

The formation of professional and pedagogical mobility should be understood as a planned movement that includes a number of interrelated stages of diagnostic, extensive, intensive, innovative, practical, implemented through adequately selected methods and tools.

An important condition for the formation of professional and pedagogical mobility is the organization of pedagogical practice, which is understood as an event in the professional and pedagogical activity of teachers and students. Based on the structural components of a number of scientists in determining the criteria for the formation of professional and pedagogical mobility, such as passive, active - exploratory and active, based on such structural components as the success of adaptation, personal activity, personal creativity, readiness for self-development.

Here is the importance of the topic.

The purpose of the study. The purpose of this study is to provide a comprehensive, interdisciplinary character of the phenomenon of professional and pedagogical mobility and to study any aspect of professional and pedagogical mobility and its readiness for the specifics of modern conditions.

Research materials and methods. These research methods are the analysis of the research of leading scientists and teachers.

Determining its structure on the basis of the analysis of the essential characteristics of professional and pedagogical mobility. Its components, such as the activity of the individual in the work of self-transformation and renewal of reality, adaptability, which is understood as a way to adapt to changing conditions of professional activity, creativity of the individual, providing a creative approach to their professional and pedagogical activities.

The basic premise of this study is a systematic approach that allows to consider professional and pedagogical mobility as a system consisting of a set of its components. Professional renewal is defined by acmeological techniques that allow you to view the integration of your professional image of "I" as a process that can be achieved through acme.

The authors of the article note that in the structure of professional and pedagogical mobility often differ the following components: adaptability, openness, communicativeness, creativity and competence.

Research results and discussion. Summarizing the content of the issue of professional and pedagogical mobility, we note the following.

At the current stage of development of modern society, the issue of professional and pedagogical mobility is especially relevant. It is characterized by the growth of intensive and progressive change in society, covering all areas of human life, including the professional sphere. In order to be successful and necessary, a modern specialist must be mobile, ready for change, able to quickly adapt to changing conditions, that is, must be professionally mobile.

Organizational and pedagogical conditions for the formation of professional mobility of university students have been created and justified. Conditions for the formation of students' readiness for professional mobility in the learning process. Pedagogical conditions for the formation of professional mobility of students in the educational process of the university were modeled. The authors express their views on the essence of the concept of "professional mobility of the future teacher."

Main part. Changes in modern education reflect the growing demands on the quality of training. One of such requirements for an individual is mobility. Research identifies a number of factors that influence these requirements: aspiration and innovation in life; increasing the dependence of the person's reputation on education; increasing the speed of the pursuit of knowledge; increase in the dependence of personal income on education and profession; constant changes in the labor market; dynamics of development in the professional market; Constant change of status of many specialties [6-8].

In order to be able to live and successfully function in a mobile dynamic society and to be able to assess their place, they must master the system of social and moral values, high psychological flexibility, the ability to make choices and creatively reshape the situation, in other words - in different social and professional situations. must be sufficiently mobile, ie such a specialist will be competitive. A person's work reputation also depends on his high level of training and professional training.

Universities in industrialized and economically developing countries make great efforts to increase the participation of students and teachers in foreign programs [9].

S.G. Vershlovsky "The sign of the times was increased professional mobility. Modern man has to change jobs several times and learn new professions "- says [10].

The Russian Convention on the Modernization of Education states that "a developing society needs modern educated, humane decision-makers who are able to make responsible decisions and anticipate their possible consequences. noted in [11,12].

According to the Bologna Declaration of 1999, the Council for the Mobility of Students, Teachers, Researchers and Administrators is one of the factors ensuring the transition of European states to a single state space.

A.V. Mudrik connects the issue of social mobility with education and considers its content together with the preparatory functions necessary for the functioning and sustainable development of a society capable of horizontal and vertical mobility and ready for it "with human capital" [13].

Therefore, professional mobility is a necessary quality for any modern man, because he lives in a society characterized by a dynamic, rapidly changing historical process, and mobility is relevant for educators who support and implement the educational process in society. At the same time, professional mobility is one of the highest professional areas of teacher self-development. This consciousness is not always personal. But it can be developed.

The presence of professional mobility can be evidence of a high level of professional and life training of a specialist.

Mobility in professional and pedagogical activity provides the teacher with the opportunity to effectively implement and achieve professional goals, allows to conveniently reproduce knowledge, skills, aptitudes in accordance with pedagogical goals.

The professional mobility of the teacher is reflected in the stability of the professional pedagogical position, which is reflected in the humanistic attitude to the person, aimed at helping the person to find his place, to be specified [14].

Accordingly, the professional mobility of the teacher is a terminal value (basic), where the individual's pedagogical activity is perceived as the norms governing the activity. It is a way of life of a

teacher as a modern person, a specialist who walks over time. Without mobility, a teacher cannot establish himself as a professional, social subject.

In this regard, the higher the professional mobility of the teacher, the more purposeful and reasonable his transfer from one position to another, the better he can follow the situation, the more he finds his place in the social and professional hierarchy, and his pedagogical activity becomes more diverse. can.

According to V.V. Kraevsky, professional mobility characterizes "a specialist who is independent, competent and responsible for action in political, economic, professional and cultural life, oriented to free, humanistic choice" [15].

Analysis of the scientific literature on the formation of professional and pedagogical mobility, along with other qualities that characterize the pedagogical personality (humanism, professionalism, flexibility, breadth, deep thinking, reflexivity, etc.), mobility is rarely mentioned. Therefore, it is defined as the ability of an individual to effectively perform a variety of professional and social functions, the ability to adapt to constantly changing social situations, the ability to create new goals, new tools, new opportunities in accordance with their own desires. As many educators point out, the training of a mobile professional is often interpreted as a "subject" rather than a mobile teacher.

That is, the readiness of the student for active professional activity is realized through his subjective position in educational, practical, educational and research activities, and subjective activity is understood as the student's mastery of sections, mastering the methods of action, cooperation with the teacher.

Thus, professional and pedagogical mobility is at the crossroads of the study of social sciences and humanities, each of which considers some of its aspects. As a category, professional and pedagogical mobility can be expressed by the types of horizontal, vertical and global mobility. Based on the study of these issues, the characteristics of the individual, which are reflected in the preparation for self-development to adapt to the changing conditions of the professional and pedagogical environment.

Professional and pedagogical mobility is characterized by readiness for professional activity. Preparation is the desire to change one's life and activities (actions) without any interference or pressure.

Training is an integral quality of the individual ("readiness for self-education"), which includes the ability to systematically engage in learning activities and the desire to gradually expand the range of life perception in order to better understand it [16].

The mechanism of development of the individual is defined as the psychological organization of the methods and means of his own re-education. The future teacher, structuring himself in the space of professional development, clarifies his place and his determination in this space. The process of professional self-development and self-structuring allows teachers to achieve professional competence, pedagogical skills. Self-structuring is closely linked with the teacher's self-improvement, which is the result of the structure of professional development of the individual. The necessary factors are:

- receipt of a financial reward;
- understand the success of pedagogical activity;
- the emergence of a "crisis of competence";
- for pedagogical creativity, independent research, study, experiment creating conditions;
- control over pedagogical activity on the orders of educators;
- involvement in the management of methodical work;
- participation in the work of professional associations.

Self-improvement of a professional-mobile teacher means his ability and readiness to learn independently. The need for knowledge at the level of reason carries with it complete freedom and responsibility for oneself and society. Self-education provides a person with the ability to successfully carry out their life and professional activities.

Self-education is a specially organized, independent, systemic cognitive activity, which is based on the individual's specific achievements and social activities [17].

The impact of many factors on education has led to increased uncertainty in the nature of future professional activities and work. Here the priority is given to the subject specialization of future workers. Therefore, finding an individual's place in the professional form is one of the components of his professional and pedagogical mobility. The distinctive feature of such a specialist is a steady increase in the level of competitiveness, finding new opportunities in their profession, clarifying the forms of professionalism.

Mobility in the broadest sense is understood as mobility, rapid movement, action, quick performance of tasks. In order to make any changes in one's professional position, a person must have personal qualities and abilities. These include mobility, openness to new things, flexibility to adapt to new situations, creativity of thinking, communication, ability to adapt to changing realities, activity, speed, independence and responsibility in decision-making, goal setting and continuous self-improvement, situation analysis and the ability to predict its development, adaptability, ability to learn independently, "resistance to the frustrations of the internal and external environment, the correct assessment of the state of the environment."

Alierova L.A., Bagishaev Z.A. show the structure of professional and pedagogical mobility as a system, which consists of the following parts: personal activity of professional and pedagogical activity; professional and pedagogical competence, which is based on the training of the individual as an integrative quality; professional and pedagogical flexibility, which is adapted as a personal trait; professional and pedagogical innovation. All parts can be divided among social determinants. Creativity is a pure social quality, one of the main components of which is reflexive [18].

Professional mobility is characterized not only by the individual's adaptability to other professional situations, but also by their focus on change. In this case, the activity is reflected as an indicator of the degree of change in these conditions, and then as the mobility of the teacher in the professional field. Formation of an active type of individual is one of the manifestations of professional and pedagogical mobility. As we can see, the professional mobility of a teacher is determined by social, personal and personal factors, and at the same time manifests itself as a result of one's own internal efforts to understand one's professional role and evaluate one's professional and pedagogical activity.

The concept of professional and pedagogical mobility is characterized by the adaptation of the individual to a changing professional and pedagogical environment.

Successful adaptation is the ability of a mobile professional to solve a variety of tasks for himself and those around him and to demonstrate the ability to learn independently. In addition, the self-development of an individual in professional activity is possible only in the case of successful participation in this activity. This allows us to highlight the second component of professional and pedagogical mobility - the adaptability of the individual.

Adaptability of the individual is considered as the ability of professional activity to effectively adapt to changing conditions [19].

The flexibility of the individual as a general psychological characteristic is associated with changes in the dimensions of action and the mobility of personal processes. Such a person is a highly variable person connected to the system of interpersonal relationships.

Creative is reflected in the search and discovery of new ways of studying the individual and the development of new diagnostic methods.

It can be clarified that the essence of professional and pedagogical mobility is the readiness of the individual to develop independently, through self-education and self-transformation.

The main purpose of modeling the process of professional and pedagogical mobility is the development and theoretical substantiation of models of formation of professional and pedagogical mobility of future teachers.

A model is a type of system that is imaginary or real. It comes from the Latin word "model" size, norm, model. In some dictionaries, the word "model" is considered as something that depicts, draws, describes an object, in a reduced form, depicts the structure, properties, relationships, simplifies the process of obtaining information [20,21].

The concept of "professional and pedagogical mobility" is very narrow in relation to the concepts of "mobility", "professional mobility", "pedagogical mobility".

The general functions of modeling are to describe, interpret and predict the behavior of a particular system.

Objectives of modeling can be the search for optimal and near optimal solutions, evaluation of effective solutions, determining the properties of systems (sensitivity to changes in characteristics), the relationship between the characteristics of systems, the exchange of information over time [22].

The method of modeling turns out to be the most powerful way of "visualizing" the internal development of pedagogical phenomena.

Analysis of the psychological and pedagogical literature allowed to create and theoretically substantiate a structural and pedagogical model of the formation of professional and pedagogical mobility in future teachers of preschool education. According to V.A. Slavenin, in connection with the achievements in the development of science, engineering and technology, natural, human and social sciences, it is necessary to constantly update the pedagogical content, diversity, flexibility of curricula and programming, prompt response to their social, professional and practical needs. should be provided [23].

The model of formation of professional and pedagogical mobility in students should be considered in the consciousness of ideal norms, models, standards, created on the basis of forecasting pedagogical processes in the search for optimal results of professional and pedagogical activity.

Formation is the process of acquiring knowledge, skills, aptitudes, the accumulation of qualitative changes in the social, pedagogical and professional aspects of the individual and the content of the individual personality of the teacher in his social, pedagogical and professional self-expression.

In order to scientifically substantiate the process of formation of professional and pedagogical mobility, it is necessary to specify the approaches needed to study the existing abilities, which are currently prevalent.

Position is a category of worldview that reflects the superstructure of the subjects of the pedagogical process [24].

The systematic approach in the study of this issue considers this process as a result of the qualitative development of the future teacher in the interaction with the subject of his actions. Here mobility is characterized by sociality (in terms of substance), openness (in relation to the external environment), dynamism (in terms of variability), reliability (in terms of determination), goal-setting (purposefulness), self-government (in terms of control).

Competence in practice is reflected in the set of specific competencies that are formed, relevant and active in the professional and pedagogical mobility of the specialist. It helps to reveal the desired result of the structures that exist through a set of different types of competencies.

V.D. Shadrinov defines competence as "the acquisition of specific knowledge, skills, life experience that allows you to think about the creation or solution of something" [25].

On the basis of the acme logical approach (gr. Acme - peak) it is possible to study the living conditions and conditions that allow each age ladder to climb any peak, which is typical for this age group. This allows us to highlight the ways of untapped pedagogical competence in the modern context of the optimal way of life (Bodalev A.A.) and to design the stages of transition from one height to another [26].

This approach allows you to consider this process as the achievement of his acme through the construction of his professional image of "I".

The pedagogical potential of the situation is based on understanding the impact of circumstances on the individual. It is manifested in the conditions of relationships and meetings (M. Buber), as well as in virtual situations based on the ontology of vague knowledge (P. Bourdieu) and in the conditions of transcendence, that is, the zeal for human spirituality.

Here the individual's desire to find his place develops. The implementation of this approach requires the presence of emotionally saturated, aspirational faces in the form of a collective, which are important and attractive to the individual.

The professional activity of a mobile specialist is to transform himself in the profession and the reality of the environment. Such a specialist can change his actions depending on changing conditions, which is the determination of his mobility. Signs of mobility in this context are: a person's ability to influence events, to manage them, to use them for personal development, to work with realities and opportunities.

In conclusion, being a relatively narrow category, professional and pedagogical mobility requires that it be considered in the context of several approaches that do not contradict each other as a whole. Analysis of social, psychological and pedagogical literature allows you to choose the main ones, which should be guided in their study.

Conclusion. At the current stage of development of society, the issue of professional and pedagogical mobility is especially relevant. This is due to the growing intensity and wisdom of change, which covers all areas of human life, including the professional sphere. Therefore, a modern specialist must be characterized by mobility, flexibility, ie professional mobility.

The phenomenon of professional and pedagogical mobility is complex, interdisciplinary and occurs at the intersection of several disciplines.

The study provided an opportunity to consider professional and pedagogical mobility as a pedagogical category. Therefore, such concepts as "mobility", "professional mobility", "pedagogical mobility" are analyzed here. On the basis of research and supplementation of these concepts, emphasis was placed on clarifying the individual understanding of professional and pedagogical mobility in the characteristics of the individual, which is reflected in the preparation for self-development, self-structure and adaptation to changing conditions of the professional-pedagogical environment.

Professional and pedagogical mobility as a quality of the individual is characterized by the availability of training for professional activity in the progressive conditions of the educational environment.

Training as a characteristic of a professional mobile teacher predicts the activity of an individual at the level of his readiness for professional activity. This situation includes the moment of defining the goal on the basis of reasonable needs and motives, the development of plans, facilities, models of future actions of the individual, as well as the implementation of subject activities that can respond to specific tools, professional and pedagogical activities.

A distinctive feature of professional and pedagogical mobility is the desire of the teacher to develop and self-structure. Self-development allows you to regulate, organize your own pedagogical activities, make your own choices, create your own position, be open and ready for new turning points in your life, taking into account professionalism and changes in society.

Self-structuring deserves to be detailed in the creation of the ideal of an independent professional image, the organization and implementation of practical activities to approach the ideal, the main steps in the transformation, which depends on the changing conditions of the professional and pedagogical environment.

Activity of the individual, which is reflected in the work on the reconstruction of himself and the environment on the basis of the analysis of the semantic characteristics of professional and pedagogical mobility; consists of components such as the adaptability of the individual, which is understood as the ability to adapt to changing conditions of professional activity.

Here are the stages (diagnostic, extensive, intensive, innovative), the main approaches (self-programming, "deepening"), etc. features of functioning of professional and pedagogical mobility of the future teacher are revealed.

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КӘСІБИ ПЕДАГОГИКАЛЫҚ ҰТҚЫРЛЫҚ ЖӘНЕ ОНЫ ҚАЛЫПТАСТЫРУ ЕРЕКШЕЛІКТЕРІ

Аннотация. Кәсіби және педагогикалық ұтқырлық мәселесінің мазмұнын зерттей отырып, біз мыналарды атап өтеміз. Қоғам дамуының қазіргі кезеңінде кәсіби және педагогикалық ұтқырлық мәселесі ерекше өзекті болып саналады. Ол адам өмірінің барлық саласын, оның ішінде кәсіби саланы қамтитын қоғамдағы қарқынды және прогрессивті өзгерістердің көбеюі негізінде сипатталады. Заманауи маман табысты және сұраныста болуы үшін мобильді, өзгерістерге дайын, өзгермелі жағдайға жылдам бейімделіп, яғни кәсіби тұрғыда ұтқыр болуы керек.

Кәсіби педагогикалық ұтқырлық феномені күрделі, пәнаралық сипатқа ие және әлеуметтану, психология, педагогика түйісінде орналасқан, бұл кәсіби педагогикалық ұтқырлықтың кез-келген аспектісін және оның қазіргі заманғы ерекшеліктерге дайындығын зерттеуге мүмкіндік береді.

Мұнда кәсіби-педагогикалық ұтқырлықты педагогикалық категория ретінде қарастыруға үлкен мән беріледі. «Ұтқырлық», «кәсіби ұтқырлық», «педагогикалық» сияқты түсініктерге талдау жасалады. Осы түсініктерді зерттеу және толықтыру негізінде кәсіби қызмет үдерісіндегі, кәсіби-педагогикалық ортаның өзгермелі жағдайына қатысты өзіндік дербес дамуға, құрылымдануға және өзгерістерге бейімделуге

дайындық барысында байқалатын жеке тұлғаның сипаттамасы ретінде кәсіби-педагогикалық ұтқырлықты дербес түсіну мәселесі орнығады.

Кәсіби-педагогикалық ұтқырлықтың өзіне тән сипатты ерекшелігі – педагогтың өзіндік дердес дамуға, құрылымдануға деген ұмтылысы нақтыланады. Жеке тұлғаның өзіндік дербес дамуы кәсіп пен қоғамдағы өзгерістерді ескеру негізінде дербес педагогикалық қызметті реттеуге, ұйымдастыруға, өз бетінше таңдау жасауға, ұстанымын орнатуға, өмірлік жолының жаңа бетбұрыстарына ашық және оған дайын болуға мүмкіндік беретіні айқындалған.

Мақалада өзіндік дербес кәсіби бейнесін құру, тұлғаға жақындататын практикалық іс-әрекетті ұйымдастыру мен іске асыру, кәсіби-педагогикалық ортаның өзгермелі жағдайына байланысты қайта қалыптастыру бойынша негізгі қадамдарға лайықтығы нақтыланады.

Ұсынылған идеялардың негізінде болашақ педагогтың кәсіби-педагогикалық ұтқырлығының құрылымдық-функциональдық моделі негізделген, гипотеза ұсынылған жағдайды ескеру негізінде жүзеге асқан функциялану ерекшеліктерінің анықталғаны ашып көрсетіледі.

Зерттеуде педагогикалық жоғарғы оқу орны студенттерінің бойында кәсіби-педагогикалық ұтқырлықтың қалыптасу кезеңдері (диагностикалық, экстенсивтік, интенсивтік, инновациялық, практикаға бағытталушы), негізгі құралдары (педагогикалық жобалау, іскерлік ойын, педагогикалық жағдайлар, педагогикалық шеберхана ұйымдастыру, педагогикалық тренинг, «мансап бойынша өсу» жоспарын құру), негізгі тәсілдері (өзіндік бағдарлану, модельденуші кәсіби ортаға «тереңдеу», нақты кәсіби ортаға «тереңдеу») сипатталып көрсетілген.

Түйін сөздер: кәсіби-педагогикалық ұтқырлық, педагог, креативтілік, коммуникативтілік, диагностика, модель, экстенсив, интенсив, инновация, тереңдеу.

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ПРОФЕССИОНАЛЬНАЯ ПЕДАГОГИЧЕСКАЯ МОБИЛЬНОСТЬ И ОСОБЕННОСТИ ЕЕ ФОРМИРОВАНИЯ

Аннотация. Исследуя содержанию вопроса о профессионально-педагогической мобильности, отметим следующее. На современном этапе развития современного общества проблема профессионально-педагогической мобильности особенно актуальна. Она характеризуется ростом интенсивных и прогрессивных изменений в обществе, охватывающих все сферы человеческой жизни, включая профессиональную сферу. Чтобы современный специалист был успешным и необходимым, он должен быть мобильным, готовым к изменениям, способным быстро адаптироваться к меняющимся условиям, то есть он должен быть профессионально мобильным.

Феномен профессионально-педагогической мобильности имеет сложный, междисциплинарный характер и расположен на стыке социологии, психологии, педагогики, что позволяет изучать любой аспект профессионально-педагогической мобильности и его готовность к специфике современных условий.

Большое значение придается рассмотрению профессионально-педагогической мобильности как педагогической категории. Анализируются такие понятия, как «мобильность», «профессиональная мобильность», «педагогический». На основе исследования и дополнения этих понятий возникает проблема самостоятельного понимания профессионально-педагогической мобильности как характеристики личности, которая отражается в процессе профессиональной деятельности, в подготовке к саморазвитию, самоструктурированию и адаптации к изменениям в меняющейся профессиональной среде.

Выясняется, что характерной чертой профессионально-педагогической мобильности является стремление педагога к саморазвитию, самоструктурированию. Установлено, что самостоятельное развитие личности позволяет регулировать, организовывать, делать самостоятельный выбор, устанавливая свою позицию, быть открытым и готовым к новым поворотным моментам в своей жизни с учетом изменений в профессии и обществе.

В статье уточняется необходимость создания личного профессионального имиджа, организации и реализации практических занятий, чтобы стать ближе к этой личности, подробно изложены основные этапы реорганизации в связи с изменением условий профессионально-педагогической среды.

На основе анализа существенных характеристик профессионально-педагогической мобильности определена ее структура. Ее составляющими, такими как активность индивида в работе по самопреобразованию и обновлению среды, является адаптивность, под которой понимается способ адаптации к изменяющимся условиям профессиональной деятельности, креативность личности, обеспечение творческого подхода к их профессиональной и педагогической деятельности.

Основная предпосылка данного исследования – системный подход, позволяющий рассматривать профессионально-педагогическую мобильность как систему, состоящую из набора ее компонентов. Профессиональное обновление широко использует тот факт, что интеграция своего профессионального имиджа является акмеологическим подходом, который позволяет нам рассматривать интеграцию как процесс, который может быть достигнут с помощью асме.

На основе предложенных идей создана структурно-функциональная модель формирования профессионально-педагогической мобильности будущего педагога, выявлено, что особенности его функционирования выявлены с учетом условий гипотезы.

В данном исследовании рассматриваются этапы формирования профессионально-педагогической мобильности у студентов педагогических вузов (диагностический, экстенсивный, интенсивный, инновационный, практико-ориентированный), основные инструменты (педагогический дизайн, деловые игры, педагогические условия, организация педагогических мастерских, педагогическая подготовка, план «карьерного роста»), описаны основные методы (самоориентация, «углубление» моделируемой профессиональной среды, «углубление» реальной профессиональной среды).

Ключевые слова: профессионально-педагогическая мобильность, педагог, креативность, общение, диагностика, модель, экстенсивно, интенсивно, инновация, углубление.

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ӘЛ-ФАРАБИ ЕҢБЕКТЕРІНДЕГІ ФИЗИКА МЕН МАТЕМАТИКАНЫҢ ӘДІСТЕМЕЛІК МӘСЕЛЕЛЕРІ

Аннотация. Қазақ топырағынан шыққан, дүниежүзілік ғылым мен мәдениеттің, оның ішінде математиканың дамуына зор ықпал еткен ірі тұлғалардың бірі – Әбу Насыр әл-Фараби (870-950 жж.). Оның сан-салалы трактаттары ғылымның барлық дерлік салаларын қамтиды. Ұлы ойшыл шығармаларында математика мен математиканы оқыту мәселелері де ерекше орын алады. Фарабидің пікірінше, математика адамның білімін тереңдете түсіп әрі басқа ғылым салаларының дамуына тікелей әсер тигізсе, физика – табиғат туралы, оның негізгі принциптері мен бөліктері жайлы, табиғи денелерге тән акциденциялар туралы, табиғи деректер мен элементтердің өзара әсері жайлы ғылым. Ғалымның педагогика ілімі бойынша жазған еңбегінен тәлім-тәрбие, білім беру мәселелері өзара тығыз байланыста болуы керек екендігі аңғарылады. Мақалада әл-Фарабидің осы бағытта жазылған бірқатар еңбектеріне шолу жасалып, физика мен математиканы оқытудағы пәнаралық байланыстың әдістемелік жақтары баяндалған.

Түйін сөздер: әл-Фараби, ғылым, әдістеме, физика, математика, пәнаралық байланыс.

Кіріспе. Биыл Шығыстың дана ойшылы, физик, математик, астроном, әлемдік деңгейдегі философ, музыка зерттеушісі әрі лингвист Әбу Насыр әл-Фарабиге 1150 жыл толды. Ұлы ғұламаның ғылым саласында қалдырған еңбектері мен зерттеулері өміршеңдігімен танылып келеді. Ғалым ғылым саласын дамытуға арнап 160-тан аса трактат жазған.

Фараби «Ғылымдардың шығуы» деп аталатын тағы бір әйгілі еңбегінде ғылымдардың басқа да салалармен бірге арифметика мен геометрияның шығу тәркіні мен себептерін түсіндіреді, ғылымдарды оқу мен оқытудың жолдарын белгілеп береді. Мұнда арифметика мен геометрия ғылымдарының негізгі ұғымдарын (сан мен фигура) басқа ешқайдан емес, тұрмыстан, табиғаттан алынған деп дұрыс түсіндіреді. Бұны «дүниедегінің бәрі саннан жаралған» деген. Ерекше көңіл аударарлық жайт, ол арифметика, геометрия, астрономия және музыканы педагогикалық ғылымдар деп атайды және олардың тәрбиелік маңызын ашып көрсетеді. Сондай-ақ, математикалық білімсіз жаратылыстану ғылымдарын жан-жақты игерудің мүмкін еместігін атап айтады. Бұл – бүгінгі уақытта да маңызын жоймаған пікір [1].

Фараби еңбектерін зерттеу ертеден басталған. Олардың бірнешеуін «Қазақстан мен Орта Азияның ұлы ғалымдары» деген кітапта А.Машанов көрсетеді. Жамалетдин Әбу-л-Хасан, Шамсутдин Сайхи, Мухаммед Хайтиатул Ибраш тәрізді араб зерттеушілерінен басқа неміс, ағылшын, америка ғалымдары да біраз еңбек етті. Петербург университетінің профессоры Николас Решер 1862 жылы «Фарабидің аннотациялық библиографиясын» шығарды. Карл Броккельман «Араб әдебиетінің тарихы» деген бестомдық еңбегіне кіргізді. 1890 жылдары неміс Фридрих Диетереш Лейденде Фараби шығармаларының бірнешеуін арабшаға бастырған болатын. Ұлы оқымысты Георг Сартон «Ғылым тарихына кіріспе» (1927 ж.) деген кітабында Фарабидің ғылымға қосқан үлесін атай келіп: «Біздің айрықша айтарымыз, Фараби мұраларын зерттей түсу қажет», – дейді [2, 40 б.]. Сонымен бірге әл-Фараби мұраларын зерттеуге еліміздің атакты ғалымдары Ә.Марғұлан, А.Көбесов, Р.Бердібай, А.Қасымжанов, Ә.Дербісәлі, т.б. атсалысты.

«Әлемнің екінші ұстазы» атанған ғұлама ғалым туралы айтылған ерекше пікірлерге тоқталайық:

1. Гегель, немістің атақты философы: «Әл-Фараби Аристотельдің «Физикасын» қырық рет, «Риторикасын» екі жүз, «Жан туралы» атты кітабын жүз рет оқыған екен. Неткен таңғаларлық еңбек!»

2. П.Н. Федосеев, атақты орыс ғалымы: «Ортағасырлық ғылым тарихында өзінің ауқымды ғылыми жұмыстары, терең әрі жан-жақты энциклопедиялық білімі жөнінен әл-Фарабимен теңдесе алатын ғалымды табу қиын».

3. Е.Э. Бертельс, көрнекті Шығыс зерттеушісі: «Әл-Фараби көптеген сындарлы шығармалар туғызды. Фараби мұрасы ұшан-теңіз және сан алуан. Ол сол тұстағы бүкіл білім салаларын, этика, саясат, психология, жаратылыстану, музыканы оқып, зерттеді!... [3].

Жоғарыда айтылған пікірлерден ғалымның үнемі ізденісте болғанын, ғылымның барлық саласымен дерлік айналысқанын, ең бастысы, қазіргі уақытқа дейін қалдырған мұраларының тұнып тұрған тың жаңалық екенін аңғаруға болады. Осыған байланысты ғалымның іргелі ғылымдар – математика мен физика туралы жазған еңбектеріне талдау жасай отырып, қажетті бағытта қолдана алсақ, көптеген ізденіс жұмыстарына арқау болар еді. Сондай-ақ, бұл ғылым салаларының арасындағы пәнаралық байланысты ұдайы дамыту өзекті мәселе болып қала береді.

Негізгі бөлім. Фараби математиканы оқытудың әдістемесі ғылым саласынан да өзіндік терең ой-пікірлерімен дараланады. Ол математиканың басқа ғылымдар арасындағы рөлін, мән-маңызын ерекше бағалай отырып, «оқу мен оқыту, ойды білдіру, мәселенің мазмұнын баяндау, сұрақ беру мен жауап қайыру жағынан алғанда математика тіл ғылымы, грамматика, логика және поэтикадан кейін келеді» деген. Фараби математика ғылымының философиялық мәселелерін де жан-жақты зерттеген ғалым. «Өмірдегі заттардың зерттелетін, адамды ақыл-ой ауытқуы мен абыржуынан құтқаратын бірінші тегі, – дейді Фараби, – сан мен шама. Сан мен шаманы қамтитын ғылым – математика». Оның пікірінше, математика оқушыларды тәрбиелейді, нәзік, сезімтал етеді және осыдан кейінгі ғылымдарды оқып-білудің төте жолдарын көрсетеді [1].

Әл-Фараби ортағасырлардағы көрнекті математик әрі әдіскер болған. «Евклидтің бірінші және бесінші кітаптарының кіріспесіндегі қиын тұстарына түсініктемелер» атты трактатында негізгі геометриялық ұғымдарды түсіндірудің евклидтік тәсілін сынға алады. Ол алғаш рет математика мен математикалық білім беру тарихында бұл ұғымдарды енгізу реті физикалық денелерден абстракциялау процесі кезінде олардың пайда болуын қайталайтын, яғни «жекеден жалпыға» (дене, бет, түзу, нүкте) принципі бойынша жүзеге асатын, түсіндірудің басқаша евклидтік емес тәсілін ұсынады.

Ғұлама логикалық ойлаудың негізгі екі әдісінің: индукция мен дедукцияның арасында болатын өзара органикалық байланысты көре білген [4, 49 б.]. Сөйтіп математика дидактикасында Евклидтің «Бастамаларында» болмаған анализ бен синтездің, индукция мен дедукция әдістерінің үйлесімділігін ұсынады. Егер абстракция – нақты заттар мен құбылыстардың қасиеттерін ой арқылы ажырататын тәсіл десек, онда ғалым физикалық қасиеттерін абстракциялау арқылы физикалық денеден алынған – геометриялық денеге, енін абстракциялау арқылы беттен алынған – бет ұғымына, сондай-ақ ұзындығын абстракциялау арқылы түзуден алынған – нүкте ұғымына анықтама береді.

Осыған сәйкес әл-Фараби теорияны – көпжылдық тәжірибе нәтижесі, ал математикалық абстракциялар – нақты заттардың белгілерін кеңінен, жалпыланған түрде бейнелейді деп, прогрессивті ғылыми-философиялық және педагогикалық тұжырымдаманы негіздеуге тырысады. Дәл осындай танымдық көзқарасты ол математиканы (әсіресе, геометрияны) оқып-үйренгісі келетін оқушылардан көргісі келді. Басқарудағы мұндай әдіснамалық және әдістемелік бағыттар бүгінгі уақытта да өзекті.

Фарабидің үздік жетістіктерінің бірі – білім салаларына жасаған классификациясы. «Ғылымдардың классификациясы» деген еңбегінде сол кезеңдегі белгілі ғылымдардың әрқайсысын дара-дара саралап, мазмұнын толық баяндайды. Мысалы, математика ғылымын мынадай жеті тарауға бөліп көрсеткен: 1) арифметика; 2) геометрия; 3) оптика; 4) астрономия; 5) музыка; 6) салмақ туралы ғылым (статика); 7) айла-әрекет туралы ғылым. Фараби өз кезегінде арифметика мен геометрияны теориялық және практикалық деп екіге бөліп, олардың әрқайсысының мәні мен мазмұнын тығыз бірлікте, байланыста тұжырымдап берді [1].

Математика ортағасырлық Таяу және Орта Шығыс еліндегі негізгі академиялық пәндердің бірі болғандықтан, өзінің дидактикалық тұжырымдамасын математика әдіснамасында қолдануға және жүзеге асыруға үлкен көңіл бөлді. Математика тарихында әл-Фараби алғашқылардың бірі болып алгебраны математиканың бір саласы ретінде анықтады. Алгебра қарастыратын объектілерді барынша кең қарастыруды қамтамасыз ету үшін әл-Фараби математика мен оның дидактикасын дамытуда да үлкен рөл ойнаған сан ұғымын оң нақты санға дейін кеңейту идеясын ұсынады. Сондай-ақ, геометрия әл-Фарабидің ғылыми-педагогикалық шығармашылығында ерекше орын алады. Ол практикалық геометрияны бөліп қарастырып, пайда болуының келесідей нақты себебін көрсетеді: «ұзындық, аудан және көлем туралы геометриялық ұғымдар адамдардың практикалық қызметінің, еңбегінің нәтижесінде пайда болды». Зерттеу пәні абстрактілі заттар болатын теориялық геометрияға да аса үлкен мән береді.

Әл-Фараби физика ғылымы бойынша да айтарлықтай ірі еңбек жазған, оның бір дәлелі ретінде жаратылыстану бағытындағы арнайы жазылған еңбектерін, көптеген шығармаларын айтуға болады. Ол өз дәуірінің материалдық және рухани мәдениетінің жетістіктерін жинақтап, прогрессивті философиялық жүйені құрды және сол арқылы әлеуметтік-философиялық, этикалық-эстетикалық, табиғи-ғылыми ой қазынасына құнды үлес қосты. Осы күнгі ғылым тарихының алдында тұрған қызықты мәселелердің бірі болып саналатын шығыс ортағасыр физикасына әл-Фараби физикасы жатады [4, 3 б.].

Әл-Фараби физикаға мынадай анықтама береді: «Физика – субстанция мен оған қатысты акциденцияны, яғни табиғи денелерді қарастырады. Ол денелерде пайда болатын қасиеттерді, сонымен қатар, берілген денелердің және оған қатысты акциденциялардың болу шарттарын түсіндіреді. Физика денелердің неден құралатынын және олардың өзара әрекеттесуін (акциденция үшін қажетті әрекеттесу) зерттейді. Бұл ғылым табиғи денелердің және акциденцияларының негіздерін береді» [4, 12 б.].

Яғни, әл-Фараби пікірінше, жаратылыстану немесе физика – табиғат туралы, оның ішінде негізгі қағидалары, бөліктері жайлы және табиғат денелеріне тән элементтердің өзара қарым-қатынасы мен байланысы туралы ғылым [5, 21 б.].

Акциденция – философиялық термин, бар болу жағдайы өздігінен жалғаспайтын нәрсе немесе бар болуын жалғастыру үшін өзге денені қажет ететін нәрсе. *Акциденция* – күйлер (бірігу, бөліну, қимыл, қимылсыздық), түстер, дәм және иіс ретінде «жисм» (дене) және «жауһарларда» (бөлшектенуге келмейтін бөлшек – атом) көрініс табады [6].

Жоғарыда айтылған ғалымның еңбегіне арқау болған терминдерді (бірігу, бөліну, қимыл, қимылсыздық, дене, бөлшектенуге келмейтін бөлшек) көпғасырлық зерттеулер нәтижесінде жүйеленген зат құрылысының молекулалық-кинетикалық теориясының негізгі үш қағидасынан байқауға болады:

- барлық денелер өте ұсақ бөлшектер – атомдар мен молекулалардан тұрады;
- молекулалар мен атомдар әр уақытта үздіксіз, тепе-теңдік күйі айналасында жылулық тербелісін жасайды;
- молекулалар мен атомдар өзара әрекеттеседі.

Молекулалардың атомдардан түзілетінін ескере келе, олар күрделі заттардың қасиеттерін сипаттайтынын физика ғылымын меңгерудің алғашқы сатысы 7-сыныпта (оқулық авторы Башарұлы Р. (2017) Жалпы білім беретін мектептің 7-сыныбына арналған оқулық. Алматы: Атамұра баспасы) қарастырамыз [9]:

1. Әртекті химиялық элемент атомдарының бірігуінен пайда болатын күрделі заттар (H_2O , $NaCl$, т.б.).

2. Біртекті химиялық элемент атомынан тұратын заттар (графит, алмаз, фуллерен). Бұл заттардың молекулалары тек бір ғана көміртек атомынан құралады, дегенмен олардың молекулалық құрылымының әртүрлі болуына байланысты түрлі қасиетке ие болады: фуллерен – сфера формасында орналасқан 60 көміртек атомынан тұратын молекула болса, алмаста көміртегінің әрбір атомы төрт өзге атоммен, ал графитте тек қана үш атоммен байланысқан. Сондықтан алмас ең қатты зат, графит өте жұмсақ зат ретінде танылады. Ал 8-сыныпта (оқулық авторы Н.А. Закирова, Р.Р. Аширов (2018). Жалпы білім беретін мектептің 8-сыныбына арналған оқулық. – Астана: Арман-ПВ баспасы) оқулықтың [10]: «Жылу құбылыстары» атты 1-тарауында

жылу құбылыстарының молекулалардың (атомдардың) қозғалысы мен өзара әрекеттесуіне, дене температурасының өзгеруіне және заттардың агрегаттық күйіне байланыстылығы туралы айтылады. Сондай-ақ, жоғарыда келтірілген деректер (наноматериалдарды алуға негіз болған, тек бір ғана химиялық элемент атомы және молекулаларынан тұратын минералдар) жаңартылған білім беру мазмұнына сәйкес, 2020 жылы «Арман-ПВ» баспасынан жарыққа шыққан Н.А. Закирова, Р.Р. Аширов авторлығымен жазылған жалпы білім беретін мектептің 11-сыныбының жаратылыстану-математика бағытына арналған «Физика» оқулығының «Нанотехнология және наноматериалдар» атты 11-бөлімінде кеңінен толықтырылып баяндалады.

Нанотехнология барлық өндірістік қызметтің жаңа парадигмасының дамуын ынталандырады, ол өзі өмір сапасын арттырудағы жаңа бетбұрыстардың көзі және постиндустриалды қоғамда көптеген әлеуметтік мәселелердің шешімі болып саналады [7, 11 б.]. Демек ұлы ғалымның осы бағытта жазған еңбегі ХХІ ғасыр басында нанотехнология дамуының негізі болды.

Эл-Фарабидің физика ғылымы бойынша жазған, ерекше орны бар еңбегінің бірі – «Вакуум туралы» деп аталады. Мұнда ол табиғатта вакуум (бостық) жоқ екенін ежелгі грек оқымыстыларында да сирек кездесетін тәжірибелерге (экспериментке) сүйенген логикалық қорытындылар арқылы дәлелдеуге тырысады. Бұл еңбегінде вакуум проблемасынан басқа да физиканың түрлі мәселелерін қарастырып, сол кездегі ғылымның деңгейіне сай шешім тауып беруге тырысады. Олардың ішінде түсірілген кернеу – күшке, қысымға байланысты ауа көлемінің ұлғаю немесе кішірею құбылыстарының заңдылықтары, ол күштің жан-жаққа берілуі және басқалар бар [8, 7 б.]. Фарабидің пікірінше, пайда болған кернеу ыдыстағы ауаның барлық бағытына бірдей беріледі де, осының нәтижесінде ауа көлемі ыдыстың барлық жағына бірдей ұлғайып, сол ыдыстың пішініне көшеді. Осы айтылған ғылыми көзқарас француз ғалымы Б.Паскальдың сұйық пен газ қысымы туралы жасаған мынадай қағидасымен мәндес келетінін байқауға болады: сұйыққа немесе газға түсірілген қысым барлық бағыт бойынша өзгеріссіз беріледі [9, 105 б.]. Осы еңбегінде ғалым жылу туралы айтқанда оның екі түрлі жолмен берілетініне тоқталады:

1. Қарастыратын денені ыстық денемен араластыру арқылы, яғни суға ыстық суды құйғанда болатын процесс.

2. Денені жылыту оны басқа ыстық денемен қоспағанда және араластырмағанда іске асады. Енді осы пікірді қазіргі оқулықтағы дереккөздерімен сәйкестендіріп көрейік:

Жылу берілу – энергияның қатты қыздырылған денеден азырақ қыздырылған денеге берілу құбылысы [10, 18 б.].

1. Температурасы әртүрлі суды араластырғандағы жылу мөлшерін салыстыру: ыстық судың берген жылу мөлшерінің салқын судың алған жылу мөлшерінен көбірек болатынын түсіну [10, 275 б.].

2. Бөлшектер бір-біріне жақын орналасқан сайын жылу берілу жылдамырақ болады, бірақ зат тасымалданбайды [10, 21 б.].

Эксперименттік әдістерге жақындау болған бұл трактаттан ғалымның жанашыл көзқарасын байқауға болады және трактат сол заманда физика ғылымының дамуына ықпал ете отырып, методологияға жаңа жол салады [4, 37 б.].

Шын мәнінде эл-Фараби физиканы Аристотельдің түсінігінде ұғынатын болса, Аристотель өзінің философиялық жүйесінде сол замандағы барлық ғылыми білімдерді біріктіре білген. «Метафизика» деген еңбегінің 6, 11, 13, 14-тараулары мен «Физика» атты еңбегінде Аристотель физика пәніне анықтама бере отырып, оның философиялық мәселелерін ашқан. Бұл ретте Аристотель математика заттардың сандық сипаттамасын қарастыратын болса, физика заттарға қозғалыс сипаты тән болғандықтан, олардың бастапқы күйін және қасиеттерін зерттейді деп есептейді. Сондықтан Аристотель физика ғылымын материямен және қозғалыспен байланыстырған [4, 11 б.].

Төмендегі кестеде Аристотель мен эл-Фарабидің физика мен математика туралы айтқан көзқарастарына салыстырмалы талдау жасалған (1-кесте).

Ғалымның ойынша, заттардың бар болуы туралы ұғым мен оның себебі бір ғылымның негізінде қарастырылып, ғылым салалары бір-біріне өте жақын болып әрі олардың аттары синонимді келеді. Мысалы, математикалық және практикалық астрономия, математикалық және дыбысқа негізделген музыка теориясы. Ал кейбір жағдайда бір ғылым екінші ғылымға, мысалы, оптика геометрияға, музыка арифметикаға байланысты анықталады [4, 12 б.].

1-кесте – Салыстырмалы талдау

<i>Физика мен математиканың байланысы туралы</i>	
Аристотельдің көзқарасы	Әл-Фарабидің көзқарасы
Материямен және қозғалыспен байланысты физиканы толығымен математикаландыруға болмайды.	Қозғалыс пен материяға байланысты ғылымдарды толық математикаландыруға болады.
Материалдық байланыстылықтарынан физикада математикаға қарағанда дәлдіктер аз болады.	Математикалық әдістердің қолданылуына шек қоюға болмайды.
Математикалық дәлдікті барлық жағдайға талап етуге болмайды.	Түйсінетін денелер мен заттардың кейбір күйлері адамның қалауы бойынша оларға математикалық қағидаларды қолдану үшін арнайы табиғи денелерді дайындау керек.
Математиканы материясы жоқ денелерге ғана қолдануға болады.	Кедергілерді жою үшін лайықты әдістерді таңдау қажет.
Математика табиғат туралы ғылымдарға дәл қолданылмайды.	Кез-келген физикалық шаманың математикалық объектісін жасау үшін, өзгерісінің өлшемін білу үшін, оған сәйкес шамаларды өлшеп, шаманы ауыстыра алатын санды таңдап алады, бұл символды түсінік арқылы математикалық әдіске пайдаланады.
<i>Физикалық теория мен эксперименттің байланысы туралы</i>	
Тәжірибелер мен жүйелі бақылауға мән бермеуге болады.	Эксперимент пен тәжірибенің орны жоғары бағаланып, шеберлікпен пайдаланылу керек (пайдаланған).

Жоғарыда келтірілген ғылыми көзқарастарға сүйенер болсақ, кез-келген ғылым дербес түрде дами алмайтынын анық байқауға болады. Басқаша айтқанда, кез-келген ғылым саласында даму болатын болса, ол тек пәнаралық интеграция есебінен ғана іске асатынына көз жеткіземіз. Яғни, пәндерді байланыстыра білу – ғалам туралы түсінік пен оның ішінде болып жатқан құбылыстар жайындағы таным-түсініктерді бір ортақ мақсатта жинақтай отырып, әрі қарай дамуға бағыттайды.

Зерттеуге негіз болған физика мен математиканың аса маңызды методологиялық мәселелері әл-Фарабидің «Мәселелердің түпкі мәні», Аристотельдің «Категориясына» түсініктеме және тағы да басқа философиялық еңбектерінде қарастырылады [4, 8 б.]. Сондай-ақ, әл-Фараби математик ретінде бір-біріне өзара тығыз байланысты ірі үш салада зерттеулер жүргізген. Олар:

– математиканы философиялық-әдіснамалық негіздеу мәселелері, яғни математика ғылымдарының пәнін, ретін, шығу тегін анықтау, жаратылыстану ғылымдарын математикаландыру жөніндегі ой-пікірлері мен қағидалары;

– сол кездегі теориялық математиканың кейбір тарауларын жасауға қатысу;

– математиканы табиғатты зерттеп-білуге, практика мұқтаждығын өтеуге қолдану [11, 65 б.].

Ғалымның бұл ойынан физика ғылымын меңгеру үшін алдымен математиканы білу қажет, одан соң математика заңдылықтарын физиканы оқып-үйренуде қолдана алуға машықтану керек деп түсінген абзал.

Осыған сәйкес Ы. Алтынсарин атындағы Ұлттық білім академиясы Ғылыми кеңесі ұсынған 2020-2021 оқу жылында Қазақстан Республикасының білім беру ұйымдарында оқу процесін ұйымдастырудың ерекшеліктері туралы әдістемелік нұсқау хатта былай деп көрсетілген: 7-сыныпта физиканы сапалы меңгеру 6-сыныпта математикадан, 7-сыныпта алгебра және геометриядан алған білімдеріне негізделетініне назар аудару қажет. Физикалық заңдарды тұжырымдау мен оларды түсіндіруде математикалық аппаратты қолдануына назар аударылады. Математиканың физикамен байланысының айқын мысалының бірі – физикалық шамалар арасындағы функциялық тәуелділікті және функциялар графигін пайдалану.

Физика мұғалімі білім алушылардың есептеу шеберліктері мен дағдыларын ойдағыдай қалыптастыру мақсатында алдын ала математика мұғалімдерімен бірігіп, ортақ әдістерді қолдануға болады.

Фарабидің математиканы оқыту мәселелеріне қатысты аса құнды ой-пікірлері «Евклидтің бірінші және бесінші кітаптарының кіріспелеріндегі қиыншылықтарға түсіндірмелер» атты трактатында кездеседі [12]. Сондай-ақ, ғалым өзінің бұл еңбегінде *физика пәнінің математика пәнінен ерекшелігін* былай деп көрсетеді: *«Математикада денені елестету үшін оны сапалық түрімен де және сапалық жағынан бөлек басқа жағдайында да қарастыруға болады; ал физикада бұлардың барлығы сапалық түрімен бірге де қарастырылады»*. Физика және математика

пәндерінің дәл осындай анықтамасы кейіннен Әбу Әли Ибн Синада кездеседі. Ибн Сина әл-Фарабидің ілімін және философиясын жалғастырушы. Ол былай деп жазады: «*Физика дегеніміз – дененің күйін материядан бөлмей, бірге зерттейтін ғылым, ал математика дегеніміз – болмысы материямен бірге қаралатын дененің күйі туралы ғылым, бірақ пайымдау арқылы денені материядан бөлек те қарауға болады*» [4, 12 б.].

Сонымен қатар, әл-Фараби ғылымның мынадай салаларын ашып көрсеткен:

1. тіл туралы ғылым;
2. логика;
3. жаратылыстану және ал-илахи (метафизика) ғылымы;
4. заттардың сандық және кеңістіктік байланыстарын зерттейтін математика. Ғұлама оны мынадай үлкен топқа бөледі: арифметика, геометрия, оптика, жұлдыздар туралы ғылым, музыка, ауырлық туралы ғылым, механика, содан кейін осы ғылымдардың барлығының тақырыбы мен мағынасын талдайды [13,12 б.].

Ғалым еңбектерінің басым көпшілігін физика, математика ғылымдары туралы жазған. Бұған әл-Фарабидің төменде келтірілген еңбектерінің біразы жақсы дәлел бола алады:

1. Ғылымдардың тізімі.
2. Геометриялық фигуралардың нәзіктігі туралы табиғи сыр мен өнерлік әдістерінің кітабы.
3. «Арифметикаға кіріспе» кітабынан таңдамалылар.
4. Евклидтің бірінші және бесінші кітабының кіріспесіндегі қиыншылықтар және оларға түсініктемелер.
5. Птолемейдің «Алмагестіне» түсініктеме.
6. «Алмагестке» қосымша кітабы.
7. «Жұлдыздар бойынша болжаудың дұрысы мен терісі» туралы трактат немесе «Ғылым мен өнердің жетістігі туралы трактат».
8. Ғылымдардың шығуы туралы.
9. Вакуум туралы трактат.
10. Физиканың негізі туралы.
11. Кеңістік және мөлшер туралы.
12. Аспан күмбезінің үздіксіз қозғалысы туралы кітап.
13. Астрологияға түсініктеме.
14. Күш туралы кітапқа түсініктеме.
15. Шекті және шексіз күштер туралы кітап.
16. Бірғақты соққылар туралы.
17. Заттың, субстанцияның және табиғаттың мәнін ашуға жәрдем беретін кітап.
18. Бөлік туралы және бөлікке бөлінбеу туралы кітап.
19. Оптика.
20. Шоқжұлдыздар кітабы немесе шоқжұлдыздар туралы мақала.
21. Ілгіштер, ыдыстар және т.б. үшін икемді жабдықтар.
22. Геометриялық ғылымнан мақсатқа жету [4, 7 б.].

Яғни, әл-Фараби өз заманында белгілі философ, математик әрі физик болды. Әл-Фарабидің Ибн Синаға және басқа Орта Азиялық оқымыстыларға тигізген ықпалын айта келіп, В.Н. Терновский былай деп жазады: «Ибн Синаның табиғаттану ғылымындағы, мәселен, медицина, математика, физика, астрономия, геология және т.б. саласындағы ашқан ғылыми жаңалықтары Рази, Фараби, Бируни аттарымен тығыз байланысты» [4, 9 б.]. Ғалым-энциклопедист математиканы, табиғаттануды, тіл білімін және саясатты қамтитын өзінің атақты «Ғылымдарды кластарға бөлу» атты еңбегінің алғашқы философиялық тарауында физиканы теориялық ғылымның төртінші бөліміне жатқыза отырып, аталған ғылымның мәнін анықтайды.

Қорытынды. Әл-Фараби Аристотельдің философиясын әрі қарай дамыта отырып, қазіргі ғылым саласына өзек болатын дербес ғылыми еңбектер жазып, өшпес мұра қалдырған ғұлама ғалым болды. Ұлы ойшылдың зерттеулері мен ғылымға қосқан өлшеусіз үлесі болашақ ұрпағымыздың саналы түрде ғылыми-дүниетанымын қалыптастыру үшін пайдалы ақпарат көзі болары анық. Ғылыми дүниетанымды қалыптастыру – оқытылатын барлық пәндерді қамтитын күрделі процесс. Бұл процесті іске асыруда әлемнің біртұтастығын сипаттайтын жаратылыстану-

математикалық пәндердің алатын орны ерекше. Ал математика мен физика ғылымдарының өзара байланысы әртүрлі көзқарастық сипатқа ие болғанымен, ең алдымен олар зерделейтін жалпы пәндік саланың бар болуы аса маңызды. Осы тұрғыдан алғанда әл-Фарабидің аталған ғылым салалары бойынша жазған еңбектерінің маңызы зор. Дегенмен, ғалымның физика мен математика туралы жазған еңбектерінің аз зерттелгенін байқауға болады. Осы орайда ғалымның математикалық мұрасын зерттеген А.Көбесовтың: «Әл-Фараби трактаттарының метафизикаға арналған және соған қатысты мәселелерге жасалған шолу – Қазақстандағы фарабитану дамуының келешегін көрсетеді» деген пікірі бүгінде келешек ұрпаққа терең ой салады және ғұламаның зерттеуді қажет ететін бірқатар еңбектерінің бар екенін аңғартады.

Жалпы айтқанда, «әлемнің екінші ұстазының» жазған еңбектері ғылымға жаңалық әкелетін тарихи құнды деректер, демек бұл еңбектер ғылымның барлық саласына арқау болып, бұдан кейін де тың жаңалықтарды ашуға серпін берері хақ. Сондай-ақ, Елбасымыз Нұрсұлтан Назарбаев халқымыздың ата тарихымыздан тәлім ала отырып, ұлы бабаларымызды әркез ұлықтай білгенін айтып, бізге қалдырған мұралары «Рухани жаңғырудың» маңызды бағыт-бағдарына айналуы қажет деген болатын. Ең бастысы, әрбір ашылған дерек көздері болашақ ұрпақ санасын оятуға негіз болып, еліміздегі ғылымның қарыштап дамуына пайдалы болуында.

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МЕТОДИЧЕСКИЕ ПРОБЛЕМЫ ФИЗИКИ И МАТЕМАТИКИ В РАБОТАХ АЛЬ-ФАРАБИ

Аннотация. В 2020 году на уровне ЮНЕСКО отмечается 1150-летие Абу Насира аль-Фараби (870-950) – всемирно известного деятеля всех областей науки, родившегося в Отыраре, являющегося в средние века центром науки, образования и культуры. По сей день не утратили свою актуальность идеи великого ученого, сумевшего в свое время на высоком уровне проанализировать труды Аристотеля и Платона, ставших великими философами своего времени. Через свои научные труды они сформировали новую систему мышления и подняли интеллектуальный уровень научного мировоззрения на более высокий уровень. Аль-Фараби знал, что одна из главных целей науки – служить на благо человечества и приносить реальную пользу развитию цивилизации. Его произведения переведены на многие языки и признаны во всем мире.

Благодаря усилиям казахской интеллигенции, наследие ученого было возвращено в нашу страну в 60-70-е годы 20 века. С тех пор была проделана большая работа по изучению трудов великого ученого, а именно – с 1978 по 1993 год опубликовано около четырехсот работ по различным направлениям фарабоведения на казахском и русском языках, с 1991 по 2012 год – 85 монографий, с 2000 по 2009 гг. – материалы 38 научно-практических конференций, а с 1992 по 2012 годы опубликовано 225 научных статей. В текущем году ожидается еще большее увеличение количества исследований работ ученого. В трудах великого мыслителя вопросы математики и преподавания математики занимают особое место. По словам иракского ученого Омара Фарруха, аль-Фараби является автором около 70 работ по геометрии, астрономии, музыке, календарям и измерительным приборам. По мнению Фараби, математика углубляет знания человека и оказывает непосредственное влияние на развитие других наук, а физика – это наука о природе, ее основных принципах и частях, случайностях с участием естественных тел, взаимодействии природных данных и элементов, которые имеют непосредственное влияние на развитие науки. Поэтому эти две науки, являющиеся стержнем естественно-научного образования, требуют непрерывного дополнения и развития. Важнейшие методологические проблемы физики и математики рассмотрены в труде аль-Фараби «Суть проблемы», в комментариях к труду Аристотеля «Категория» и других философских трудах. Идея универсального применения математики в астрономии, механике, музыке, различных приложениях (арифметике и геометрии) показывает тесную связь математических понятий и методов с реальным миром. Также из педагогических трудов ученого можно заметить, что проблемы образования и воспитания должны быть тесно связаны. Он считал, что «человеку сперва нужно давать воспитание, а не образование, образование без воспитания – злейший враг человечества. Это навредит его жизни в будущем». Обогащая и пересматривая научные и философские труды ученого, мы видим, что он был одним из величайших личностей в истории педагогики. Поэтому в данной статье дан обзор ряда работ аль-Фараби в этой области и описаны методологические аспекты междисциплинарного общения в преподавании физики и математики.

Ключевые слова: аль-Фараби, физика, математика, наука, межпредметная связь, методика.

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METHODOLOGICAL PROBLEMS OF PHYSICS AND MATHEMATICS IN THE WORKS OF AL-FARABI

Abstract. This year, at the UNESCO level, the 1150th anniversary of Abu Nasir al-Farabi (870-950), a world famous figure in all fields of science born in Otyrar, is the center of science and education, culture in the Middle Ages. The idea of the great scientist, who at one time was able to analyze at a high level the works of Aristotle and Plato, who became the great philosopher of their time, has not lost its relevance to this day, having formed a new system of thinking through his scientific works and raise the intellectual level of the scientific worldview. He knew that one of the main goals of science was to serve the good of mankind and bring real benefits to the development of civilization. His works have been translated into several languages and recognized throughout Europe. Thanks to the Kazakh intelligentsia, the heritage of the scientist was returned to our country in the 60-70s of the 20th century. Since then, a lot of work has been done to study the works of the great scientist, namely: from 1978 to 1993, he published about four hundred works in various areas of parabolology in the Kazakh and Russian languages, and from 1991 to 2012, including 85 monographs from 1998 to 2012, materials of 38 scientific and practical conferences from 2000 to 2009, from 1992 to 2012 published 225 scientific articles. And this year it is expected to further increase the research of the scientist's work. In the works of the great thinker, questions of mathematics and the teaching of mathematics also occupy a special place. According to Iraqi scientist Omar Farrukh, al-Farabi is the author of about 70 works on geometry, astronomy, music, calendars and measuring instruments. According to Farabi, mathematics deepens human knowledge and has a direct impact on the development of other sciences, and physics is the science of nature, its basic principles and parts, chances involving natural bodies, the interaction of natural data and elements that have a direct impact on the development of science. Therefore, these two sciences, which are the core of natural science education, require continuous addition and development.

The most important methodological problems of physics and mathematics are considered in "The Essence of the Problem" by al-Farabi, Aristotle's commentary "Category" and other philosophical works, the idea of the universal application of mathematics in astronomy, mechanics, music, various applications (arithmetic and geometry). shows the close connection of mathematical concepts and methods with the real world.

Also, from the pedagogical works of the scientist, one can notice that the problems of education and upbringing should be closely related. He said that "a person must first be given upbringing, not education, education without upbringing is the worst enemy of mankind. It will harm his life in the future".

Enriching and revising the scientific and philosophical works of the scientist, we see that he was one of the greatest personalities in the history of pedagogy. Therefore, this article provides an overview of a number of Al-Farabi's works in this area and describes the methodological aspects of interdisciplinary communication in teaching physics and mathematics.

Key words: Al-Farabi, physics, mathematics, science, interdisciplinary communication, method.

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of the Republic of Kazakhstan, Almaty, Kazakhstan.E-mail: tmalgazhdarova@bk.ru**NATIONAL MODEL OF EDUCATION
IN THE REPUBLIC OF KAZAKHSTAN AS THE KEY
TO REALIZE THE NATIONAL IDENTITY**

Abstract. This article presents new education system in modern Kazakhstan, which is being formed, focused on the world educational space in the conditions of globalization. This process is accompanied by significant changes in pedagogical theory and practice. The transformation in the education system of Kazakhstan, as reflected in the Law of the Republic of Kazakhstan “On education”, “State Program of Education Development of the Republic of Kazakhstan for 2016-2019 years”, responsible include the entire teaching community in the process of creating of new model of education in Kazakhstan. Analyzing the practice of education reform in the different countries of the world, we can identify several key points that will contribute to changes in the education system of the XXI century: paying special attention to the higher education; development of each student, in accordance with their attitudes and abilities, individualization and differentiation of learning, development of critical thinking, the ability to reflexive assessment of their own achievements; training in conditions of inequality of starting positions of students (social, language, religious); development of students’ self-realization skills, self-study, study of motivation issues; changes in the approach to evaluating educational achievements, wider use of criteria-based assessment, changes in the content approach to summative assessment and its goals; using new approaches in teaching and learning; changing the vision of the professional development of leading teachers. All these key directions are reflected in the content of the republic’s education renewal. There is the change in the educational paradigm, offers the variety of the educational content and pedagogical technologies, new modern pedagogical concepts and ideas.

Key words: national education model, curriculum, learning strategies, traditional learning methods, new learning methods, monitoring students’ knowledge, critical thinking skills, national identity, teacher status, self-assessment.

The relevance of the topic. If the Soviet high school focused on the knowledge paradigm, the Kazakh high school relies on the development of functional literacy of the students. This means that today young people should be able to live with people of other cultures, languages and religions, be fluent in languages and new media. Therefore, the content of education is strengthened by the personal and practical orientation. Practical-oriented materials have been introduced into the programs and textbooks [1]. The Strategy of the Development of the Education System of Kazakhstan is focused on becoming one of the top 30 countries in the world, to be competitive and carry out the international standards of education. The Institute’s staff has studied international experience in the field of education in such countries as Singapore, South Korea, Great Britain, France, USA, Australia, and Russia. The best methods and technologies of these countries are successfully implemented in the educational process. The science of adult education says that they are interested in the issues, occur in their professional activities. The system of professional development and training should focus on their solutions; transfer those competencies in the practical activities of the scholar.

Dialog interaction involves encouraging students to participate in the problem-setting and solving, activating their learning activities. The “craft” of the teacher in this situation consists in the ability to establish communication, organize direct feedback. It can be figuratively compared with the circulatory

system of the living organism. The task of the teacher is to make rational use of the available potential of the student [2, p.11].

There are three main dialog modes: closed, restricted and open. The dialog mode is called closed, if the answer to this question is assumed to be unambiguously affirmative or negative. Usually in this mode, questions such as “do you agree...”, “is it true...” and so on are formulated. They create tension in communication, as they limit the space for the response, direct the thoughts of the interlocutor, and have powerful suggestive effect. The dialog mode is called restricted, if the question you are asking is accompanied by the list of possible answers and the suggestion to choose the correct one. The dialog mode is open, if there are no restrictions on the answer, other than the information stated in the question.

The ability to ask the questions has the beneficial effect both on the person, who asks them and on those, to whom they are addressed. B.C. Stepin found that when the students were asked their friends the leading questions, they understood the new learning material better, than the students, who did not ask such questions [3]. The study of the text is more effective, when correctly posed the questions, and then the answers reveal the degree of understanding of the material. Questions form the system of reference points, which is advisable to use, when solving problems, since in this case the approach of the students to study of the material changes. The experience gained in asking questions will allow the students to realize the knowledge with serious work that requires a lot of concentration. Perhaps, these lectures will open them the joy of learning and the impetus for the reflection.

New approaches in any field of activity, on the one hand, cause confusion among skeptics, on the other hand, provide tremendous opportunities for creativity, innovation and scope of activity, which, in the end, brings real positive results. In terms of updating the content of education is implementing new methods of teaching and upbringing, development of new methods and means of pedagogical activity, introduced amendments and additions to legislative documents, updated educational programs and textbooks [4]. All this, of course, makes new demands on the development and improvement of the professional competencies of teaching staff, because the goals and methods of pedagogical activity, work within the framework of an innovative approach to teaching, software and methodological support of the educational process, methods and forms of evaluating students' educational achievements are changing.

In this process, it is very important to refract the view of updating the content of the teacher's education, since the subsequent introduction of new programs and the effectiveness of training depend on it [5]. Of course, this is not easy for many, because the old and updated programs differ in many ways. We are used to the existing system of teaching, despite some innovations, generally remained the same as 20-30 years ago. There is following model:

- training is based on new curriculum that is radically different from the old one;
- instead of the traditional assessment system, criteria-based assessment model is being introduced;
- new types of planning are applied: long-term, medium-term, short-term;
- the resource support of the lesson is changing, in addition to the traditional ones, Internet resources, audio, video materials, etc. are used.

If the traditional curriculum is based on the list of grammatical material, the updated curriculum is based on the result of learning, i.e. the expected results, which are presented in the form of the system of learning goals. When it is clear that the student should know and be able to, it is more effective to ensure the development of the curriculum.

The traditional goal of the program is the formation of theoretical knowledge. Purpose of the new program is the development of skills of speech activity: listening, speaking, reading and writing, as well as functional literacy. In fact, the student must first understand texts of various styles and genres correctly, as well as be able to compose texts in the modern literary language. The study of grammatical rules takes up most of the lesson, but in practice it does not play major role, because ignorance of certain rules usually does not affect the understanding of the text. It is more important to do more reading and interpretation of texts, their independent composition [6].

The content of the courses within the framework of updating the content of education is the study of active teaching methods, features of criteria assessment, development of short-term plans, modeling of modern lessons, etc. All seminars are held in the form of practical classes and trainings. In the course of practical work, micro-teaching, students learn to make effective tasks in accordance with the goals and criteria of training, develop descriptors for them, design short-term plan, and teach.

Critical thinking means that the teachers make the experiment on themselves by working individually, in pairs, or as the group. Qualitative change in the education is impossible without forming new view of the teacher's place and role in the educational process, new attitude to the student. The teacher must understand the essence of new changes, the meaning of new quality of education and new educational results. During the classes, discussions and exchange of views on the updated program, the degree of novelty and democracy of the learning process is discussed. In the process, many teachers change their beliefs, rethink themselves, confirming the words of Confucius "Who understands the new, cherishing the old, he can be the teacher". Teachers note the positive aspects of the content of the courses and new program, which are aimed to the students' critical thinking, creative perception of knowledge, independence, the implementation of their needs, increasing motivation to study subjects.

Updating the content of education is rapidly gaining momentum. The modern teacher has the great responsibility for the quality implementation of the updated content of education. He will have to implement the acquired knowledge in the course of training, using completely new approaches to learning. This requires competence, flexibility, the ability to perceive and accept innovations, and to be ready for the change [7].

Today it is impossible to imagine that somewhere else there are countries, whose people have only one language. Knowledge of several languages, in fact, opens the window into the large global world with its colossal flow of information and innovations. Reasonable, competent and correct introduction of trilingual education will enable us to be communicative, adapted in any environment. No one will doubt the wisdom of the people: "How many languages do you know, so many times you are the man". The modern person today is characterized as the person, who is fluent in two or more languages, aware of belonging to his own national culture, understanding and respecting the identity of the interlocutor's culture, who is able to participate in the intercultural dialogue.

In order to ensure the achievement of an international standard level of proficiency in several foreign languages, the concept of multilingual education was formulated. It assumes the formation of multilingual personality with the certain selection of content, the principles of instruction, the development of the special technology, dictionaries and educational methodical literature, which would indicate the similarities and differences. In the new technology of teaching it is necessary to ensure the identity of the content of instruction in the second and third languages, beginning with universal linguistic phenomena, to pass to the language specific. Multilingual personality is the model of "person viewed from the standpoint of his willingness to produce speech acts, create and accept works" (statements and texts) in three or more languages [8].

It is well known, that the educational system in Kazakhstan is conducted in two languages - Kazakh and Russian and consists of several levels of state and private educational establishments: infant schools, elementary (or primary) schools, comprehensive schools, colleges and academies. The Constitution of the Republic of Kazakhstan fixes the right of the citizens of the republic on free-of-charge secondary education, which is obligatory. The Constitution prohibits any discrimination on the basis of language or ethnicity and guarantees equal rights in education regardless of nationality. Children start school at the age of 7 and finish at 17. As the rule the child attends the school, located in the neighborhood. However, in big cities there are so-called special schools, offering more in depth studies of the major European languages (English, French, and German) or the advanced courses in physics and mathematics and children, attending one of this may have to commute from home.

The first stage of education in Kazakhstan is elementary (or primary) school for grades one through four. The second is secondary school for middle grades from five through nine. Upon graduation from secondary school students are given the choice of either continuing to attend the same school (high school - senior grades 10-11) or entering the vocational or technical school. Both of these schools are meant to provide one, along with the certificate of secondary education with the number of useful skills (e.g. those of an electrician, technical or computer operators.) Having completed one's secondary education, one can either become the part of work force or go on college (institution of higher learning-Institute).

The basis for the need to prioritize the native language of culture in general, which, while actively adapting the languages of other peoples, is strengthened in its richness and uniqueness, is the methodical principle as the conceptual solution to the social and philosophical problems of the humanization of the multilingual educational space of the modern world [9, p.39].

To be admitted to the institute one has to pass the series of oral or written tests. Students may get free-of-charge higher education in the higher educational institution and the limited number of the state grants is given each academic year on the competitive basis. Some college departments (law, journalism, foreign language-especially English) have dozens of applicants for one prospective student's position. The system of higher education prepares highly skilled experts on economy, transport, agriculture, medicine, languages and others. Today the young people of Kazakhstan have the opportunity to choose and acquire various types of education and build their lives according to their ambitions.

Currently, foreign languages are becoming one of the main factors of both socio-economic and general cultural progress of the society. The goal of managing the educational process in terms of trilingual education can be formulated as improving management effectiveness. It leads to more effective mastering of knowledge, skills and abilities and allows to intensify the learning process of the foreign language and to achieve for relatively small amount of hours of high results both in the language plan, and in terms of co-management and self-management of the learning process [10, p.151].

Education is of the utmost importance in many Asian cultures, and Kazakhstan is no different. For families and for the nation, education has been and remains the priority. The biggest grievance of teachers in modern Kazakhstan is the profession's low salary. Young high school graduates choosing their professional career paths are generally not interested in low-income job with long hours. Anyone who wants to get higher chances for successful employment and professional career should have, at least, the sufficient command of one foreign language.

Teachers are really important in the society and they need to be valued as such. It is not just about salaries; it is about working conditions and expectations. In the Great Britain the teachers have fought with successive governments to improve the conditions of service, including holidays and work life balance. The students see the teachers working long hours for limited pay and this can put them off the career in teaching. This is a shame, because we need the brightest and the best to educate the next generation.

Kazakhstan, at only 30 years old, is still youngster of the nation and can't be expected to graduate overnight. The new State Program Education 2020 is expected to boost the quality of education in the country and resolve some of the complex financial issues surrounding education reform. The program is focused on providing equal access to educational services through the introduction of per capital financing mechanism that is intended to increase the efficiency of budget spending and help improve access to quality education for the whole population.

The truth is simple: the world is open to those, who can manage new knowledge through mastering Kazakh, Russian and English languages. Undoubtedly, using innovative methods in lessons, forming interest in learning, introducing new technologies, teachers activate language competence and thereby contribute to the effectiveness of mastering languages. Knowledge of the languages reveals great prospects for them in training, further work: such as studying abroad, training in foreign countries, and free movement in the world space. The tri-unity of languages is the key to the successful education of the youth of Kazakhstan, its reliable stronghold.

Kazakhstan has the universities, academies, institutes, higher schools and higher colleges. There are three main levels: basic higher education that provides the fundamentals of the chosen field of study and leads to a bachelor's degree; specialized higher education, after which the students are awarded with the specialist's diploma; and scientific-pedagogical higher education, which leads to the master's degree. Postgraduate education leads to PhD level and doctor of sciences degrees. New laws on education have led to the development of the private education sector and several private institutions have been licensed.

There are still many schools in Kazakhstan, where Russian is spoken as the first language, although with each year since independence, more and more Kazakh-language schools were open. According to the Kazakhstan Statistics Agency, in the beginning of 2012 there were 3,843 Kazakh schools and 1,508 Russian schools. Thanks to the multi-ethnic and multicultural policy, Kazakhstan is also home to 58 Uzbek-language schools, 14 Uyghur-language schools, eight English-language schools and two Tajik-language schools.

The development of the Program and its practical implementation is impossible without studying international best practices of the foreign language learning and teaching subjects in the foreign language. As we wrote before, Kazakhstan, as the former Soviet country, has implemented the most liberal and unique language policy, based on the democratic values and the principles of tolerance and humanity. The

study of international practice allows using international expertise and research findings for the development of bilingual, multilingual (polylingual) education in the context of trilingual education policy in the Republic of Kazakhstan.

Materials and methods of research. The research methodology is based on the dialectical method, freed from materialistic or idealistic monism and based on the pluralistic, multilinear interdependence of all social phenomena. We also used the method of dialectical interdependence and interaction of methods: theoretical and empirical, historical and logical, induction and deduction in the study of the educational problems in our country. The theoretical basis is based on existing theoretical and empirical publications. In this article were used abstract-logical, analytical, monographic economic-statistical, sociological, expert methods, as well as the methods of economic-mathematical analysis, modeling and forecasting.

Research results. The variety of tertiary institutions attend to Kazakhstan's higher education needs, including universities, academies, institutes, higher schools and colleges. Secondary school teachers complete 5-year specialist diplomas at university too. The nation's 2 top universities are Kazakh National University named after al-Farabi in Almaty and Eurasian National University named after L.N. Gumilev, located in Nur-Sultan. Eurasian National University has over 20,000 enrolled students, supported by 2,500 faculty staff, and has embarked on an ambitious expansion program. The education system in Kazakhstan is undergoing continuous modernization and reforms due as it needs to adapt to the changing socio-economic conditions in the country and the world. Education is recognized as one of the main priorities in the long-term strategy "Kazakhstan – 2050", which is reflected in the number of basic documents and government programs. At the present stage of the development the Kazakhstan education and science system strives to make high-quality education accessible for every citizen. The State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020 and the National Export Strategy of Kazakhstan for 2018-2022 are being implemented, the strategic development plan of Kazakhstan has been updated and extended until 2025, some changes and additions have been made to the Law on Education (2007, 2015), etc.

Conclusion. In the conclusion we would like to note, that in accordance with the requirements of the Bologna process, there are three-tier model of skilled staff, training in Kazakhstan: Bachelor's-Master's-PhD programs, based on the system of academic credits. At the postgraduate level, according to the international experience, postdoctoral programs have been introduced to develop the scientific career of Kazakh scientists. Almost 30% of all students, enrolled in Kazakhstan universities, receive state educational grant. In the 2018-2019 academic years, 20,000 grants were additionally allocated, besides 53,000 grants that are provided annually. However, the Ministry of Education and Science of the Republic of Kazakhstan significantly increased the requirements for Kazakh universities, depriving them of licenses for unclaimed majors, which led to the profilization of the universities in the main areas of education. High demand for studying abroad is supported by the state educational policy. Remote forms of the professional development and the use of the digital learning technologies in the process of professional development are widely developed due to the fact, that the XXI century is not only the age of the digital technologies, but also the development of the skills for independent search for new knowledge.

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Қазақстан Республикасы Ұлттық қауіпсіздік комитетінің Шекара қызметі академиясы, Алматы, Қазақстан

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ ҰЛТТЫҚ БІЛІМ БЕРУ МОДЕЛІ – ҰЛТТЫҚ БІРЕГЕЙЛІКТІ ІСКЕ АСЫРУДЫҢ КІЛТІ РЕТІНДЕ

Аннотация. Жаһандану дәуірінде білім беру елдің бәсекеге сәтті қатыса алатындығын қамтамасыз етудің жалғыз тиімді, ұзақмерзімді стратегиясы болып саналады. Сондықтан жаһанданудың қазіргі дәуірінде әрбір ел өзінің ұлттық бірегейлігін сақтауға тырысатын білім берудің жоғары сапасын жасауы қажет. Қазіргі уақытта білім беру әлемде экономикалық өсу мен азаматтардың әл-ауқатын көтеру үшін маңызды екендігі мойындалды. Бүгінде білім беру жүйелерінің маңызы артып, болашақ ұрпаққа қандай білім беретіндігі туралы мәселе қайта қаралды немесе қайта қаралып жатыр. Сонымен қатар, «XXI ғасырда табысты болу үшін болашақ мамандар нені үйренуі керек?» және «Бұл оқытудың ең тиімді әдісі қандай?» деген мәселеге жауап

ізделуде. Бұл мәселелер оқу бағдарламасымен және оқу бағдарламасын жүзеге асыруда қолдануға ұсынылған әдістемелермен тығыз байланысты. Аталған бағытта Қазақстанда қазіргі заманның жаһандық сын-қатеріне жауап беру үшін тиісті жұмыстар атқарылды. Оқу бағдарламалары, білімді бағалау, оқулықтардың ұлттық стандарттарына және оқу үдерісінің сапасына байланысты негізгі білім беру құндылықтары мен мақсаттары жалпы білім беру деңгейінің жетістігін арттыруды, сондай-ақ инновациялар мен оқытудың озық технологиялары үшін қажетті дағдыларды дамытуды, жоғары оқу орны бағдарламасы арқылы ұлттық бірегейлікті растау мен іске асыруды және неғұрлым кең халықаралық тәжірибемен өзара ықпалдастықты қамтиды. Жаңартылған білім беру бағдарламасы мен бағалау жүйесін енгізу – аталған мәселелерді шешуге бағытталған шаралардың бірі. Барлық пән бойынша жаңартылған оқу бағдарламасы осы үдеріске енгізілген және мәселені шешудің қозғаушы күші болып саналады. Ғылыми-әдістемелік жұмыстың тұтастығы әдістемелік қамтамасыз ету шаралары, іс-шара, іс-шара жүйесі ретінде мамандарды оқытудың келесідей белгілі бір антропоцентрилік функцияларын қамтамасыз етуі керек: жұмыс деңгейін тұрақты жетілдіруге қолдау көрсету және жәрдемдесу, әлеуметтену және ынталандыру, инновацияларды енгізуге дайын болу, өзгермелі жағдайға мобильді бейімделу – мемлекетіміздің қалыптасуы мен дамуының қайнар көзі. Қазіргі Қазақстанда білім берудің өзіндік ұлттық моделін қалыптастыру білім беру парадигмасының өзгеруімен қатар жүреді, ол білім, біліктілік және дағдыларды емес, білім алушының жеке басын, тұлғалық қасиетінің білім беру арқылы дамуын бірінші орынға қояды. Қазақстан Республикасында қабылданған «Қазақстан Республикасында білім беруді және ғылымды дамытудың 2016-2019 жылдарға арналған мемлекеттік бағдарламасы» бірінші кезекте білім беру сапасын арттыруды, ұлттық стандарттарды әлемнің озық елдерінің білім беру стандарттарымен үйлестіруді көздейді. Білім беру сапасын жақсарту үдерісінің органикалық бөлігі педагогикалық кадрларды даярлау және олардың біліктілігін жүйелі түрде арттыру болып саналады, өйткені білім беру жүйесінің өзі, өз кезегінде, уақыттың тиісті қиындықтарына жауап бере алатын кадрлық әлеуетке мұқтаж. Осыған байланысты білім беру ұйымының жұмыс істеу жағдайы педагог мәртебесін арттыруға бағытталған мемлекеттік саясатқа сәйкес стратегиялық тексерілген басқару әдісіне және ғылыми-әдістемелік негізделген сүйемелдеуде жүзеге асырылуы тиіс.

Түйін сөздер: білім берудің ұлттық моделі, оқу бағдарламасы, оқыту стратегиясы, оқытудың дәстүрлі әдістері, оқытудың жаңа әдістері, оқушылардың білімін тексеру, сыни ойлау дағдылары, ұлттық бірегейлік, педагог мәртебесі, өзін-өзі бағалау, өзін-өзі дамыту.

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НАЦИОНАЛЬНАЯ МОДЕЛЬ ОБРАЗОВАНИЯ В РЕСПУБЛИКЕ КАЗАХСТАН КАК КЛЮЧ К РЕАЛИЗАЦИИ НАЦИОНАЛЬНОЙ ИДЕНТИЧНОСТИ

Аннотация. В эпоху глобализации образование является единственной эффективной долгосрочной стратегией обеспечения того, что страна может успешно участвовать в подобной конкуренции. Поэтому в нынешнюю эпоху глобализации, когда каждая страна старается сохранить свою национальную идентичность, необходимо высокое качество образования. В настоящее время во всем мире признана существенная важность образования для экономического роста и благосостояния граждан. Сейчас пересмотрены или же на данный момент пересматриваются образовательные системы на предмет того, какое образование они предоставляют для своих будущих поколений. При этом были заданы ключевые вопросы, такие как: «Чему действительно должны учиться будущие специалисты для того, чтобы быть успешными в XXI веке?» и «Что является наиболее эффективным способом обучения этому?». Эти вопросы тесно связаны с учебной программой и предлагаемыми методиками, используемыми при реализации учебной программы. В этом направлении в Казахстане уже была проделана соответствующая работа, чтобы ответить на глобальные вызовы современности. Ключевые образовательные ценности и цели, связанные с национальными стандартами учебных программ, оценки, учебников и качества учебного процесса, включают повышение достижений общего уровня образования, а также развитие навыков, необходимых для инноваций и передовой технологии обучения, подтверждения и реализации национальной идентичности через вузовскую программу и взаимодействие с более широким международным опытом. Внедрение обновленной образовательной программы и системы оценивания является одним из действий, предпринимаемых для решения данных задач. Обновленная учебная программа по всем предметам включена в этот процесс и является движущей силой решения данной задачи. Целостность научно-методической работы является важнейшим условием, где методическое обеспечение как система мер, действий, мероприятий должна обеспечивать определенные антропоцентрические функции обучения профессионалов: поддержка и содействие устойчивому совершен-

ствованию уровня выполнения работы, социализация и мотивация, готовность к внедрению инноваций, мобильную адаптивность к изменяющимся условиям становления и развития нашего государства. В современном Казахстане формирование собственной национальной модели образования сопровождается изменением образовательной парадигмы, которая выдвигает на первое место не знания, умения и навыки, а личность обучающегося, ее развитие посредством образования. Принятая в Республике Казахстан «Государственная программа развития образования и науки Республики Казахстан на 2016-2019 годы» предполагает, в первую очередь, повышение качества образования, гармонизацию национальных стандартов с образовательными стандартами передовых стран мира. Органичной частью процесса совершенствования качества образования является подготовка педагогических кадров и систематическое повышение их квалификации, так как сама система образования, в свою очередь, нуждается в кадровом потенциале, способном ответить соответствующим вызовам времени. В связи с этим функционирование организации образования должно осуществляться на стратегически выверенном управлении и научно-методически обоснованном сопровождении в соответствии с государственной политикой, направленной на повышение статуса педагога.

Ключевые слова: национальная модель образования, учебная программа, стратегии обучения, традиционные методы обучения, новые методы обучения, мониторинг знаний учащихся, навыки критического мышления, национальная идентичность, статус педагога, самооценка, саморазвитие.

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КЕНЕСАРЫ ХАННЫҢ ҰЛТ ТӘУЕЛСІЗДІГІ ЖОЛЫНДАҒЫ ӘРЕКЕТІНЕ ҚАТЫСТЫ БІРҚАТАР МАТЕРИАЛДАР (1820-1840 жж.)

Аннотация. Үш жүздің соңғы ханы Кенесары Қасымұлының тұлғалық қасиеті, басқару үлгісіндегі шеберлігі, соғыс тактикасын жүргізудегі тапқырлығы, саяси аренадағы көрегендігі мен дипломатиялық ұстанымы империялық кезеңнен бастап-ақ қалам тартқан кәсіби тарихшылардың, арнайы қазақ жеріне патша бұйрығымен келген мемлекеттік шенеуніктер және жергілікті жерлердің ақын-жазушыларының зерттеу нысанынан тыс қалмады. Кеңестік кезеңде кәсіби тарихшылардың бірі Ермұхан Бекмаханов бастаған ғалымдар тобы, тәуелсіз Қазақстан тарихшылары мен Хан Кененің тұлғалық қасиетіне бейжай қарамайтын ресейлік ғалымдар да бірқатар еңбектерін дара тұлғаға арнаған болатын. Шыңғыс тұқымынан шыққан Кенесарының басты миссиясы – отарлық экспансияның шынжыры іспеттес XIX ғасырдың алғашқы ширегіндегі реформаларды жойып, бұрынғы хандық билікті қалпына келтіру және үш жүздің басын қосып, азаттыққа қол жеткізу еді. Міне, мұндай батыл қимылды бастауға көптеген кедергіге қарамастан Кенесары хан жеке интуиция мен ел арасындағы жоғары беделін орынды пайдалануға тырысты. Орта Азия хандықтарымен күш біріктіре отырып, алып империяға қарсы шыққан оқиғалар жөнінде маңызды мәліметтер бұл мақаланың зерттеу нысанынан тыс қалмады.

Кенесары Сырдарияның төменгі ағысындағы қазақтарға қысым көрсеткен Қоқан хандығымен келіс-сөздерден бас тартып, Бұхар әмірімен достық қарым-қатынасты сақтап, оны кейде оқ-дәрімен, қарумен қамтамасыз еткендігі жөнінде ғалымдар еңбегінде құнды мағлұматтар кездеседі.

Сонымен қатар, авторлар аталмыш мақалада 1837-1847 жылдардағы ұлт-азаттық көтерілістің алғы-шарттары мен тарихи оқиғаға түрткі болған жағдайларға да тоқталған. 1836 жылы бауыры Саржан сұлтан мен әкесі Қасымның қоқандықтардың қолынан қаза табуы Кенесарының шұғыл әрекетке көшуіне септігін тигізгендігі жөнінде тұжырым жасалды. Кенесары ханның Орынбор әкімшілігімен хат алмасу арқылы тығыз байланыс орнатқандығы және сол арқылы патша үкіметімен де мығым қарым-қатынас жасауға да тырысқандығы жөнінде жазылған.

Түйін сөздер: Кенесары Қасымұлы, ұлт-азаттық көтеріліс, реформа, империялық саясат, отаршылдық, революция, реформа.

Шыңғыс тұқымынан шыққан және елдің бодандық бұғауынан арылуы үшін күрескен қазақ сұлтандарының бірі ретінде Кенесары Қасымұлын айтуға болады. Дипломат, бас қолбасшы, ержүрек, Кенесары патшалық Ресейдің хандық билікті жойып, қазақ жерін басқаруды мақсат тұтқан 1822-1824 жылдардағы реформалар жүйесіне қарсы шығып, батыл әрекетімен қалың бұқараның қолдауына ие болды. XIX ғасырдың алғашқы жартысындағы тарихи ахуал мен орта азиялық хандықтардың опасыздық әрекеттері хан Кененің батыл әрекетке көшуіне әсерін тигізді.

Көрнекті тарихшы, патшалық шенеуніктердің арнайы бұйрығымен жазылған еңбектер, географ-саяхатшылардың күнделіктері және т.б. тарихи зерттеулердің негізгі нысанына айналған Абылай ханның ұрпағы, батыр Қасым сұлтанның баласы үш жүздің соңғы ханы Кенесары 1802-1847 жылдар аралығында өмір сүрген. 1837-1847 жылдары патшалық Ресейдің бодандық бұғауына қарсы көтеріліс ұйымдастырып, 1841 жылы хандық билікті қалпына келтірген дара тұлға.

Ал енді Кенесары жөнінде империялық кезеңнің зерттеушісі Красовский былай деп жазған болатын: «1838 жылы Далалық аймақтың біраз бөлігі Ресейге толық бағынғанымен, орта жүз

ордасының бірқатар иеліктері өздерін еркін ұстауға тырысты. Әсіресе, 1836 жылы бауыры Саржан сұлтан қайтыс болған соң, тарих сахнасына Абылайдың немересі, Қасым сұлтанның баласы Кенесары шықты. Саржан сұлтанның ташкенттіктер қолынан қаза табуы жағдайды ушықтырып жіберді. Ресейдің саяси ахуалына көңілі толмаған қырғыздар ақыл-кеңес сұрау мақсатында Қасым сұлтанға бет алды. Алайда әкесінің ел ішіндегі беделі төмен болғандықтан, Кенесарының батыл тұлғалық қасиеттері мен қабілеттері оның негізгі тұлға екендігін анық байқатты. 1837 жылдың басында-ақ округтік дала приказдар қырғыз халқының ресейлік биліктен бөлініп, Кенесары туының астына бірігу үдерісін бастағандығын анық байқады. Кенесарының маңайына бауыры Саржанның балалары, Бопан ханшайым және т.б. бірікті. 1838 жылдың басында Кенесары Үлкен орда мен орта жүз руларының бірқатар аймақтарына жорықтар ұйымдастыра бастады. Патша үкіметі Кенесарының іс-әрекетін казактарға бақылауға тапсырды. Казактардың қыспағынан құтылу мақсатында Кенесары Кіші Ордаға барып, сол жақтың бұқарасымен бірікті. Себебі жергілікті халық патша үкіметіне қарсы пиғылда болатын. Нәтижесінде Кенесары казактардың әскери отрядына қарсы қол жинай бастады. Орынбор, Торғай далалары шайқас алаңына айналды. Кенесары Орынбордың өзіне қосылуға қарсы шыққан қырғыздарды жазалап, Троицк аймағының керуендерін тонады. 1838 жылы 25 мамырда Ақмола бекінісінің бір бөлігін өртеп жіберді» [1]. Әрине, империялық кезеңде жазылған Красовскийдің шығармасында Кенесары ханның жорықтары жөнінде біршама толық мағлұматтар бар. Автор: «Кенесары ханнан кейін күні бүгінге дейін батыл ұмтылыс жасаған қырғыздар болмады. Тек патша үкіметіне сын көзбен қараған жекелеген аймақтың қырғыздарын ғана айтуға болады. Мәселен, Қарқаралы округінің қырғыз болыстары Қытайға көшуге тырысса, Ақмола мен Қарқаралының оңтүстік ауылдарының казактары Шу өзені арқылы қоқандықтарға қосылуға ұмтылған болатын. Алайда 1822 жылғы жарғыға қарсы ашық көтерілген қырғыздар болмады», – деп Кенесарының батыл әрекетін ашық мойындап отыр [1].

Қасым төренің ұлы сұлтан Саржан бытыраңқы отрядтарды біріктіріп, қазақ жерлерін отарлау саясатына қарсы шықты. Патша жазалаушы отрядтарымен тығыз байланыста болған сұлтан Саржан өз жақтастарымен бірге Қоқан бегінің қолдауына ие болуға үміттеніп, Қоқан хандығының шекарасына қоныс аударды. Мұнда 1836 жылы Саржан Қоқан билеушісінің нұсқауымен жауыздықпен өлтірілді, 1840 жылы Кенесарының әкесі Қасым төре және оның басқа да жақындары қаза тапты. Қасым сұлтанның Қоқан бекеттерін оның патшалықтың отаршылдық ұмтылыстарына қарсы күресінде қолдауға деген үміті ақталмады. Алайда сұлтан Қасым мен оның ұлдарының күресі, стихиялық, ұйымдастырылмаған сипатқа қарамастан, сұлтан, одан кейін Кенесары хан (1802-1847) басшылығымен отаршылдыққа қарсы күштерді одан әрі шоғырландыруда маңызды болмады. Кенесары Қасымов патша әскерлерінің жаппай сөз сөйлеуі салдарынан үш ауданның тәуелсіздігіне қауіп төнген жағдайда Абылай хан ісін жалғастырушы ретінде тарихи аренаға шықты.

Кенесары сұлтан Қасымов «епті, өзіндік саясаткер» ретінде Ресей сияқты қуатты державаға қарсы күрес үш қазақ жүзінің күштерін біріктіруді, елеулі құрбандарды, тек әскери ғана емес, сондай-ақ дипломатиялық күш-жігерді де пайдалануды талап ететіндігін өз мойнына алды. Ол халық қозғалысынан бөлініп шыққан жеке сұлтан, старшина, билердің ерік-жігерін аяусыз басып, Ресей саясатын қолдайтындарға қатаң қысым көрсетті, бірақ патша үкіметімен түсініспеушіліктерді бейбіт жолмен шешуді жақтады. Ол әскери тұтқындарға, оның ішінде орыстарға да шыдамдылық танытты, олардың кейбіреуі оған қызмет етті, орыс елшілерін сыпайы қабылдады және қырғыздармен болған қақтығыс кезінде көрінбестен, қатыгездікті байқамады, дегенмен көтеріліс мүддесін сатқандарға, әскери тәртіпті бұзғандарға жиі ашуланды. Бұл туралы ақын, жауынгер Нысанбай белсенді қатысқан «Кенесары-Наурызбай» поэмасы айғақтайды.

Соған қарамастан Кенесары Қасымов үш жүздің қазақ руларының едәуір бөлігін өз туы астына біріктіре алды. Кейде оның әскерлерінің саны 20000 адамға жетті. Қазақ сұлтандарының басым бөлігі, негізінен орта жүз көтеріліске қосылды. Омбы облыстық басқармасының сот-жазалау мекемелері жинаған мәліметтер бойынша тек Құсмұрын, Көкшетау, Ақмола, Қарқаралы және Баянауыл округтерінде көтерілісшілерді 80-нен астам сұлтан, би, старшиналар қолдады. 23 жасынан бастап, азаттық қозғалысына белсене қатысып, ағалары мен әкесінің өліміне әкеп соққан жағдайдың қасіретіне көз жеткізіп, Кенесары Сырдарияның төменгі ағысындағы казактарға қысым

көрсеткен қоқандықтармен келіссөзден бас тартты, дегенмен ол Бұхар әмірімен достық қарым-қатынасты сақтап, оны кейде оқ-дәрімен, қарумен қамтамасыз етті [2].

Революцияға дейінгі жарық көрген еңбектердің бірі ретінде көрнекті ғалым Николай Середаның «Бунт киргизского султана Кенесары Касымова (1838-1847)» жұмысын атап өтсек болады [3]. Аталмыш кітапта үш жүздің соңғы ханы Кенесарының жеке қасиеттері мен оның көшбасшылығымен өткен көтеріліс жөнінде құнды мәліметтер келтірілген. Сөзімізді дәйектейтін болсақ, автор: «Ержүрек, батыл қасиеттері бар Кенесарыны көшпелілер өте құрметтейтін, ал оның қоластындағы әскери топтар ханның бұйрығын толық орындайтын. Оның бойында еріксіз өз руластарын тартатын бір импульс болды және оны жақтаушылардың саны күн сайын артты. Бір сөзбен айтқанда, Кенесары өз отрядтарының лайықты шебері болуды білді. Еуропалық әскерлердің кез-келген қолбасшысы өз жақтастарын шабыттандырған рухқа қызғанышпен қарар еді», – дей келе Кенесарының жеке тұлғалық қасиетін дәріптеген [3]. Сондай-ақ еңбекте Хиуа, Ресеймен Кенесарының қарым-қатынасы жөнінде мынадай мәліметтер келтірілген: «Өзінен бұрынғыларға қарағанда ақылды бола отырып, саяси айлакерлігі мен шешендігі жағынан олардан әлдеқайда асып түсті, ол мақсатқа жақын әрі сенімді жүрді. Хиуамен жасырын байланысқа түсіп, біртіндеп көтеріліске дайындалып, Кенесары белсенді түрде Орынбормен хат-хабар жүргізуді ұмытпады [3].

Кенесарының көтеріліс барысы жөнінде мынандай мәліметтер келтірілген: «Сонымен қатар, Кенесары Орынбор қырғыздарының арасында еркін жүріп, өзінің шабармандарын және оның ордаға ықпалын едәуір күшейте алды, ол аз ғана жағдайларды ескеріп, оны өзінің ханы деп таныды, бұл ақылды саясаткер Қасымов өз басшыларынан мұқият жасыруды білді. Орынбор басшылығын өзінің мойынсұнушылығымен алдап, Орта Азия иелерінің көз алдында Кенесары тәуелсіз билеуші болуды білді. Генерал Перовскийдің кешіріміне иелік еткеннен кейін және орыс отрядтарының қудалауынан құтылған Кенесары әкесінің опасыздықпен өлімі үшін Ташкент бекінен кек алуды қалап, Бұхара әмірімен одақтасып, Қоқанға соғыс жариялап, Созақ пен Ташкентті бір уақытта қоршауға алып, әскери әрекеттерді бастайды» [3]. Әрине, бұл орайда Кенесары Қасымұлы ағасы мен әкесінің кегін қайтару мақсатында жорыққа әбден дайындалған болатын. Бұхара әмірі Қоқандағы жаңа жорыққа дайындалып, Кенесарымен одақтың жанаруын қалайды, оған толық тәуелсіздігін сақтай отырып, оның хандығына ең жақсы жерлерді тағайындауды ұсынады. Ташкент басшысынан кек алу мақсатында бүлікшіл сұлтан Бұхарамен жаңа одаққа келісім берді. Осылайша, екі тарап та ұсынылған одақтың артықшылықтарын өте жақсы түсінді. 1843 жылдан бастап, Қоқандағы әскери қимылдарды қайта бастау туралы шешім қабылданды және Кенесарыға Қоқан күшін талқандау және сол арқылы Бұқар әмірі үшін Қоқан хандығын жаулап алуды жеңілдету үшін Ташкентті өз әскерлерімен басып алу туралы нұсқау берілді [3].

М.А. Терентьев [4] және А.И. Макшеев [5] кейінгі еңбектерінде Қ.Қасымов көтерілісінің тарихына да тоқталып, оны қазақ дворяндары өкілінің бүлігі деп бағалады. Терентьев дала жағдайында Орынбор мен Батыс Сібір билігі әскери құрамдас бөлігінің Кенесарыны бағындыруға бағытталған саясаттың төмен тиімділігіне тоқталды.

Қазақстандағы орыс саясатын зерттеуге елеулі үлес қосқан А.И. Добросмыслов Сұлтан көтерілісіне жеке бөлім арнап, онда Середа суреттеген оқиғаларды қысқаша баяндап берді, сонымен бірге әскери операциялар, Кенесары көтерілісіне қатысты Омбы мен Орынбордың саясаты туралы жаңа мәліметтерге сүйенді [6].

19 ғасырдың бірінші жартысындағы Қазақстан тарихын және осы кезеңдегі ұлттық көтерілістерді терең зерттеген ғалым Бекмахановтың «Қазақстан 19 ғасырдың 20-40 жылдарында» атты монографиясы болды. Ондағы басты назар Қ.Қасымов көтерілісіне аударылды. Оның пікірінше, бұл – Қазақстанның отарлық құлдығын кейінге шегеріп, прогрессивті, ұлт-азаттық сипаттағы тарихи оқиға. Ғалымның жеке тұжырымы бойынша, Ресейге қосылу туралы көзқарас екі түрлі болды: Бекмаханов бұл үдерісті прогрессивті деп санады, өйткені ол дамудың жаңа экономикалық формаларының пайда болуына әкелді, бірақ оның әдістері қолайсыз деп саналды [7].

2002 жылы диссертациясында Ж.Д. Құсайынова «Кенесары Қасымов бастаған ұлт-азаттық қозғалыс тарихнамасы», көтерілісті революцияға дейінгі, кеңестік, қазіргі қазақ және шетелдік тарихнамада зерттеуді жалпылауға тырысты [8].

XIX ғасырдың алғашқы жартысындағы қазақ жеріндегі тарихи ахуалға қатысты зерттеулердің бірі – бас штаб полковнигі А.Г.Серебрянников дайындаған «Түркістан өлкесін жаулап алу

тарихына арналған материалдар жинағы» атты құжаттар тізбегі. Аталмыш жинақта 1930-1940 жылдардағы ұлт-азаттық көтеріліске қатысты және Ресейдің Орталық Азиядағы саясатының көптеген аспектілері бойынша маңызды құжаттар бар [9].

Зерттеуші Ж.Д. Құсайынова «Национально-освободительное движение казахского народа под предводительством Кенесары Касымова: вопросы методологии изучения» атты мақаласында Кенесары Қасымұлының көтеріліс жөнінде төмендегідей мәліметтер келтіреді: «Кенесары тактикасындағы қарама-қайшы сәттердің бірі бүкіл қозғалыс кезінде бүлікшілер қатарына қосылмаған ауылдарды жеңу болды. Күрестің шарықтау кезеңінде оның әлсіз жақтары ашыла бастады. Оның бекерлігі айқын сезілді, өйткені күштер тең болмады: патшалық Ресейдің тұрақты әскерлері өздерінің дипломатиялық тәсілдерімен бірге осындай қауіп төндірді. Сонымен қатар, үздіксіз әскери жағдай жағдайында Кенесары ұрандары мен оның қанаушылық, жеке билікті күшейту мақсаттары арасында қайшылықтар пайда болды, өйткені Кенесары мен оның жақын туыстары ірі феодалдарға айналды. Бірақ, соған қарамастан, халықтың кең әлеуметтік қабаттарын қамтитын үлкен территориядағы халық бұқарасының демонстрациясы ұлт-азаттыққа жатады. Жалпы 1837-1847 жылдардағы қозғалыс Қазақстандағы басқа ұлттық қозғалыстар сияқты қазақ қауымдастығының сақталуын, қазақ қоғамы мен оның әртүрлі институттарының тұрақтылығын жақтады. Әртүрлі қабаттардың, топтар мен таптардың мүдделері осыған сәйкес келді. Осының негізінде оларды прогрессивті үдеріс ретінде бағалауға болады» [10]. Яғни хан өзінің билігіне қарсы шыққан елдімекендерге шабуыл жасап, қалың бұқара мен билік арасындағы алшақтыққа жол бергендігі жөнінде мәліметтер келтірген болатын.

Отандық шоқтығы биік тарихнамашы ғалымдардың бірі О.Х. Мұхатова 1837-1847 жылдардағы ұлт-азаттық көтеріліс жөнінде жазған ғалымдардың еңбектеріне кешенді талдау жүргізген. Мәселен, «Кенесары Қасымұлы бастаған қозғалыс туралы зерттеулер. Хан Кененің өмірі мен мемлекеттік қызметі Е.Ж. Уәлихановтың зерттеуінде көрініс тапты. Тарихшы қозғалыстың басынан аяғына дейін тарихи жазба деректер бойынша егжей-тегжейлі қарастырды. Хан Кененің ұйымдастырушылық, қолбасшылық, елбастаушылық қабілеттерімен қоса қаталдығын, талапшылығын, әділеттілігін көрсетті. Кенесарының хан болуға ұмтылысын автор біршама өзше түсіндірді», – деген тұжырым жасайды [11]. Сондай-ақ Мұхатова Кенесары хан жөнінде жазылған еңбектерге талдау жасай келе, мынадай мәліметтер келтіреді: «Қасымбаев аталған монографиясында Кенесары ханның Жетісуға көшіп келуінің және оның құрбан болуының шынайы картинасын қалпына келтіруге талпыныс жасалды. Басты назар аймақтағы күштердің орналасуына және Хан Кене және оның жақындарының Майтөбеде құрбан болу ахуалына аударылды. Кенесары сұлтанның Жетісу жеріне келуге мәжбүр болғандығын тарихи деректер негізінде дәлелдеді. Е. Уәлиханов бұл мәселені тереңірек қарастырып, Кенесарының ұлы жүз аумағына келуінің себептерін Орталық Азия хандықтары мен Ресей империясының осы аймақты басып алу қаупінің болуымен, Шу, Сарысу өзендерінің жоғарғы ағысы және Қызылқұм жерлерінде мемлекетін дамытқысы келуімен, патша үкіметінің алым-салықтарды көбейтуінің салдарынан орта жүздің көптеген ауылдардың Кенесарыдан қол үзуімен, әскерінің материалдық базасын жақсартуды көздеуімен түсіндірді. Авторлар ұлы жүз билеушілерінің Кенесарыға қатысты екіжақты саясат ұстанғандарын, ханды мойындамағандары туралы жазды» [11].

Қорыта айтқанда, Кенесары Қасымұлы өз заманының ірі тарихи тұлғасы ретінде қазақ жерінде хандық билікті қалпына келтіруге тырысты. Бұл орайда Орта азиялық хандықтармен екі бағытта саяси атмосфера қалыптастыра отырып, өзінің беделін арттыруға тырысты. Әрине, көтерілістің стихиялылығы, әскери техникалық ахуалдың әлсіздігі, ортақ мақсаттың берік болмауы, ішкі феодалдық тәртіптің толықтай жойылмауы сынды келеңсіз құбылыстар елдің негізгі аймағын қамтыған көтерілістің жеңіліс табуына әкеп соқтырды. Ұлт-азаттығы үшін бағытталған көтеріліс жеңіліс тапқан соң, патша үкіметі өзінің экспансиялық саясатын одан сайын үдете түсті. 1854 жылы Семей ішкі округі (облысы) құрылып, қоныстандыру әрекеті күшейді. Көп ұзамай, XIX ғасырдың орта шенінде үш жүз аумағында әкімшілік, азаматтық билік генерал-губернатордың қолына шоғырланған реформалық саясат қабылданды. Ел аумағында 1845 жылға дейін сақталып келген Бөкей ордасының территориясы 1872 жылдан бастап, Астрахань губерниясына жатқызылды. Осылайша, ел аумағында хандық биліктің барлық элементтері жойылды.

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**НЕКОТОРЫЕ МАТЕРИАЛЫ, КАСАЮЩИЕСЯ ДВИЖЕНИЯ КЕНЕСАРЫ ХАНА ЗА
НАЦИОНАЛЬНУЮ НЕЗАВИСИМОСТЬ (1820-1840 гг.)**

Аннотация. Личность последнего хана из трех жузов Кенесары Касымулы, его управленческие способности, смекалка в ведении военной тактики, дальновидность и дипломатическая позиция на политической арене нашли отражение в трудах профессиональных историков, государственных чиновников и местных поэтов и писателей, прибывших в Казахстан по царскому указу. В советское время группа ученых во главе с одним из профессиональных историков Ермуханом Бекмахановым, отечественные историки независимого Казахстана и российские ученые, неравнодушные к личности хана Кене, также посвятили ему ряд своих работ. Основная миссия Кенесары, потомка Чингисхана, заключалась в свержении реформ первой четверти XIX века как цепи колониальной экспансии, в восстановлении бывшего ханства, объединении трех династий и достижении свободы. Несмотря на множество препятствий на пути к такому смелому шагу, Кенесары хан попытался использовать свою личную интуицию и высокий авторитет в стране. Важная информация о событиях, произошедших против гигантской империи, объединившей свои силы с ханствами Средней Азии, не осталась без внимания авторов данной статьи.

Кенесары Касымов сумел собрать вокруг себя советников и героев, самых влиятельных и активных граждан народа против колониального гнета. В борьбе за возвращение земель, захваченных царским правительством, Кенесары опирается на опыт среднеазиатских ханств в организации войск. Он разделит свою армию на сотни и тысячи отрядов и назначил их командиров. Нарушители воинской дисциплины строго наказывались. Основной целью внешней политики Кенесары было создание независимого Казахского ханства. Для достижения этой цели он искал поддержку у среднеазиатских ханств, вмешиваясь в их внутренние дела и пытаясь склонить на свою сторону их правителей. Он отправил послов к хану Хивы и эмиру Бухары для установления контактов. Это увеличило бы торговлю со странами Центральной Азии, и можно было закупить у них необходимое оружие и боеприпасы.

Кенесары был схвачен и убит во время казахско-киргизского столкновения на горе Кекилик, инспирированного российскими войсками. Как борьба Кенесары за независимость, так и его ожидание положительного результата совместными усилиями тюркских народов ясно показывают, что он политик широкого взгляда и дальновидный стратег.

В трудах ученых содержится ценная информация о том, что Кенесары отказывался вести переговоры с Кокандским ханством, которое оказывало давление на казахов в низовьях Сырдарьи, поддерживало дружеские отношения с эмиром Бухары и иногда снабжало его боеприпасами и оружием.

Авторы акцентируют внимание на предпосылках национально-освободительного восстания 1837-1847 годов и обстоятельствах, приведших к историческому событию. Смерть его брата Саржана Султана и отца Касыма от рук кокандцев в 1836 году стал толчком для Кенесары, чтобы принять незамедлительные меры. То есть были выявлены исторические факторы, приведшие к восстанию, охватившему основную территорию трех жузов.

В статье говорится, что Кенесары хан установил тесные связи с администрацией Оренбурга путем переписки и таким образом пытался установить прочные отношения с царским правительством. Выявлены особенности национально-освободительного восстания и сделаны эталонные концепции. Восстание Кенесары Касымулы, известного как последний хан алашского народа, дало толчок местному восстанию казахов Сырдарьи. Был представлен ряд фактов об историческом значении восстания, показывающих, что имперский колониализм ослабил железную цепь.

В дореволюционный период о Кенесары Касымовиче было много исследований. Исторические труды, географические труды, политическая и дипломатическая переписка, написанные по прямому приказу царского правительства и государственных чиновников, прямо или косвенно заявляли о национально-освободительном восстании. В советское время о восстании писали многие профессиональные историки, несмотря на запрет правительства на публичность и всесторонние исследования. После восхождения на трибуну независимости секретная информация о Кенесары была раскрыта, и комплексные исследования расширяются. При прямой поддержке властей имя последнего хана из трех жузов достигло в народе высокой известности и исторической справедливости.

Ключевые слова: Кенесары Касымулы, национально-освободительное движение, реформа, имперская политика, колонизация, революция, реформа.

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SOME MATERIALS RELATED TO THE NATIONAL INDEPENDENCE OF KENESARY KHAN'S MOVEMENT

Abstract. The personality of the last khan of the three zhuzes, Kenesary Kasymuly, his managerial abilities, ingenuity in military tactics, foresight and diplomatic position in the political arena are reflected in the works of professional historians, government officials and local poets and writers who arrived in Kazakhstan by the tsarist decree. In Soviet times, a group of scientists headed by one of the professional historians Yermukhan Bekmakhanov, domestic historians of independent Kazakhstan and Russian scientists, not indifferent to the personality of Khan Ken, also dedicated a number of their works to the personality.

The main mission of Kenesary, a descendant of Genghis Khan, was to overthrow the reforms of the first quarter of the 19th century as a chain of colonial expansion, to restore the former Khanate, unite the three dynasties and achieve freedom. Despite many obstacles on the way to such a bold step, Kenesary Khan tried to use his personal intuition and high authority in the country. Important information about the events that took place against the giant empire, which united its forces with the khanates of Central Asia, did not go unnoticed in this article.

Kenesary Kasymov managed to gather around him advisers and heroes, the most influential and active citizens of the people against colonial oppression. In the struggle for the return of the lands seized by the tsarist government, Kenesary relies on the experience of the Central Asian khanates in organizing troops. He divided his army into hundreds and thousands and appointed captains and commanders. Violators of military discipline were severely punished. The main goal of Kenesary's foreign policy was the creation of an independent Kazakh Khanate. To achieve this goal, he sought the support of the Central Asian khanates, interfering in their internal affairs and trying to win over their rulers. He sent ambassadors to the khan of Khiva and the emir of Bukhara to establish contacts. This will increase trade with the countries of Central Asia and purchase the necessary weapons and ammunition from them.

The works of scientists contain valuable information that Kenesary refused to negotiate with the Kokand Khanate, which put pressure on the Kazakhs in the lower reaches of the Syr Darya, maintained friendly relations with the Emir of Bukhara and sometimes supplied him with ammunition and weapons.

Kenesary was captured and killed during the Kazakh-Kyrgyz confrontation on the Kekilik mountain, inscribed by Russian troops. As the struggle of Kenesary for independence, so his expectation of a positive result by the combined efforts of the Turkic peoples clearly shows that he is a politician with a broad vision and far-sighted strategist.

The authors focus on the preconditions for the national liberation uprising of 1837-1847 and the circumstances that led to the historical event. The death of his brother Sarzhan Sultan and father Kasym at the hands of the Kokand people in 1836 gave an impetus to Kenesary to take immediate measures.

The article says that Kenesary Khan established close ties with the Orenburg administration through correspondence and thus tried to establish strong relations with the royal government. The features of the national liberation uprising are revealed and reference concepts are made. The uprising of Kenesary Kasymuly, known as the last khan of the Alash people, gave impetus to the local uprising of the Kazakhs of the Syr Darya. A number of facts about the historical significance of the uprising were presented, showing that imperial colonialism weakened the iron chain.

In the pre-revolutionary period, there was a lot of research about Kenesary Kasymovich. Historical works, geographical works, political and diplomatic correspondence, written on the direct orders of the tsarist (royal) government and government officials, directly or indirectly declared a national liberation uprising. In Soviet times, many professional historians wrote about the uprising, despite the government's ban on publicity and comprehensive research. After ascending the rostrum of independence, secret information about Kenesary was revealed, and complex studies are expanding. With the direct support of the authorities, the name of the last khan of the three zhuzes reached high fame and historical justice among the people.

Key words: Kenesary Kasymuly, national liberation movement, reform, imperial policy, colonization, revolution, reform.

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SYSTEM AND GENESIS OF ETHNIC DIASPORA CULTURE

Abstract. The problem of the historical formation of the culture of ethnic groups and the identification of their specific features is very urgent, since the diaspora culture is able to significantly transform depending on environmental conditions, among which socio-economic and ethnopolitical ones can become decisive. The result of transformational processes in each case can be individual, therefore, studies of specific conditions and the specifics of the formation of a culture of ethnic diasporas are quite significant. A theoretical study of the features of the historical formation of the culture of various resettlement groups makes it possible to identify possible common structures in the model for studying such phenomena, to study the features of intercultural dialogue of diasporas, and, as a result, to predict the results of intercultural dialogue of diasporas with the environment, thereby ensuring the comfortable functioning of the diaspora culture as a whole.

The relevance of the topic in practical terms is caused not only by the increased needs of representatives of different ethnic groups and diasporas to preserve their culture, but also by the desire for its development, the formation of stability in it.

The article builds the logic of the concepts of culture-ethnic culture - culture of the ethnic Diaspora. The culture of the ethnic Diaspora is studied as a specific way of people's activity to preserve and create a set of cultural elements and structures that have ethnic specificity, and by performing ethno differentiating and ethno integrating functions, contribute to the awareness of their unity by various, often dispersed, parts of a particular ethnic group.

The article describes the features of implementing the main functions of the culture of the ethnic Diaspora: ontological, aesthetic, sociological, historical, reflexive, axiological, ethical, communicative, and psychotherapeutic.

Key words: diaspora, culture, transcultural, cultural system, traditions, genesis.

Introduction. The process of forming a diaspora culture, like any other phenomenon, requires a comprehensive and comprehensive approach to its study.

The basis of the study is a general scientific system approach to the study of the problem. This allowed us to consider the object of study as a whole object consisting of closely related structural elements. At the same time, a systematic approach provides the key to the internal mechanism of culture and allows you to enter the content sphere of cultural dynamics.

The following periodicals were actively used in the consideration of issues related to the methodology of the study of the studied phenomenon: Society, Diaspora, Science and Life, Questions of Philosophy, Social Sciences and Modernity, Philosophical Studies, Policy. The results of the analysis of domestic and foreign periodicals are used in the study. Since the peculiarity of all newspaper publications is that they cover current issues of readers' lives, articles have become an important source of research on the importance of the formation and development of diaspora culture for science.

When considering the culture of the ethnic diaspora, it is firstly necessary to reveal that the culture of the ethnic diaspora is an organizing force as a system that seeks to overcome chaos and self-defense. At the same time, it is necessary to take into account the essence and dialectic of life, that is, to consider the peculiarities of the cultural structure of the ethnic diaspora, its possible modifications within its boundaries. The type of system is very important in this regard. Since the culture of the ethnic diaspora is an open system, it is necessary to use a certain code that allows for intercultural communication.

In order to consider the culture of the ethnic diaspora as a system, it is necessary to create a logic of the relationship between the concepts of culture - ethnic culture - the culture of the ethnic diaspora. Today,

one of the methods of defining culture is the method of action, which interprets culture as a special way of human activity [1].

This article distinguishes between the concepts of ethnic culture and ethnic culture. Traditionally, ethnic culture is defined as the individual elements, local groups, ethno-social organisms, etc., regardless of whether the various elements and structures of this wealth have a specific ethnic color or are ethnically neutral. The whole set of cultural heritage inherent in these ethnic groups is combined. Ethnic culture refers to ethnic differences by performing an ethno-differentiating function within the opposition of "we are not us" (or "ours is not ours") is understood only as a set of cultural elements and structures. The main task of ethnic culture in today's context is ultimately based on the conditions and opportunities to maintain historical continuity in the socio-cultural development and restoration of cultural patterns that reflect the ethnic identity of the relevant groups of the population [2].

Consideration of the features of the system of culture of the ethnic diaspora is possible by considering the structure of ethnic culture. The universal conceptual model of the theoretical analysis of the culture of the nation shows that the structure of ethnic culture consists of three main components: the core, the elements of ethnic culture and the protection belt.

Discussion. The core of ethnic culture is formed throughout ethnogenesis, protects ethnic culture from disintegration, determines the amount of infiltration from other cultures. The kernel is a special key element of the system and includes:

- a) information about the system (system memory);
- b) the main energy potential of the interaction of system elements;
- c) consolidates the communication processes between the elements of the system.

It consists of two main structures: the first is characterized as constant and unchanging and also performs the function of the nucleus, the second acts as a "catalyst" of the interaction between the nucleus and the periphery, so it is mobile and variable.

The system kernel performs three main functions, which provide the following interactions:

- system and external environment;
- internal elements of the system;
- structures of the first and second functions or "catalyst function" [3].

Elements of ethnic culture - components of culture: law, morality, religion, art, science, philosophical forms and protection zone - ways of preservation and development of ethnic culture in time and space (traditions, customs, traditions, way of life, etc..) together form the peripheral sphere, which feels the organizational and regulatory effect of the system kernel only partially (temporarily, fragmentally). The protective belt of ethnic culture consists of social, intellectual and moral traditions. It protects culture from disintegration and transformation, as well as provides adaptation mechanisms that allow culture to adapt to changing conditions. Among the elements of ethnic culture (morality, religion, law, philosophy, art) differs dominant (all or some elements of culture), the spiritual potential of the whole nation, the worldview is reflected in this dominant.

Two main functions of culture can be noted:

- to provide society with all the needs for a successful fight against nature, to constantly increase its level of non-anthropogenic [4];
- increase the efficiency of mechanisms to ensure their mobility, resilience, productivity, increase the efficiency, i.e. continuous self-improvement. Recognizing these two important functions as primary, they fully reveal the essence of ethnic culture (ontological, aesthetic, social, historical, reflexive, axiological, ethical, communicative, psychotherapeutic).

The ontological function determines the dominant model of the world (view of the world). Here, culture intuitively identifies and systematizes the laws of origin, development and functioning of the world and its individual elements.

The aesthetic function is realized through the formation of ethnic notions about the beauty, harmony, kindness of this world.

The social function ensures the relative integrity of society. In ethnic culture, criteria for conformity to gender, age and social status are developed and clearly observed.

The historical function is based on the nation's ability to see itself over time. The historical function ensures the formation of public consciousness, because any system of views on the world and the place of

man in it is based on his historical experience. This experience reflects the nature of the spiritual and material values that dominate society, as well as their hierarchy. Knowledge of the past is a necessary component of the culture of society. A person's future depends on his ability to store information about past historical events, to evaluate them correctly and to learn from them.

The reflexive function is realized in the implementation of ethnic identification and ethno-differentiation processes at the individual and ethnic levels.

The axiological function of ethnic culture is the constant production of the values of life and development of the ethnos. Ethnic culture itself can be a value for a nation in difficult times.

The ethical function is to develop a "moral code" that includes the moral norms of the people, which includes universal human moral norms.

The communicative function consists of regulated rules of ethnic relations at all levels (from space to interpersonal).

Psychotherapeutic function provides the mechanisms of social stabilization. Such mechanisms are, first of all, customs and traditions.

Let's look at the culture of the ethnic diaspora as a system, showing ethnic culture as a system.

To clarify the concept of diaspora culture, we need to define the concept of diaspora. The concept of diaspora was originally b. with. e. It was used in the 6th century to mark the phenomenon of the settlement of Jews outside Palestine. There is no generally accepted definition of the diaspora today. To describe it, try to identify significant, characteristic features:

- Scattered location to the homeland, often due to violence;
- Expansion of lands abroad in search of work, for commercial purposes or to satisfy colonial ambitions;
- collective memory and mythology of the lost Motherland; idealization of ancestral heritage;
- long-lasting strong group ethnic consciousness; unstable attitude to the owner-society;
- a sense of solidarity with their ethnic compatriots in other countries;
- Opportunity for a creative and prosperous life in tolerant host countries [5].

Let us consider this basic fundamental systemic quality of the culture of the ethnic diaspora.

1. The organization of the culture of the ethnic diaspora determines the coordination of actions of the whole system due to the accumulation of functional resources of the elements of this system, which allows to resolve the contradictions that arise in the system.

2. The integrity of the culture of the ethnic diaspora is determined by its ability to maintain its qualitative characteristics in a changing environment. Integration is one of the most important components of integrity that ensures the integrity of its parts. As a result of such integrity, the properties of the parts change and look qualitatively different, which is characteristic of a particular integrity and differs from the properties of its individual elements. Integrity is reflected in the activity, ie the self-propulsion of the system.

Stability is an important component of the integrity of the culture of the ethnic diaspora. This is the system's ability to withstand destructive effects. One of the aspects of integrity is the hierarchical connection, which assumes the vertical alignment of the levels of the system and its elements.

3. The complexity of the culture of the ethnic diaspora as a system is primarily reflected in the quantitative and qualitative differences of the elements of the system, ie diversity. Emerging and overcoming contradictions are at the same time the source and consequences of the system's development. As a result, a dynamic balance of system centers of force and voltage is ensured.

4. Functional anisotropy of ethnic diaspora culture means inhomogeneity and non-uniformity of functional capabilities. It is characterized by functional inequality of elements and the connection of structural components, organizational contradictions and different sensitivity to effects.

5. The inertia of the culture of the ethnic diaspora is based on the ability to maintain and resist certain factors that lead to change. The transition of the inertial system from one state to another takes some time during any effect, ie there is a delay in the reaction to the effect. In addition, as a result of certain inertial forces and the effect of resistance on them, the transition from one state to another is manifested by the appearance of interference in the system, which reduces the efficiency of the interference system.

6. Transparency of ethnic diaspora culture. Qualitative characteristics of openness assume that the culture of the ethnic diaspora is in a constant state of exchange of matter, energy or information with its

environment. In this regard, the culture of the ethnic diaspora acts not as a stable structure, but as a structure-process that renews new content.

The nature of the culture of the ethnic diaspora as a system with a high level of complexity requires a three-pronged approach: subject, functional and historical. These aspects have their own peculiarities in the systematic consideration of the culture of the ethnic diaspora [6].

When considering the culture of the ethnic diaspora from the whole to the individual, subject analysis allows to determine the place of each component in the system and its functions, as well as to determine what components are necessary and sufficient for the culture of the ethnic diaspora [7, 8].

Next, let's look at the structure of the ethnic culture of the diaspora. The structure of diaspora culture consists of three main components similar to the structure of ethnic culture: the core, elements of diaspora culture and the protection belt. Components of diaspora culture perform the functions of maintaining and developing the system, but the content of these components varies considerably. The main goal of diaspora culture - to preserve itself as a whole and to develop as much as possible - is to act as a decisive force in the content of the nucleus. The introduction of innovation into the world model does not have a significant impact, but the landscape changes the perceptions of migrants about the origin of the world, the structure of the world, space and time, for example, the Kazakhs of Mongolia perceive the seasons differently than their compatriots in ancestors. It can be said that he has preserved his understanding. The system of needs, interests and values is also changing. The material and elements of the feeling of the Fatherland, the family, the spiritual culture of the fatherland, which remain in the homeland, are of special importance. There is a desire to increase the number of healthy generations, the value of ethnic cooperation increases.

Conclusion. The culture of the ethnic diaspora has been studied as a concrete way of preserving and creating a set of cultural elements and structures and presented as an integrated system. The main characteristics of diaspora culture as a system of syncretic type: openness of diaspora culture; original organizational character of diaspora culture; high level of adaptation of all structural components of culture. The article focuses on the implementation of the main functions of the culture of the ethnic diaspora (ontological, aesthetic, sociological, historical, reflexive, axiological, ethical, communicative, psychotherapeutic), their strength and visibility in each case, as they depend on the conditions of cultural development of the ethnic diaspora. It is shown that the culture of the ethnic diaspora has its own unique mechanisms of self-government and self-development, which should be considered as a whole system that ensures the functioning of the elements of the system. The culture of the ethnic diaspora as a system is based, on the one hand, on ethnic, traditional culture, as it absorbs and preserves elements of historical memory of the people, which are reflected in its historical traditions, standards of behavior and want to pass historical values to future generations. On the other hand, the culture of the diaspora adopts new forms and methods of learning the surrounding reality as a result of constant contact with other cultures. Therefore, the culture of the diaspora is characterized by both introverted and extroverted. This preserves it and saves it from disintegration, allowing it to grow.

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Этникалық диаспора мәдениетінің жүйесі мен генезисі

Аннотация. Этникалық топтар мәдениетін тарихи қалыптастыру және ерекшеліктерін анықтау мәселесі өте өзекті саналады. Өйткені диаспора мәдениеті айналадағы жағдайға байланысты едәуір өзгеріске түсетіндіктен, олардың арасында әлеуметтік-экономикалық және этносаяси шешуші болуы мүмкін. Трансформациялық үдерістер нәтижесі әр жағдайда жеке болуы ықтимал, сондықтан этникалық диаспора мәдениетін қалыптастырудың нақты жағдайы мен ерекшеліктерін зерттеу бүгінде маңызды болып саналады.

Қоныс аударатын түрлі топтар мәдениетінің тарихи қалыпташу ерекшеліктерін теориялық тұрғыда зерттеу осындай құбылыстарды қарастыру моделінде ықтимал жалпы құрылымдарды анықтау, диаспоралардың мәдениаралық диалогының ерекшелігін зерттеу жұмыстары диаспоралардың қоршаған ортамен мәдениаралық диалогының нәтижесін болжауға мүмкіндік береді, осылайша бүкіл диаспоралық мәдениеттің ыңғайлы

жұмыс істеуін қамтамасыз етеді. Тақырыптың өзектілігі түрлі этностар мен диаспора өкілдерінің мәдениетін сақтауға деген қажеттілікті арттырумен қатар оны дамытуға, тұрақтылықты қалыптастыруға деген ұмтылысқа және сонымен бірге трансформация мүмкіндігіне, жемісті мәдениетаралық диалогты жүзеге асыруға байланысты. Мақалада мәдениет – этникалық мәдениет – этникалық диаспора мәдениеті ұғымдарының қисыны қалыптасады.

Этникалық диаспора мәдениеті этникалық ерекшелігі бар мәдени элементтер мен құрылымдар жиынтығын сақтау және құру үшін этникалық ерекшелігі байқалатын, этностық бөлу функцияларын орындайтын, белгілі бір этникалық топтың түрлі, шашыраңқы бөліктерімен олардың бірлігін тануға ықпал ететін адамдар әрекетінің нақты әдісі ретінде зерттелді.

Этникалық диаспораның мәдениеті интегралды жүйе ретінде қарастырылады, мәдениетаралық симбиоз. Оның негізгі жүйелік қасиеттері анықталады және келесідей сипатталады: ашықтық, өзін-өзі ұйымдастырушылық сипат, мәдениеттің барлық құрылымдық компоненттері бейімділігінің жоғары деңгейі, құрылымдық компоненттердің қысқартылуы. Этникалық диаспораның онтологиялық, эстетикалық, әлеуметтанулық, тарихи, рефлексивті, аксиологиялық, этикалық, коммуникативті, психотерапевтік мәдениетінің негізгі функцияларын жүзеге асыру ерекшеліктері көрсетілген. Этникалық диаспора мәдениетін дамыту үшін жағдай әртүрлі болғандықтан, жеке жағдайда функциялардың күші мен көріну дәрежесі туралы тұжырым негізделген. Қорытындыда этникалық диаспораның мәдениеті өзін-өзі реттеу және өзін-өзі дамыту тетіктері бар, оның жүйелік элементтерінің қызметін қамтамасыз ететін интегралды жүйе екендігі тұжырымдалды. Этникалық, дәстүрлі мәдениетке сүйене отырып, этникалық диаспора мәдениеті халықтың салт-дәстүрінде, жүріс-тұрыс нормаларында және мәдени құндылықтарды кейінгі ұрпаққа қалдыратын тарихи жад элементтерін сіңіріп әрі сақтайды. Екінші жағынан, басқа мәдениеттермен тұрақты байланыс нәтижесінде диаспора мәдениеті бір уақытта интроверсия және экстровеерсиямен сипатталса, қоршаған шындықты игерудің жаңа формалары мен әдістерін игереді. Дәл осы диаспора мәдениетін иесізденуден қорғайды және дамуға мүмкіндік береді.

Түйін сөздер: диаспора, мәдениет, мәдениаралық, мәдени жүйе, дәстүр, генезис.

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Система и генезис культуры этнической диаспоры

Аннотация. Проблема исторического формирования культуры этнических групп и выявление их специфических черт является весьма актуальной, так как культура диаспоры способна существенно трансформироваться в зависимости от окружающих условий, среди которых определяющими могут стать как социально-экономические, так и этнополитические. Результат трансформационных процессов в каждом случае может быть индивидуальным, поэтому исследования конкретных условий и специфики формирования культуры этнических диаспор достаточно значимы. Теоретическое исследование особенностей исторического формирования культуры различных переселенческих групп позволяет выявить возможные общие структуры в модели изучения подобного рода явлений, изучить особенности межкультурного диалога диаспор, и, как следствие, прогнозировать результаты межкультурного диалога диаспор с окружением, тем самым обеспечивая комфортное функционирование культуры диаспоры в целом. Актуальность темы в практическом отношении обусловлена не только возросшими потребностями представителей разных этнических групп и диаспор в сохранении своей культуры, но и стремлением к ее развитию, формированию в ней устойчивости и одновременно возможностей трансформации и осуществления продуктивного межкультурного диалога. В статье выстроена логика понятий культура – этническая культура – культура этнической диаспоры. Культура этнической диаспоры исследована как специфический способ деятельности людей по сохранению и созданию совокупности культурных элементов и структур, которые обладают этнической спецификой, и, выполняя этнодифференцирующую и этноинтегрирующую функции, способствуют осознанию своего единства различными, зачастую дисперсно разбросанными частями определенного этноса. Культура этнической диаспоры рассмотрена как целостная система, транскультурный симбиоз. Определены и охарактеризованы ее основные системные качества – открытость, самоорганизующийся характер, высокий уровень адаптивности всех структурных компонентов культуры, усеченность структурных компонентов. Описаны особенности реализации основных функций культуры этнической диаспоры: онтологическая, эстетическая, социологическая, историческая, рефлексивная, аксиологическая, этическая, коммуникативная, психотерапевтическая. Обосновано утверждение об индивидуальности силы и степени выражения функций в каждом отдельном случае, поскольку условия развития культур этнических диаспор различны. Сформулирован вывод о том, что

культура этнической диаспоры представляет собой целостную систему с присущими только ей механизмами саморегуляции и саморазвития, которые обеспечивают функционирование ее системных элементов. Базируясь, с одной стороны, на этнической, традиционной культуре, культура этнической диаспоры вбирает и сохраняет элементы исторической памяти народа, выраженной в его традициях, стандартах поведения, стремлении передать культурные ценности последующим поколениям. С другой стороны, в результате постоянных контактов с другими культурами культура диаспоры усваивает новые формы и способы освоения окружающей действительности, характеризуется при этом интровертностью и экстравертностью одновременно. Именно это оберегает культуру диаспоры от обезличивания, дает возможность развития.

Ключевые слова: диаспора, культура, транскультурный, система культуры, традиции, генезис.

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ДІНИ ҰЙЫМДАРДЫҢ ИНТЕРНЕТ РЕСУРСТАРЫН ҚОЛДАНУЫ

Аннотация. Мақалада діндерді интернет ресурстарын қолдану арқылы насихаттаудың тиімділігі қарастырылған. Бүгінгі таңда интернет ресурстарын, соның ішінде веб-сайттарды дінді насихаттауға қолдану кең таралған. Жұмыста виртуалды ақпараттық қоғамда діни қатынастарды реттеуде веб-сайттардың қызметі мен рөлі туралы сөз қозғалған.

Жаһандану заманында бүкіл әлем кішкентай бір ауыл іспетті болып қалды. Әлемнің осылай өзгеріп, ақпараттық қоғамға айналуына әсер еткен интернет ресурстары деп түйіндеуге болады. Өйткені интернет желісі арқылы әлемнің кез-келген жерінде болып жатқан жаңалықтан бір мезетте хабардар болу мүмкіндігі бар. Осылайша интернет желісі адамзат өмірімен тығыз байланыс жасап, күнделікті тіршіліктің ажырамас бір бөлігіне айналды. Қазіргі таңда интернет желісіне кіре алмаған адам құдды бір ең далада жалғыз қалғандай күй кешетін дәрежеге жетті. Бұл жайт – қоғамның ақпараттанып, виртуалды қоғамға айналғанының бір көрінісі.

Интернет желісі қоғамды тек ақпараттандырушы ғана емес, виртуалдандырушы үлкен күшке айналды. Интернет желісі пайда болмай тұрғанда оффлайн жасалатын қызметтің басым бөлігі қазіргі кезде онлайн түрде жүзеге асатын болды. Мысалға келтіретін болсақ, білім беру саласы интернет желісі арқылы қашықтықтан беріле бастады. Сауда-саттық та интернет дүкендер арқылы жасалатын болды. Ақша аударымдары интернет желісі пайда болғаннан бастап желі арқылы жасалады. Осы сияқты адамның өмір сүру қажеттіліктерін қанағаттандыратын талаптардың басым бөлігі бүгін виртуалданып кетті.

Веб-сайттар кез-келген діни ұйымның айнасына айналып үлгерді. Ақпараттық қоғамда арнайы веб-сайты болмаған ұйым мекенжайы немесе белгілі бір тұрағы жоқ ұйым іспетті. Өйткені тұтынушылар кез-келген ұйымды жеке веб-сайты арқылы таниды. Дінді насихаттайтын ұйымдарды да дін ұстанушылар немесе сол дінді қабылдағысы келген адам веб-сайты арқылы кеңірек қарастырады. Олай болса, діни ақпаратты веб-сайт арқылы техникалық және діни нормаға сәйкес ұсыну өте маңызды.

Түйін сөздер: кибер діндарлық, кибер дін, оффлайн, онлайн, ақпараттық қоғам, виртуалды қоғам, казнет, рунет, синодал, маргинал, діни насихат, уағызшы, уақыт кеңістігі, діни норма.

Кіріспе. Адамзат XX ғасырдың екінші жартысынан бастап технологиялық төңкеріс кезеңін бастан кешуде. Бүгінгі біз өмір сүріп отырған XXI ғасыр – инновацияның шарықтау кезеңіне жетіп қалған заман. Жаңа технология көз ілеспес жылдамдықпен қарқынды түрде дамып келеді. Осы факторлардың себебінен өндірістік қоғам виртуалды қоғамға айналып үлгерді. Сол себептен қоғамдағы қатынастардың форматы да виртуалды қоғам талаптарына сай трансформацияға ұшырады. Қоғамдағы діни қатынас та бұл өзгерістен тысқары қалмады. Қоғамның рухани қажеттіліктерін қанағаттандыратын бұл сала да жаңа формаға және жаңа форматқа енді. Демек, дінді насихаттаудың әдіс-тәсілдері де жаңа қоғамға және жаңа қоғамдық санаға сәйкес жүргізіледі. Олай болса ақпараттық виртуалды қоғамда дінді насихаттаудың тиімді тәсілдерінің бірі – интернет ресурстарын қолдану.

Діни ұйымдар интернетті басқа медиа арналарға қарағанда белсенді қолданады. Канададағы діни интернетті зерттеуші, діни әлеуметтанушы Лорн Доусон «Компьютерлік байланыстың интерактивті әлеуеті діни тәжірибені қарапайым эфирлік БАҚ арқылы таратуға қарағанда өзіндік артықшылығын көрсетті» – деп жазады [1].

Негізгі бөлім. Зерттеушілер интернетте белгілі бір дін туралы ақпараттың қарапайым қол жетімділігі мен шынайы өмірде жоқ виртуалды діни практиканың қалыптасуын білдіретін «кибер дін» және «кибер діндарлық» терминдерін енгізді. Бірінші жағдайда, «Интернеттің діни саладағы негізгі қызметі – киберкеңістіктен тыс жерде құрылған және анықталған діни қызметке қатысты діни мазмұндағы ақпараттарды тарату» [2]. Екіншісінде кибер шіркеу, кибер синагогалар және тағы басқалар сияқты құбылыстар жайында сөз қозғалады, олар: «Мазмұны жағынан алып қарағанда бұрыннан қалыптасқан діни дәстүрлерге жатады және киберкеңістіктің жаңа интерактивті қолданушыға бағытталған шындықпен тығыз байланысты» [2,50,63]. Дін сайттарының саны мен сапасын қазнеттің басқа тақырыптық секторларын құрайтын ресурстармен салыстыруға болады. Ең алдымен, діни қазнеттің тұтас құбылыс ретінде жоқ екенін атап өткен жөн. Православие, мұсылман, яһуди, протестанттық және басқа діни сайттар қазнеттің жеке тақырыптық бөлімдерін құрайды, олардың әрқайсысы, ең алдымен, діннің ерекшелігіне және оның жетекшілерінің ақпараттық белсенділігін түсінуіне байланысты бірқатар маңызды айырмашылықтары бар. Бұл секторлар бір-бірімен біріктірілмеген және мұндай интеграция болашақта мүмкін деп айтуға негіз жоқ. Діни ұйымдардың интернетте бар болуының себептерін, нысандары мен салдарын, сондай-ақ діни интернет-ресурстар атқаратын функцияларды сипаттау қажет. Интернет – діни ұйымдарға арналған ең органикалық медиа арна: ірі діни ұйымдар ішінде ауызша түрдегі хабарлар ірі жылдамдықпен, адамның екінші адаммен байланыс мүмкіндігі бар болған жағдайда тез таралады. Осы тұрғыдан алып қарағанда интернет діни ұйым ретінде мешітке, шіркеуге толық сәйкес келеді, өйткені ол ауызша сөйлесудің құрылымын қайталайды. Діни ұйымдар үшін желі толығымен органикалық, өйткені ол Мұхаммед пайғамбардың кезінде және апостол Павелдың кезінде болған ақпаратты жеткізу құрылымы мен байланыс құрылымын жаңғыртады. Бұл Мануэль Кастельстің «Интернет тікелей бақыланды және «бірден бірге», «біреуден көпке» салыстырмалы түрде арзан байланыс арнасымен қамтамасыз етеді» [3, 186] деген пікіріне сәйкес келеді. «Бұл байланыс арнасы діни бірлестіктер мен жекелеген діндарлар пайдаланатын дискурстарға анағұрлым сәйкес келеді, ал басқа БАҚ түрлерін қолданған кезде діни ұйымдар белгілі бір мөлшерде олардың тіліне «өздерін аударып», мағыналарын жоғалтуға мәжбүр. Бұл тезис діншілдік, конфессияаралық, дінаралық және қоғамдық-діни коммуникацияларға да қатысты. Сонымен қатар интернет басқа да бұқаралық ақпарат құралдарымен салыстырғанда идеологиялық, қаржылық негіздермен, сондай-ақ кәсіби форматтармен аз шектелген. Осы тұрғыда діни ұйымдардың қажеттілігі үшін анағұрлым қолайлы болып саналады.

Діни ұйымдар әртүрлі коммуникациялық арналарды тек миссионерлік мақсаттар үшін ғана емес, сонымен бірге діни бірлестік құрылымының тұтастығын сақтау мен дамытуды және ақпарат алмасудың тиісті қарқындылығын қамтамасыз ету факторларының бірі ретінде ішкі қажеттіліктері үшін де қолданады. Тіпті онлайн форумдар мен конференцияларды өткізуге де мүмкіндік береді.

Интернеттің осы саладағы артықшылықтары насихаттаудың инновациялық тәсілдерін іздеген діни ұйымдарға қажет болды. Солардың бірі – Орыс Православие Шіркеуі, 2000 жылы Юбелейный архиерей соборында сөйлеген сөзінде Патриарх Алексей: «Біздің шіркеуде қазіргі заманауи байланыс құралдарын пайдалана отырып, ақпарат алмасу үшін шіркеуде бірыңғай жүйені құру туралы ойланатын кез келді. Бұл қазіргі басқарушы архиерейлердің қазіргі заманғы техникалық байланыс құралдарын пайдалану қажеттілігін дұрыстап қарауды қажет етеді. Компьютер сатып алып, интернетке қосып және шіркеудің сыртқы қатынастары бөлімінің байланыс қызметіне, басқа синодалдық мекемелер және кейбір епархия әкімшілігі тарататын ресми хаттарды алу өте қиын ба? Маңызы бар үлкен қалаларда және аймақтарда шіркеу бұқаралық ақпарат құралдарының электронды нысандары – радиохабар, телевидение, интернетті белсенді түрде игеруде. Синодалдық мекемелер, епархиялар, жеке шіркеулер мен ғибадатханалар, оқу орындары құрған ондаған православие веб-парақшалары бар» [4] деп атап өткен еді. Сарапшылар да дәл осындай пікірді ұстанады. Мысалы, 2001 жылғы 16 наурызда Нижний Новгородта өткен «Дін және БАҚ» семинарында «Соборность» [5] атты бірінші православие интернет-журналының бас редакторы С.Чапнин баяндамасында былай деген: «Дәстүрлі дін конфессияларының интернетке шығуының маңызды себебі – бірыңғай ақпараттық кеңістік құру. Мұнда дін ілімі, діни білім және тәрбие, миссионерлік қызмет және тағы басқа саладағы ақпарат алмасу мәселелері басты орынға шығады.

Соңғы жылдарда интернет қоғамдық шіркеу өміріндегі басты біріктіруші фактор болды деп айту артық болмас» [6].

Орыс православие шіркеуі үшін Интернеттің негізгі функцияларының бірі – электрондық құжат айналымы жүйесі, бұл синодалдық құрылымдар мен әкімшілік бөлімдерге өз қызметтерін тиімді үйлестіруге мүмкіндік береді. Бұл міндетті Патриарх Алексей де айтты: «Біздің шіркеудің барлық епархиялары заманауи байланыс технологияларын пайдалана отырып, өздерін біріктіретін ақпараттық-компьютерлік желі құру үшін ортақ күш жұмсайтын уақытты болжап білу қиын емес. Бұл біз үшін отанымыздың, қоғамның және адамның игілігі үшін атқаратын қызметімізді жүзеге асырудың мүмкіндіктерін ашады. Мұндай ақпараттық желінің құрылуы кейде географиялық және климаттық себептерге байланысты туындап қалатын қиындықтардың алдын алуға, Мәскеу Патриархаты мен епархиялар арасында, сонымен қатар епархия архиереялары және приход қауымдастықтары арасындағы өзара байланыстарды нығайтуға, жедел ақпарат алмасуға септігін тигізер еді. Сондай-ақ, жаңа ақпараттық технологиялар кейбір приходтардың оқшаулануын жеңуге және шіркеу құрылымының тұтастығын нығайтуға көмектеседі» [7].

Шіркеудің сыртқы байланыстары бөлімі төрағасының орынбасары Протоиерей Всеволод Чаплин де интернеттің ресми құжаттарды таратудағы және шіркеу құрылымдарын басқарудағы маңыздылығы туралы: «Егер бұрындары қасиетті иерархияның шешімін епархияға немесе приходқа жеткізу өте қиын болып, кейде бұл бірнеше апталар мен айларға созылса, ал кейде телеграфты қолдануға тура келген болса, бүгінде ол тез орындалады: шешім қабылданғаннан кейін, бірнеше секундтан соң ол мүдделі адамдарға жететін болады. Шіркеу органының қасиетті иерархияның шешімдері туралы хабардар болуы сапалық тұрғыдан өзгерді, қауесет, өсек, рұқсат етілмеген пікірдің айтылуы күрт төмендеді. Шіркеудің ресми ақпаратын тарату жылдамдығы артты. Бұл, әрине, шіркеудің біртұтастығын нығайтты, иерархия шешімдерін жеткізудің жылдамдығын арттырды» [8]. Егер православиенің ғаламторды игеруде беретін басымдықтарының бірі – шіркеу мен қоғамдық өмірді шоғырландыру және шіркеу мүшелерінің ондағы болып жатқан жағдайлар туралы хабардар болу деңгейін көтеру болса, онда исламдық сайттар негізінен миссионерлік болып, алға қойған мақсаты ислами ілімдердің әртүрлі нұсқаларын тарату. Сонымен қатар, ислам казнеті мен православиенің айтарлықтай айырмашылығы – ислам казнеті даму жағдайын православтардан әлдеқайда кешірек бастап, прототипі ретінде батыстық мұсылмандық ресурстарды қолданса, ал Ресей – православиелік рунет дамуында көшбасшы. Ислами сайттардың, әсіресе, дәстүрлі исламға қатысы жоқ, «импортталған» ислам материалдары, әдетте, дереккөздері көрсетілмейтін шетелдік сайттардың аудармалары болып келеді. Сол себептен дінге қатысты мәліметтерді ҚМДБ атынан тіркелген ресми веб-сайттардан алған дұрыс. Шындығында, интернет – діни өмір туралы жаңалықтар пайда болатын және таралатын негізгі ақпараттық арна. Сонымен қатар, бүгінде интернеттің діни сегменті дін туралы жазатын зайырлы журналистер үшін басты сарапшы ресурсқа, дінге қатысты тақырыптағы басылымдарға арналған анықтамалық ақпарат көзіне айналды. Әлеуметтік және саяси маңызды тұжырымдамаларды жасауда қолданылатын сараптамалық ортаны қалыптастыру үшін құрылған әлеуметтік-саяси сайттар сияқты, діни ғаламтор дінге қатысты тақырыптар бойынша сараптама жасайтын бірден-бір алаңға айналды. Бір ерекшелігі, діни сегментте, бұл көп жағдайда, кез-келген күштердің діни сайттардағы аналитикалық талқылау материалдарын одан әрі қолдануына назар аудартпай, стихиялық түрде пайда болды.

Ислам дінінің белсенді ғалымдарының бірі және «Дүниежүзілік мұсылман ғалымдары қауымдастығының» төрағасы Юсуф Әл-Қарадауи интернетті ислам дінінің мүддесі үшін қолданудың қажеттілігі туралы мәлімдеп, интернетті қолдануға шақырды [9]. Қағба имамдарының бірі Абдуррахман Әс-Судейс: «Егер сахабалар ислам дінін тарату үшін сапарға шықпағанда, ислам осы деңгейде дамымаған болар еді. Қазіргі заманда мұсылмандар ислам дінін тарату үшін интернет пен электронды бұқаралық ақпарат құралдарын қолдануы керек» – деген [10]. Қай дін немесе жамағат, секта өкілдерін алып қарайтын болсақ, қазіргі кезде барлығы интернет желісін пайдаланады. Егер қандай да діни ұйымның немесе жамағаттың өзіндік ресми веб-сайты болмаса, онда ол кеңсесі жоқ ұйым сияқты. Өйткені олардың келбетін көрсететін айнасы веб-сайт болып саналады. Сондықтан кез-келген ұйым алдымен өздерінің веб-сайтын жасап, безендіріп, интернет

кеңістігінде белсенділігін арттырады. Ілгері заманда дінді насихаттау үшін алаңдарға шығып, халықпен араласып, диалог құруды қажет етсе, қазіргі таңда оның орны – интернет кеңістігі.

Протоиерей В. Чаплин атап өткендей, «Интернет – православие зияткерлік кеңістігі үшін табылған зат, өйткені интернет кедейлерге арналған БАҚ болып саналады. Дәл осы себептен ғаламтордағы православие туралы ойлар, православие ақпараты, ғаламтордағы православие байланысының үлесі теледидар мен газеттерге қарағанда анағұрлым жоғары. Бізде апта сайын діни-әлеуметтік тақырыптар бойынша бірнеше ондаған салмақты мәтіндер жарыққа шығады, олардың көпшілігі, бәлкім, 10/9-ы ғаламторда жарияланады» [8, 24]. Сонымен бірге, «Сова» ақпараттық-талдау орталығының директоры Александр Верховскийдің: «Ғаламтор діни ұйымдар мен діни сарапшылар үшін қазіргі қоғамдық-саяси пікірталастар кеңістігіндегі діни тақырыптың маргиналдылығына байланысты ғана қолайлы дегенде пікірі бар. Верховскийдің пайымдауынша, ғаламторда қоғамдық кеңістік жиегіне ығыстырылған тақырыптар ғана бар: «Бұл жерде мәселе үлкен саясат үшін маңызды болуы мүмкін баспасөз бостандығына қысым жасауда емес, алайда бұл мәселелерде маңызды болмаған, көпшілікті онша қызықтырмайтын мәселе болып табылуында. Кез-келген зайырлы баспа басылымындағы бұл қызықсыз мәселе, редакторға саңылауды бітеуге қажет болғанға дейін бір бұрышта өз кезегін күтпек немесе діни өмір туралы мақаласының жарыққа шыққанын қалайтын журналист ұзақ уақыт күреседі. Ал мұнда – қалағаныңды істе және бұл ыңғайлы. Мұндай салыстырмалы маргиналды қауымдастықтардың барлығы интернеттің қозғалтқыштары болып саналады. Қазір, мысалы, оппозициялық публицистика біртіндеп интернетке кетіп жатыр. Оның мәні, қысымға ұшырағаны емес, авторлардың саны аз болғандықтан, шеңбер тарылып, мәтіндерді интернетке орналастыру оңайырақ болды. Діни интернеттегі бұқаралық ақпарат құралдарының дамуына сенген энтузиастардың бұған дейін істегендері ережеден тыс болатын. Осы интернет-эйфория орын алған уақытта діни ұйымдар ақпараттық емес, өкілді сайттарды аша бастады. Ал қазір олар барлық жерде бар. Бұл тек прогресс қана емес, сонымен бірге осы бағытта маманданған діни ұйымдар мен зайырлы сарапшы топтардың бұл өмірдегі орнын парасатты тұрғыда мойындау. Иә, біз мэинстримге қатысы жоқ нәрсемен айналысудамыз. Десекуляризация туралы қалағанша сөз етуге болады: иә, бұл тақырып маңызды бола бастады, бірақ біздің орнымыз дәл осында, үлкен баспасөзде емес, тіпті теледидарда да емес. Интернетте ол ақпараттық жобалардың иерархиясына ие болып, дамып келеді, міне, толыққанды өмір осында. Жоғары басымдылық платформасына интервенция жасау әрекеті іске аспады» [11].

Бұл көзқарасқа сәл басқа қырдан қарауға болады. Интернет – «үлкен БАҚ-та» әрекет ететін идеологиялық және формалды кедергілермен шектелмеген еркін орта, сонымен қатар мұнда басқа да коммерциялық схемалар жұмыс істейді. Сондықтан қазіргі заманғы медиа ағымында (баспа, радио және теледидар) жасанды түрде тарылған тақырыптар ауқымы мұнда анағұрлым кең көрінеді. Әлеуметтанушылар интернеттің «таргеттелгені» туралы айтқанда, тар мақсатты сайттардың қажетті санын құру мүмкіндігі туралы да сөз қозғалады, олар өз кезегінде одан да тар бағыттағы тақырыптарға бөлінеді. Осылайша, кейбір сайттардың нысаналы аудиториясы берілген тар тақырыпқа қызығатын 10-15 адамға дейін тарылуы мүмкін. Алайда, сайттың «негізгі аудиториясын» баспа таралымымен салыстыруға және тар тақырыпты сайтты маргиналды деп жариялаудың қажеті жоқ. Портализация үрдісіне сәйкес тар тақырыпты сайттар, әдетте, тақырып бойынша кеңірек порталдың бөлігі болып саналады, олар өз кезегінде одан да үлкен тақырыптық әмбебаптыққа ие порталдар желісіне біріктірілуі мүмкін. «Дербестендірілген контент» идеясын жүзеге асырудың бір түрі осындай. Мазмұнды әртараптандыруға және тақырыптар мен сілтемелердің қажетті санын иерархиялық түрде құруға мүмкіндік беретін бұл жүйе діни ұйымдардың қазіргі заманғы БАҚ кеңістігін игеруіндегі негізгі кедергілерінің бірін жеңуге көмектеседі, атап айтқанда, діни тақырыптар қазіргі журналистиканың қазіргі форматтары үшін «ұзақ»: кез-келген діни өмірге байланысты оқиғаны жарыққа шығарғанда журналистер тарихи және діни шегініс жасауы керек. Гиперсілтемелер жүйесі, сонымен бірге материалдарды «дамудағы сюжет» қағидаты бойынша ұйымдастыру мүмкіндігі бұл жағдайды шешуге көмектеседі.

Қазақстанның діни өміріндегі интернеттің маңызды рөлі – қазіргі уақытта ресми деңгейдегі емес, діни ұйымдардың қарапайым мүшелері мен белсенділер деңгейіндегі дінаралық сұхбаттың жалғыз алаңы. Шынайы өмірде әртүрлі діндер мен конфессиялардың өкілдері ауқымды көлемдегі мәселелерді талқылауда сирек кездеседі. Ал интернетте олар бір кеңістікке енеді. Ең алдымен,

интерактивті форумдар мен интернет-БАҚ сайттарындағы материалдарды талқылау туралы сөз қозғалуда. Бұл диалог әрдайым дұрыс бола бермейді, өйткені адамдар көбіне лақап аттармен жасырынады, бірақ дегенмен бұл пікір алмасу. Орыс Православие Шіркеуінің Синодтық Діни Комиссиясының кеңесшісі, Ресей Федерациясының Президенті жанындағы Ресей Мемлекеттік қызметі академиясының оқытушысы Александр Кырлежевтің айтуынша, «Диалогқа қосылу мүмкіндігі бар форумдар мегаполисте және жалпы үлкен кеңістікте агора қағидасының жандануы, атап айтқанда, ешқандай мәртебесі жоқ, тек өзгені тыңдап, ойындағысын білдіргісі келген адамдардың еркін пікір алмасуын білдіреді. Бұның не нәрсеге әкелетіні маңызды. Бір жағынан пайдалы, өйткені ол адамның өзі жауап беруі тиіс жағымсыз пікір, сұрақтар фактісімен бетпе-бет келтіреді. Міне, діни байланыстың ақпарат алу, пікір алмасу, қажет нәрсені іздеу, ғаламтор арқылы діни және басқа әлемде қарама-қарсы көзқарастармен кездесу мүмкіндігі бар» [11, 51]. А. Верховский Кырлежевпен ішінара келіседі: «Ресми корпоративті сайттар арқылы тарататын діни бірлестіктің біртұтас дауысын тек оның басқармасы ғана білдіре алады және онда ешкім ешкіммен таласып жатқан жоқ. Меніңше, пікірлерді диалог деп атауға келмейді, өйткені ол тең дәрежеде емес» [11, 52].

Мұнда ең маңызды мәселеге – интернет-қауымдастықтардағы діни және мәдени сәйкестілік мәселесіне тоқталамыз. Интернет діншілдік көрінісін өзгертуге септігін тигізеді. Өртүрлі интернет-қауымдастықтарға қатысу мүмкіндігінің арқасында дінге сенуші адам «екінші діни сәйкестілікке» ие болады, яғни бір қоғамдастықтың мүшесі болуымен қатар, ол бүкіл әлем бойынша таралған, тұлғааралық байланыстар орнайтын, теоретикалық және қоғамдық-діни мәселелер бойынша пікірталас жүргізілетін мүдделер қауымдастығының мүшесі болады. Көбінесе бұл виртуалды өмір түрленіп, бір қауымдастыққа қарағанда жеке адамның рухани және зияткерлік қажеттіліктеріне сәйкес келеді. Православие мен католицизм жағдайында виртуалды қауымдастық адамның шіркеу қызметтері мен рәсімдерге қатысуын алмастыра алмайды, сондықтан ол «қосарланған» діни өмір салтын сүруге мәжбүр, басқа діндер бірлескен рәсімдерді өткізуге еркіндік береді, сондықтан, мысалы, мұсылман қауымдастығының немесе неопротестант және шығыс культінің мүшесі атану үшін компьютерден бас алу және діндестермен шынайы өмірде кездесу міндет емес. Осы фактіні растау үшін «Ислам.ру» тәуелсіз ислам ақпараттық каналының бас редакторы Ринат Мухамедовтың сөздерін келтіруге болады: «Адамдар өз ұстанымдары мен шынайы сенімдерінің арқасында мұсылман болады. Сайтта олар өздерінің шешімдері туралы әлемге хабарлау үшін өздері жайында ақпарат қалдыра алады. Сонымен қатар, мұнда тек діни аспект те бар: шарият бойынша исламды қабылдау кезінде екі мұсылманның болғаны жөн. Кейбіреулер үшін, мысалы, қазіргі жағдайда мұсылман болғысы келетін адам ислам дінін ұстанбайтын жерде өмір сүрсе немесе қандай да бір себептермен олармен кездесуге дайын болмаса қиын» [12]. «Islam.ru» сайтында «Мен исламды қабылдаймын» батырмасы бар, оны басу, сайт авторларының пікірі бойынша, «Алладан басқа Құдай жоқ, Мұхаммед Оның елшісі» деген формуланы көпшілік алдында айтумен бірдей.

Қорытынды. Қорытындылай келсек, интернет желісінің өзіндік ерекшеліктері діни тұрғыда күн санап артып келеді. Интернет өз алдына виртуалды ақпараттық қоғамды қалыптастырып, діни аспектілерді де қамтып үлгерді. Қоғамдық сипат алған бұл құбылысқа икемделе отырып, қоғамдағы діни қатынастарды реттейтін сегмент қалыптастырудың Қазақстан қоғамы үшін маңызы өте зор. Бұл мәселеге негіз болып отырған фактор – қазіргі заман талабы. Виртуалды ақпараттық қоғам форматына сай икемделе отырып, интернет ресурстарын қолдану арқылы дінді насихаттау – ақпараттық қоғамның қажеттілігі. Осы қажеттіліктің орнын толтыра алмаған кез-келген дін ерушілерінен көз жазып, сол дінді ұстанатындардың қатары сирей береді. Кез-келген дін сол дінді ұстанатындардың және жақтайтындардың саны мен сапасына қарай қуатты болады. Интернеттің осындай тиімділігін сезінген кез-келген дін оны пайдаланудан шектелмеді.

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ИСПОЛЬЗОВАНИЕ ИНТЕРНЕТ-РЕСУРСОВ РЕЛИГИОЗНЫМИ ОРГАНИЗАЦИЯМИ

Аннотация. В данной статье рассматривается эффективность использования интернет-ресурсов для пропаганды религий. Сегодня широко распространено применение интернет-ресурсов, в том числе веб-сайтов для религиозной пропаганды. Автор описывает роль и функции веб-сайтов в регулировании религиозных отношений в виртуальном информационном обществе.

В эпоху глобализации весь мир превратился в маленькую деревню. Можно с уверенностью сказать, что причиной изменения мира и превращения его в информационное общество стали интернет-ресурсы. Посредством сети Интернет можно за считанные секунды узнать, что происходит в любой точке мира. Таким образом, Интернет стал неотъемлемой частью повседневной жизни человека. Сегодня люди, лишенные доступа к Интернету, чувствуют себя отшельниками в пустыне. Это доказывает тот факт, что общество стало информационным и виртуальным.

Интернет стал реальной силой, не только информирующей, но и виртуализирующей общество. Большинство офлайн-сервисов, которые были до появления Интернета, теперь стали доступны онлайн. Например, образование стало доступно дистанционно через Интернет. Покупки также совершаются через интернет-магазины. Денежные переводы осуществляются онлайн с момента появления Интернета. Таким образом, подавляющее большинство услуг, которые необходимы для удовлетворения человеческих потребностей, стали цифровизованы и виртуализированы.

Одна из неотъемлемых ценностей человеческой природы это – вера. Из семи миллиардов человек, обитающих на Земле, более 84% исповедуют ту или иную религию. Согласно статистике 2019 года, 57% населения мира, или более четырех миллиардов человек пользуются Интернетом. В эпоху, когда все области, тесно связанные с человеческой жизнью, виртуализированы, религиозные отношения не остались в стороне от этих изменений. Интернет доказал свою эффективность в распространении религии. Проповедническая работа ведется исключительно через Интернет, через веб-сайты. Причиной тому является эффективность в плане экономии времени и материальных средств. Так, например, если вы хотите послушать какого-то проповедника, вам не обязательно с ним лично встречаться, достаточно договориться и одновременно подключиться к Интернету. Более того, вы можете зарегистрироваться, прослушать и просмотреть проповеди нужного проповедника на специальном веб-сайте. Наряду с развитием Интернета, необходимость поездки в определенную страну или место для получения религиозного образования значительно снизилась. Появилась возможность получить образование в религиозном университете через дистанционное обучение благодаря Интернету. Интернет снял многие барьеры и границы во временном и географическом пространстве, поднял человеческую жизнь на новый уровень и открыл много возможностей.

Сайты успели превратиться в зеркало любой религиозной организации. Организация, не имеющая собственного веб-сайта в информационном обществе, похожа на организацию без адреса или определенного местоположения. Нынешние потребители во многом узнают любую организацию через их личный сайт. Религиозные организации, приверженец любой религии или человек, который хочет принять новую веру может с легкостью ознакомиться с информацией через веб-сайты. Исходя из всего вышперечисленного, очень важно предоставлять религиозную информацию через веб-сайт в соответствии с техническими и религиозными нормами.

Ключевые слова: кибер-религиозность, кибер-религия, офлайн, онлайн, информационное общество, виртуальное общество, казнет, рунет, синодальный, маргинальный, религиозная пропаганда, проповедник, временное пространство, религиозная норма.

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USE OF INTERNET RESOURCES BY RELIGIOUS ORGANIZATIONS

Abstract. In the era of globalization, the whole world has turned into a small village. It is safe to say that the reason for the change in the world and its transformation into an information society was Internet resources. Through the Internet, you can find out in seconds what is happening anywhere in the world. Thus, the Internet has become an integral part of a person's daily life. Today, people denied access to the Internet feel like hermits in the desert. This proves the fact that society has become informational and virtual.

The Internet has become a real force, not only informing but also virtualizing society. Most of the offline services that were before the advent of the Internet are now available online. For example, education has become available remotely via the Internet. Purchases are also made through online stores. Money transfers have been made online since the advent of the Internet. Thus, the vast majority of services that are demanded to meet human needs have become virtualized.

One of the inherent values of human nature is faith. More than 84% of the seven billion people living on Earth are of one religion or another. According to statistics for 2019, 57% of the world's population, or more than four billion people, use the Internet. In an era when all areas closely related to human life are virtualized, religious relations did not remain distant from these changes. The Internet has proven to be effective in spreading religion. The preaching work is done exclusively over the Internet, through websites. The reason for this is efficiency in terms of saving time and money. So, for example, if you want to listen to a preacher, you do not have to meet with him tet-a-tet, you just need to make an agreement and simultaneously connect to the Internet. Besides, you can register, listen to, and view the sermons of the desired preacher on their website. The necessity of traveling to a specific country or place for religious education has decreased with Internet development. The possibility of acquiring knowledge and getting an education at a religious university through distance learning are available nowadays. The Internet has removed many barriers and boundaries in time and space, raised human life to a new level, and opened up many opportunities.

The sites have become a mirror of any religious organization. An organization that does not have its own website in the information society is like an organization without an address or specific location. Today's consumers will mostly recognize any organization through their personal website. Religious organizations, adherents of any religion, or a person who wants to embrace a new faith can easily access the information through the website. For all of the above, it is crucial to provide religious information through the website under technical and theological norms.

Key words: cyber-religiosity, cyber-religion, offline, online, information society, virtual society, kaznet, runet, synodal, marginal, religious propaganda, preacher, time-space, the theological norms.

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Выступление Президента Национальной академии наук Республики Казахстан, академика Журинова М.Ж. на церемонии награждения Web of Science Award «Лидер науки» 2020 (25 ноября 2020 г.)

Рейтинги академических журналов НАН РК во все времена были высокими и заслуживающими подлинное доверие.

Академия наук с 1946 года прошлого столетия является учредителем 8 журналов, которые охватывают все основные отрасли отечественной мировой науки.

Еще в 60-х и 70-х годах XX века вместе с другими советскими журналами они вошли в международный реестр высокорейтинговых научных журналов. С 1960 г. журналы НАН РК систематически направляются в крупные национальные библиотеки 73 зарубежных стран – США, Великобритании, Германии, Франции, Японии, стран СНГ и др.

Эти журналы выпускаются в соответствии с международными требованиями. Таким образом, достоверность научных статей, публикуемых в академических журналах, не вызывает сомнений, так как они проходят серьезную экспертизу.

Национальная академия наук всегда была заинтересована в повышении качества публикаций и соответствии журналов международному уровню, индексировании их в национальных и зарубежных информационных базах. Поэтому в редакционные коллегии наших 8 журналов входят не только ведущие ученые Казахстана, но и ближнего и дальнего зарубежья.

Были пересмотрены требования к содержанию журналов. Особое внимание обращается на качество научных статей. Изменилась языковая политика – статьи в основном издаются на английском языке. Библиографические списки даются в романском (латинском) алфавите. Для рецензирования статей, что также является обязательным условием для вхождения в международные метрические базы Scopus и Web of Science, были привлечены не только казахстанские рецензенты, но и ученые из стран СНГ. Обеспечен открытый доступ к журналам. Так, на сайте НАН РК имеется электронный архив всех 8-ми журналов за 2012–2020 годы.

Таким образом, издательские требования, предъявляемые к журналам, соблюдаются, периодичность выпуска не нарушается.

Начиная с января 2018 года 4 журнала НАН РК были выбраны Clarivate Analytics для индексирования и реферирования в Базе Emerging Sources Citation Index: Вестник НАН РК; Известия НАН РК. Серия химии и технологии; Известия НАН РК. Серия физико-математическая; Известия НАН РК. Серия геологии и технических наук

А журнал НАН РК «Известия НАН РК. Серия геологии и технических наук» с июля 2016 г. индексируется как в базе Clarivate Analytics, так и в базе SCOPUS (Elsevier).

О состоянии научно-технологического потенциала Республики Казахстан можно судить по исследовательской активности ученых.

По данным InCites (Clarivate Analytics), количество публикаций Казахстана за 2015-2019 гг. составило 14 852 ед., что позволило стране занять 75-е место в мировом рейтинге из 214 стран.

Страны ЕАЭС распределились следующим образом: Россия (382317 док.) – 15; Беларусь (10836) – 81; Армения (6333) – 95; Кыргызстан (1461 док.) – 138 место.

Показателем научной эффективности, позволяющим сравнивать страны, организации и различные научные направления, является нормализованная средняя цитируемость. Этот критерий включает в себя агрегированную информацию по цитируемости статей, нормализованную по области науки, году и типу публикации. Если значение его равно единице, это означает соответствие среднему мировому уровню, значение больше единицы – выше среднего.

Казахстан по нормализованной средней цитируемости, значение которой 0,83 занимает лишь 183 позицию.

В первой группе стран наиболее высокий уровень данного показателя у Дании – 1,64 и 42 позиция. Показателем пример США, которые занимали первую позицию по публикационной активности, однако по нормализованной цитируемости – только 89. Из стран ЕАЭС следует отметить Киргизию, публикации которой имеют нормализованную среднюю цитируемость 2,12, обеспечивая стране 19-е место в рейтинге.

Динамика поступлений казахстанских трудов в базу данных Web of Science Core Collection (WoSCC) за рассматриваемый период показывает ежегодное увеличение числа публикаций, при этом в 2019 году по сравнению с 2015 годом – в 1,6 раза, а в мировом корпусе – только в 1,1 раз. Соответственно, доля казахстанских публикаций в мировом потоке научной информации увеличилась за эти годы в 1,5 раза и в 2019 году составила 0,12%.

Публикационный массив Казахстана за 2015-2019 годы аффилирован со 117 казахстанскими научными организациями, из которых вузов – 75, НИИ – 39, общественных организаций – 3. Более 60,3 % или 8990 публикаций – труды исследователей и профессорско-преподавательского состава вузов.

Научные труды Казахстана 14920 ед. представлены в 4084 изданиях, в том числе 10458 статей в 2804 журналах. Из общего числа журналов 2054 (74,3%) имеют импакт-фактор.

Общее число статей в журналах с импакт-фактором составляет 5515 док., или 53% общего числа журнальных публикаций.

В период с 2015-2019 годы в Emerging Sources Citation Index обрабатываются 12 казахстанских журналов. Из них в базу включены 2339 статей, в среднем 30% которых процитированы.

База данных WoSCC включает в себя международные издания с тематической направленностью, охватывающей 151 научную область. Для исследований все публикации распределены по 7 областям: аграрные и биологические науки, медицина, социальные, физические, технические и прикладные науки, искусство и гуманитарные науки.

В структуре казахстанских публикаций преобладают труды, освещающие результаты исследований в сфере естественных наук – 39,8% (5945 ед.). Количество трудов в этой области почти в два раза превосходит мировой показатель. Приоритетными для нашей страны являются также технические науки, которые отражены в 34% публикаций (5077 ед.). В то же время медицина представлена в 2,7 раза меньшей долей трудов – 13,1% (1948 ед.), чем в мировом документопотоке – 34,7% (5152265 ед.). Только удельный вес трудов Казахстана по социальным наукам сопоставим с мировыми значениями в аналогичных сферах.

Уровень интеграции казахстанских ученых в мировое научное сообщество, измеряемый числом публикаций в соавторстве с зарубежными исследователями, довольно высокий – более 64% к 2017-2019 гг. Как отдельные ученые, так и научные коллективы проводят исследования совместно с другими участниками крупнейших международных проектов, развивают новые формы научно-технологического сотрудничества. Доля коллабораций с коммерческими организациями, участвующих при проведении исследований, составляет менее одного процента за анализируемые периоды. Процент журналов первого (Q1) и второго (Q2) квартилей, в которых опубликованы научные статьи казахстанских авторов составляет в среднем 56%.

Наибольший объем публикаций за 2017-2019 годы составляет по Здравоохранению, защите окружающей среды и охране труда; Сердечно-сосудистой системе и кардиологии; Иммунологии; Онкологии.

В общественных науках публикационная активность в последнем периоде несколько выросла. Нормализованная средняя цитируемость трудов в исследуемых науках в среднем за три периода приближается к среднемировому показателю и составляет 0,92.

В двух последних из рассматриваемых периодов ни одна публикация не вошла в категорию высокоцитируемых. Только в 2015-2017 гг. такие работы были, но их доля весьма незначительна. Быстроцитируемые работы в области общественных наук отсутствуют.

Уважаемые коллеги!

Наша цель – поднять качество журналов до международного уровня и войти в самые авторитетные базы цитирования, такие как Scopus, Clarivate Analytics.

Желаю всем творческих успехов!

Спасибо за внимание.

МАЗМҰНЫ

Ғылыми мақалалар

<i>Ордабаева Г., Джусупбекова Г., Рахымек Н.</i> Cisco Packet Tracer арқылы виртуалды жергілікті желіні жобалау және модельдеу.....	6
<i>Мырхалықов Ж.У., Степанов С.Г., Калдыбаев Р.Т., Арипбаева А.Е., Сатаев М.И.</i> Аса жоғары молекулалық پلیэтиленді өртке су себетін түтік құбырдың армиленген қаңқасын өндірудегі жіп қолданысын оларды жетілдірудің бір бағыты ретінде қарастыру.....	15
<i>Сазамбаева Б.Т., Самогин Ю.Н., Тогызбаева Б.Б., Касымбеков Ж., Маханов М., Джундибаев В.Е., Кинжебаева А.С.</i> Құбырлы таспалы конвейерді зерттеу мәселесі.....	19
<i>Кавамото Йоши, Нұртазин С., Шевцов А., Романкулов Э., Луцай В., Салмұрзаұлы Р., Ықласов М., Қонысбаев Т., Саякова З., Рысбекова А., Утепова И., Атишабар Б.</i> Қазақстанда мекендейтін үлкен құмтышқанның (<i>Rhombomys orimus</i> Licht., 1823) кейбір популяциясының экологиялық-биологиялық және генетикалық ерекшеліктері.....	28
<i>Васильев О.А., Семенов В.Г., Тулеубаев Ж., Васильев А.О., Сарсембаева А., Есембекова З.Т., Зияева Г.К.</i> Чубаш Республикасы Чебоксары ауданындағы ақшыл-сұр орман топырағының топырақ түзуші кийршықты-шайынды жабыны.....	38
<i>Сұлтангазина Г.Ж., Курприянов А.Н., Курприянов О.А., Бейшов Р.С.</i> Солтүстік Қазақстандағы <i>Pulsatilla multifida</i> Mill. популяциясының онтогенезі және жас құрылымы.....	46
<i>Чугреев М.К., Баймұқанов Д.А., Блохин Г.И., Маловичко Л.В., Зубалий А.М., Скворцова Е.Г., Дошанов Д.А., Ткачева И.С., Круглов С.А.</i> Ресей Федерациясының солтүстік аймағындағы <i>Apis mellifera mellifera</i> L. еуропалық қара араның кіші түрлерінің қазіргі жағдайы.....	54
<u>Шабдарбаева Г.С.</u> , <i>Ялышева С.В.</i> Қазақстан Республикасының аймағында эхинококкоздың таралуын ретроспективті талдау.....	63
<i>Майлыбаева А., Нурпейсова А.С., Асанжанова Н.Н., Қожамқұлов Е.М., Инкарбеков Д.А., Абитаев Р.Т., Джекебеков К.К., Нурабаев С.Ш., Хайруллин Б.М., Қыдырбаев Ж., Валдовска А., Қасенов М.М., Закарья К.Д.</i> Құс тұмауының H5 субтипін өсіру жағдайын оңтайландыру.....	71
<i>Дюльгер Г.П., Дюльгер П.Г., Алиханов О., Седлецкая Е.С., Латынина Е.С., Обухова М.Е., Леонтьева И.Л., Бычков В.С., Баймұқанов Д.А.</i> Мысық сүт безі ісігінің эпидемиологиясы, дамудағы қауіп факторы және патоморфологиялық ерекшеліктері.....	78
<i>Семенов В.Г., Елемесов К.Е., Алентаев А.С., Тюрин В.Г., Баймұқанов А.Д.</i> Сүтті-тауарлы фермадағы мүйізді ірі қара мал адаптогенезі мен биологиялық потенциалы.....	85
<i>Семенов В.Г., Баймұқанов Д.А., Алентаев А.С., Кириллов Н.К., Карынбаев А.К., Альдяков А.В.</i> Сүтті ірі қара мал шаруашылығында бұзау өсірудің инновациялық технологиясы.....	93
<i>Красноперова Е.А., Донник И.М., Юлдашбаев Ю.А., Лещева М.Г., Қулаков В.Н., Чылбак-оол С.О.</i> Жергілікті азық-түлік қауіпсіздігін қамтамасыз ету сатылары.....	100
<i>Омарова А., Тургульдинова С.</i> Жайылымдық жерлердің сапасын экологиялық бағалау.....	108
<i>Бринцева Е., Глибовец В.</i> Цифрлық экономикадағы адам мүмкіндігін кеңейту контекстіндегі жұмыспен қамтудың баламалы түрлері (Украина үлгісі бойынша).....	114
<i>Жағыпарова А.О., Тулегенова Ж.У., Бекбусинова Г.К., Соловьева И.А., Баева Д.А.</i> Мемлекеттік аудит сапасы мен тиімділігінің өсу факторлары.....	120
<i>Жұрынов Ғ.М., Тулеметова А.С., Садықбекова А.А., Жаздықбаева Д.П., Таласов М.Ж.</i> Кәсіпорындарында логистиканы басқаруды ұйымдастыруды жетілдіру жолдары.....	130
<i>Жұрынов Ғ.М., Исатаева Г.Б., Сатыбекова Э.Г., Оразова Б.Б., Әбілқасым А.Б.</i> Инновациялық қызметті мемлекеттік реттеу жүйесінің тиімділігін жоғарылатудың шетел тәжірибиесі.....	138
<i>Көкенова А.Т., Мауленкулова Г.Е., Саменова Н.Ж., Турдалиева У.Н., Арапбаева Ж.Ш.</i> Түркістан облысында инновациялық қызметті мемлекеттік реттеу тетігін жетілдіру.....	145
<i>Көкенова А.Т., Садықбекова А.А., Стаценко О.А., Оразова Б.Б., Ризаходжаев А.А.</i> Аграрлық секторда кәсіпкерлік құрылымдардың бәсекеге қабілеттілігін қамтамасыз ету механизмдері.....	154
<i>Көкенова А.Т., Тулеметова А.С., Коптаева Г.П., Онгарова Г.Т., Сатыбалдина А.Т.</i> Түркістан облысындағы өндіруші кәсіпорындардың бәсекеге қабілеттілігін арттырудың экономикалық механизмін жетілдіру жолдары.....	162
<i>Кодашева Г.С., Ажмухамедова А.А., Арынова З.А., Шайкенова Н.Т., Кабдуллина Г. К., Саванчиева А.С., Амержанова Д.А.</i> COVID -19 пендемиясының Қазақстан банк секторының қаржылық тұрақтылығына әсері.....	172

<i>Чоросова О.М., Протодеяконова Г.Ю., Герасимова Р.Е., Аетдинова Р.Р., Ниязбекова Ш., Захаров Н.Т.</i>	
Оқытушылардың сандық күзiреттiлiгiн бағалаудағы квалиметриялық тәсiл.....	181
<i>Буркальцева Д.Д., Тимошенко О.Е., Голынский В.Б., Дыманова-Голынская Т.Т., Савченко Л., Ниязбекова Ш., Гук О.А.</i>	
Тұлғаның психологиялық ерекшелiктерiне цифрландыру үдерiсiнiң әсерi.....	188
<i>Майсигова Л.А., Ниязбекова Ш.У., Буневич К.Г., Сайымова М.Д., Блажевич О.Г., Исаева Б.К., Рей И.Ю.</i>	
Сингапурдың экономикалық дамуы мен ақша-несие саясатының ерекшелiктерi.....	195
<i>Насырова А., Рудык Н.В., Щеголева Е.П., Колесникова Е., Вильгута О.Ф., Ниязбекова Ш.У., Джалал Мир Абдул Каюм</i>	
Халықты әлеуметтiк қорғау функцияларын қамтамасыз ету үшiн ет өнеркәсiбiн импортпен алмастыру туралы: ерекшелiктерi мен талдау.....	204
<i>Скоробогатова Т., Буркальцева Д., Луняков О., Ниязбекова Ш., Гук О., Короткевич Э., Гойгова М.</i>	
Институттардың өзара әрекеттесу мәселелерi: қызметтiн тауардың ерекше түрi ретiндегi құндылығы (логистикалық тәсiл).....	213
<i>Сембиева Л.М., Тажбенова Г.Д., Орынбекова Г.А., Мандражи З., Петров А.М.</i>	
Бағалау мен өлшемдердегi сараптамалық-талдау қызметiнiң әлемдiк даму үрдiстерi.....	223
<i>Бельгибаева Ж.Ж., Надыров Ш.М., Жангуттина Г.О., Бельгибаев А.К., Бельгибаев А.А.</i>	
Қазақстанның туристiк ағыны: статистика, география, трендтер.....	232
<i>Чеботарева И.А.</i>	
Ресей Федерациясы мен аймақтық билiк өкiлеттiгiн туризмнiң тұрақты даму тұрғысынан саралау.....	240
<i>Мурзабекова Ж.Т., Насбекова С.К., Осмоналиева Н.Ж.</i>	
Қырғыз отбасындағы мүлiк қатынастары: құқықтық аспектiлер.....	249
<i>Нестеров А.Ю.</i>	
Ресей федералды қылмыстық-атқару қызметi түрмесiндегi кәмелетке толмаған сотталғандардың жеке басының қауiпсiздiк құқығы: теориялық және әдiснамалық аспект.....	257
<i>Плоцкая О.А., Колмаков П.А.</i>	
XVII-XIX ғасырлардағы Ресейдiң фин-угор және самодий халықтарының дағдылы құқығы: конвергенция және рецепция.....	268
<i>Әбсаттаров Р.Б., Сейсен Н.Б., Әбсаттаров Ф.Р., Набиев В.Г.</i>	
Қазақстан қоғамындағы ұлттық қайшылықтар және оны шешу жолдары.....	275
<i>Тацева А. И., Гриднева С. В., Арпентьева М. Р.</i>	
Жоғары оқу орындарындағы девиантты студенттер мен академиялық консультациялардың маңызды мотивациялық сферасы.....	283
<i>Касьмова Г.К., Краснощеченко И.П., Меньшиков П.В., Косов А.В., Худякова Т.Л., Клепач Ю.В., Подольская И.А., Степанова О.П., Арпентьева М.Р.</i>	
Бiлiм беру ұйымдарында бизнес-кеңес және кәсiби қызметтiн мета-технологиялары.....	291
<i>Тюмасева З.И., Валеева Г.В., Насырова Э.Ф., Краснощеченко И.П., Юсипова И.В., Худякова Т.Л., Касьмова Г.К., Арпентьева М.Р.</i>	
Ценностно-мотивационная сфера девиантных людей и психологическая помощь в образовательных отношениях.....	303
<i>Долгова В.И., Огнивова П.В., Богачев А.Н., Голыева Г.Ю., Кондратьева О.А., Леонов П.Л.</i>	
Эмпатия деңгейi төмен жасөспiрiмдердiң коммуникативтi дағдыларын қалыптастыру.....	313
<i>Айдаров Б.Ж., Танкиш Н.П., Утегенов Б.Д.</i>	
Кәсiби педагогикалық ұтқырлық және оны қалыптастыру ерекшелiктерi.....	322
<i>Абылкасымова А.Е., Кушербаева М.Р., Тамаев С.Т.</i>	
Әл-Фараби еңбектерiндегi физика мен математиканың әдiстемелiк мәселелерi.....	332
<i>Мальгаждарова Т.Г.</i>	
Қазақстан Республикасының ұлттық бiлiм беру моделi –ұлттық бiрегейлiктi iске асырудың кiлтi ретiнде.....	341
<i>Әпендиев Т.Ә., Сатов Е.Ж.</i>	
Кенесары ханның ұлт тәуелсiздiгi жолындағы әрекетiне қатысты бiрқатар материалдар (1820-1840 жж.).....	348
<i>Есім Ғ., Саркулова М.С., Әмен А.Ж.</i>	
Этникалық диаспора мәдениетiнiң жүйесi мен генезисi.....	355
<i>Нүсiнбаев Е.Б., Манабаев Б.М., Исахан М.</i>	
Дiни ұйымдардың интернет ресурстарын қолдануы.....	361

Ақпараттық хабарламалар

Қазақстан Республикасы Ұлттық ғылым академиясының президентi, академик Журинов М.Ж. Web of Science сыйлығында «Ғылым көшбасшысы» 2020 (25 қараша 2020).....	369
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СОДЕРЖАНИЕ

Научные статьи

<i>Ордабаева Г., Джусупбекова Г., Рахымек Н.</i> Проектирование и моделирование виртуальной локальной сети с использованием Cisco Packet Tracer.....	6
<i>Мырхалыков Ж.У., Степанов С.Г., Калдыбаев Р.Т., Арипбаева А.Е., Сатаев М.И.</i> Использование нитей из сверхвысокомолекулярного полиэтилена для производства армирующих каркасов напорных пожарных рукавов как одно из направлений улучшения их эксплуатационных характеристик.....	15
<i>Сазамбаева Б.Т., Самогин Ю.Н., Тогизбаева Б.Б., Касымбеков Ж., Маханов М., Джундибаев В.Е., Кинжебаева А.С.</i> К вопросу исследования трубчатого ленточного конвейера.....	19
<i>Кавамото Йоши, Нуртазин С., Шевцов А., Романкулов Э., Луцай В., Салмурзаулы Р., Икласов М., Конысбаев Т., Саякова З., Рысбекова А., Утепова И., Атишабар Б.</i> Эколого-биологические и генетические особенности некоторых популяций большой песчанки (<i>Rhombomys opimus</i> Licht., 1823) Казахстана.....	28
<i>Васильев О.А., Семенов В.Г., Тулеубаев Ж., Васильев А.О., Сарсембаева А., Есембекова З.Т., Зияева Г.К.</i> Лессовидные суглинки как фактор почвообразования светло-серых лесных почв в Чебоксарском районе Чувашской Республики.....	38
<i>Султангазина Г.Ж., Курприянов А.Н., О.А. Курприянов, Бейшов Р.С.</i> Онтогенез и возрастная структура популяций <i>Pulsatilla multifida</i> Mill. в условиях Северного Казахстана.....	46
<i>Чугреев М.К., Баймуканов Д.А., Блохин Г.И., Маловичко Л.В., Зубалий А.М., Скворцова Е.Г., Дошанов Д.А., Ткачева И.С., Круглов С.А.</i> Современное состояние подвида темных европейских пчел <i>Apis mellifera mellifera</i> L. на севере их ареала в Российской Федерации.....	54
<u>Шабдарбаева Г.С.</u> , <i>Ялышева С.В.</i> Ретроспективный анализ распространенности эхинококкоза на территории Республики Казахстан.....	63
<i>Майлыбаева А., Нурпейсова А.С., Асанжанова Н.Н., Қожамқулов Е.М., Инкарбеков Д.А., Абитаев Р.Т., Джекебеков К.К., Нурабаев С.Ш., Қасенов М.М., Хайруллин Б.М., Қыдырбаев Ж., Валдовска А., Закарья К.Д.</i> Оптимизация условий культивирования вирусов гриппа субтипа H5.....	71
<i>Дюльгер Г.П., Дюльгер П.Г., Алиханов О., Седлецкая Е.С., Латынина Е.С., Обухова М.Е., Леонтьева И.Л., Бычков В.С., Баймуканов Д.А.</i> Эпидемиология, факторы риска развития и патоморфологические особенности опухолей молочной железы у кошек.....	78
<i>Семенов В.Г., Елемесов К.Е., Алентаев А.С., Тюрин В.Г., Баймуканов А.Д.</i> Адаптогенез и биологический потенциал крупного рогатого скота на молочно-товарных фермах.....	85
<i>Семенов В.Г., Баймуканов Д.А., Алентаев А.С., Кириллов Н.К., Карынбаев А.К., Альдяков А.В.</i> Инновационные технологии выращивания телят в молочном скотоводстве.....	93
<i>Красноперова Е.А., Донник И.М., Юлдашбаев Ю.А., Лещева М.Г., Кулаков В.Н., Чылбак-оол С.О.</i> Этапы обеспечения региональной продовольственной безопасности.....	100
<i>Омарова А., Тургульдинова С.</i> Экологическая оценка качества пастбищных угодий.....	108
<i>Бринцева Е., Глибовец В.</i> Альтернативные виды занятости в контексте расширения возможностей человека в цифровой экономике (на примере Украины).....	114
<i>Жагыпарова А.О., Тулегенова Ж.У., Бекбусинова Г.К., Соловьева И.А., Баева Д.А.</i> Факторы роста качества и эффективности государственного аудита.....	120
<i>Жұрынов Ғ.М., Тулеметова А.С., Садықбекова А.А., Жаздықбаева Д.П., Таласов М.Ж.</i> Пути совершенствования организации управления логистикой на предприятиях.....	130
<i>Жұрынов Ғ.М., Исатаева Г.Б., Сатыбекова Э.Г., Оразова Б.Б., Әбілқасым А.Б.</i> Зарубежный опыт повышения эффективности системы государственного регулирования инновационной деятельности.....	138
<i>Кокенова А.Т., Мауленкулова Г.Е., Саменова Н.Ж., Турдалиева У.Н., Арапбаева Ж.Ш.</i> Совершенствование механизма государственного регулирования инновационной деятельности в Туркестанской области.....	145
<i>Кокенова А.Т., Садықбекова А.А., Стаценко О.А., Оразова Б.Б., Ризаходжаев А.А.</i> Механизмы обеспечения конкурентоспособности предпринимательских структур в аграрном секторе.....	154
<i>Кокенова А.Т., Тулеметов А.С.а, Коптаева Г.П., Онгарова Г.Т., Сатыбалдина А.Т.</i> Пути совершенствования экономического механизма повышения конкурентоспособности добывающих предприятий Туркестанской области.....	162
<i>Кодашева Г.С., Ажмухамедова А.А., Арынова З.А., Шайкенова Н.Т., Кабдуллина Г. К., Саванчиева А.С., Амержанова Д.А.</i> Влияние пандемии коронавируса COVID-19 на финансовую устойчивость банковского сектора Казахстана.....	172

<i>Чоросова О.М., Протодяконова Г.Ю., Герасимова Р.Е., Аетдинова Р.Р., Ниязбекова Ш., Захаров Н.Т.</i> Квалиметрический подход к оценке цифровых компетенций учителей.....	181
<i>Буркальцева Д.Д., Тимошенко О.Е., Голынский В.Б., Дыманова-Голынская Т.Т., Савченко Л., Ниязбекова Ш., Гуж О.А.</i> Влияние процесса цифровизации на психологические особенности личности.....	188
<i>Майсигова Л.А., Ниязбекова Ш.У., Буневич К.Г., Сайымова М.Д., Блажевич О.Г., Исаева Б.К., Рей И.Ю.</i> Особенности экономического развития и денежно–кредитной политики Сингапура.....	195
<i>Насырова А., Рудык Н.В., Щеголева Е.П., Колесникова Е., Вильгута О.Ф., Ниязбекова Ш.У., Джалал Мир Абдул Каюм</i> Об импортозамещении мясной промышленности для обеспечения функций социальной защиты населения: особенности и анализ.....	204
<i>Скоробогатова Т.Н., Луняков О.В., Буркальцева Д.Д., Ниязбекова Ш., Гуж О.А., Короткевич Э.Р., Гойгова М.Г.</i> Проблемы взаимодействия институтов: ценность услуги как особой формы товара (логистический подход).....	213
<i>Сембиева Л.М., Тажбенова Г.Д., Орынбекова Г.А., Мандражи З., Петров А.М.</i> Мировые тенденции развития экспертно-аналитической деятельности в оценках и критериях.....	223
<i>Бельгибаева Ж.Ж., Надыров Ш.М., Жангуттина Г.О., Бельгибаев А.К., Бельгибаев А.А.</i> Туристские потоки казахстана: статистика, география, тренды.....	232
<i>Чеботарева И.А.</i> Дифференциация полномочий Российской Федерации и региональных властей в контексте устойчивого развития туризма.....	240
<i>Мурзабекова Ж.Т., Насбекова С.К., Осмоналиева Н.Ж.</i> Имущественные отношения в кыргызской семье: правовые аспекты.....	249
<i>Нестеров А.Ю.</i> Право несовершеннолетних осуждённых, находящихся в пенитенциарных учреждениях ФСИН России, на личную безопасность: теоретико-методологический аспект.....	257
<i>Плоцкая О.А., Колмаков П.А.</i> Обычное право финно-угорских и самодийских народов России в XVII–XIX вв.: конвергенция и рецепция.....	268
<i>Абсаттаров Р.Б., Сейсен Н.Б., Абсаттаров Г.Р., Набиев В.Г.</i> Национальные противоречия в казахстанском обществе и пути их решения.....	275
<i>Тацева А. И., Гриднева С. В., Арпентьева М. Р.</i> Ценностно-мотивационная сфера девиантных студентов и академическое консультирование в вузах.....	283
<i>Касьмова Г.К., Краснощеченко И.П., Меньшиков П.В., Косов А.В., Худякова Т.Л., Клепач Ю.В., Подольская И.А., Степанова О.П., Арпентьева М.Р.</i> Мета-технологии бизнес-консультирования и профессионального консультирования в образовательных организациях.....	291
<i>Тюмасева З.И., Валеева Г.В., Насырова Э.Ф., Краснощеченко И.П., Юсипова И.В., Худякова Т.Л., Касьмова Г.К., Арпентьева М.Р.</i> Девиантты адамдардың құндылық-мотивациялық сферасы және білім беру қатынастарындағы психологиялық көмек.....	303
<i>Долгова В.И., Огнивова П.В., Богачев А.Н., Гольева Г.Ю., Кондратьева О.А., Леонов П.Л.</i> Формирование коммуникативных умений подростков с низким уровнем эмпатии.....	313
<i>Айдаров Б.Ж., Танкиш Н.П., Утегенов Б.Д.</i> Профессиональная педагогическая мобильность и особенности ее формирования.....	322
<i>Абылкасымова А.Е., Кушербаева М.Р., Тамаев С.Т.</i> Методические проблемы физики и математики в работах аль-Фараби.....	332
<i>Мальгаждарова Т.Г.</i> Национальная модель образования в Республике Казахстан как ключ к реализации национальной идентичности.....	341
<i>Апендиев Т.А., Сатов Е.Ж.</i> Некоторые материалы, касающиеся движения Кенесары хана за национальную независимость (1820-1840 гг.).....	348
<i>Есим Г., Саркулова М.С., Амен А.Ж.</i> Система и генезис культуры этнической диаспоры.....	355
<i>Нусипбаев Е.Б., Манабаев Б., Исахан М.</i> Использование интернет-ресурсов религиозными организациями.....	361

Информационные сообщения

Выступление Президента Национальной академии наук Республики Казахстан, академика Журинова М.Ж. на церемонии награждения Web of Science Award «Лидер науки» 2020 (25 ноября 2020 г.).....	369
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CONTENTS

Scientific articles

<i>Ordabayeva G., Dzhsupbekova G., Rakhymbek N.</i> Design and simulation of virtual local area network using Cisco Packet Tracer.....	6
<i>Myrkhalykov Zh.U., Stepanov S.G., Kaldybaev R.T., Aripbaeva A.E., Satayev M.I.</i> Use of threads from ultra-high-molecular weight polyethylene for the production of reinforcing frames for fire pressure hoses as one of the directions for improving their operating characteristics.....	15
<i>Sazambayeva B.T., Samogin Y.N., Togizbayeva B.B., Kassymbekov Zh., Makhanov M., Dzhdubayev V.E., Kinzhebayeva A.S.</i> In reference to the research of pipe belt conveyor.....	19
<i>Kawamoto Yoshi, Nurtazin S., Shevtsov A., Romankulov E., Lutsay V., Salmurzauly R., Iklasov M., Konysbaev T., Sayakova Z., Rysbekova A., Utepova I., Atshabar B.</i> Environmental, biological and genetic features of certain populations of great gerbil (<i>Rhombomys opius</i> Licht., 1823) of Kazakhstan.....	28
<i>Vasiliev O.A., Semenov V.G., Tuleubayev Zh., Vasiliev A.O., Sarsembayeva A., Yesembekova Z.T., Ziyaeva G.</i> Loess like loams as a soil formation factor for light-gray forest soils in the Cheboksary region of the Chuvash Republic.....	38
<i>Sultangazina G.J., Kuprijanov A.N., Kuprijanov O.A., Beyshov R.S.</i> Ontogenesis and age structure of the <i>Pulsatilla multifida</i> Mill. populations in the conditions of Northern Kazakhstan.....	46
<i>Chugreev M.K., Baimukanov D.A., Blokhin G.I., Malovichko L.V., Zubaliy A.M., Skvortsova E.G., Doshanov D.A., Tkacheva I.S., Kruglov S.A.</i> The current state of the european dark bee subspecies <i>Apis mellifera mellifera</i> L. in the north range of the Russian Federation.....	54
<i>Shabdarbayeva G., Yalysheva S.</i> A retrospective analysis of the prevalence of echinococcosis in the Republic of Kazakhstan.....	63
<i>Mailybayeva A., Nurpeisova A.S., Assanzhanova N.N., Kozhamkulov Y.M., Inkarbekov D.A., Abitaev R.T., Jekebekov K.K., Nurabayev S.Sh., Kassenov M.M., Khairullin B.M., Kydyrbayev Zh., Valdovska A., Zakarya K.D.</i> Optimization of cultivation condition of subtype H5 flu virus.....	71
<i>Dyulger G.P., Dyulger P.G., Alikhanov O., Sedletskaya E.S., Latynina E.S., Obukhova M.E., Leontieva I.L., Bychkov V.S., Baimukanov D.A.</i> Epidemiology, risk factors and pathomorphological features of mammary tumors in cats.....	78
<i>Semenov V.G., Yelemesov K.Ye., Alentayev A.S., Tyurin V.G., Baimukanov A.D.</i> Adaptogenesis and biological potential of cattle on commercial dairy farm.....	85
<i>Semenov V.G., Baimukanov D.A., Alentayev A.S., Kirillov N.K., Karynbayev A.K., Aldyakov A.V.</i> Innovative technologies of calves rearing in dairy cattle breeding.....	93
<i>Krasnoperova E.A., Donnik I.M., Yuldashbayev Yu.A., Leshcheva M.G., Kulakov V.N., Chylbak-ool S.O.</i> Stages of regional food security provision.....	100
<i>Omarova A., Turguldinova S.</i> Environmental assessment of pasture land quality.....	103
<i>Brintseva O., Glybovets V.</i> Alternative types of employment in the context of human possibilities extension in the digital economy (case of Ukraine).....	114
<i>Zhagyparova A.O., Tulegenova Zh.U., Bekbusinova G.K., Solovieva I.A., Bayeva D.A.</i> Growth factors of quality and performance of the state audit.....	120
<i>Zhurynov G.M., Tulemetova A.S., Sadykbekova A.A., Jazykbayeva D.P., Talassov M.Zh.</i> Ways to improve the organization of logistics management at enterprises.....	130
<i>Zhurynov G.M., Isataeva G.B., Satybekova E.G., Orazova B.B., Abylkasym A.B.</i> Foreign experience in improving the efficiency of the system of state regulation of innovation activities.....	138
<i>Kokenova A.E., Maulenkulova G.E., Samenova N.Zh., Turdalieva U.N., Arapbaeva Zh.Sh.</i> Improving the mechanism of state regulation of innovation activities in Turkestan region.....	145
<i>Kokenova A.T., Sadykbekova A.A., Statsenko O.A., Orazova B.B., Rizakhodzhayev A.A.</i> Mechanisms for ensuring the competitiveness of business structures in the agricultural sector.....	154
<i>Kokenova A.E., Tulemetova A.S., Koptayeva G.P., Ongarova G.T., Satybalina A.T.</i> Ways to improve the economic mechanism for increasing the competitiveness of mining enterprises in the Turkestan region.....	162
<i>Kodasheva G.S., Azhmuxamedova A.A., Arynova Z.A., Shaikenova N.T., Kabdullina G.K., Savanchiyeva A.S., Amerzhanova D.A.</i> Impact of the COVID-19 coronavirus pandemic on the financial stability of the banking sector in Kazakhstan.....	172
<i>Chorosova O.M., Protodyakonova G.Yu., Gerasimova R.E., Aetdinova R.R., Niyazbekova Sh., Zakharov N.T.</i> Qualimetric approach to evaluating digital competencies of teachers.....	181
<i>Burkaltseva D., Timoshenko O., Golynsky V., Dymanova-Golynskaya T., Savchenko L., Niyazbekova S., Guk O.</i> Impact of the digitalization process on psychological characteristics of personality.....	188

<i>Maysigova L.A., Niyazbekova Sh.U., Bunevich K.G., Saiymova M.D., Blazhevich O.G., Issayeva B.K., Rey I.Yu.</i>	
Features of economic development and monetary policy of Singapore.....	195
<i>Nassyrova A., Rudyk N., Shchegoleva E., Kolesnikova E., Viliguta O., Niyazbekova Sh., Jallal Mir Abdul Kayum</i> On import substitution of the meat industry for providing functions of social protection of population: features and analysis.....	204
<i>Skorobogatova T., Burkaltseva D., Lunyakov O., Niyazbekova Sh., Guk O., Korotkevich E., Goigova M.</i> Problems of institutions' interaction: value of a service as a special form of commodity (logistic approach).....	213
<i>Sembiyeva L.M., Tazhbenova G., Orynbekova G.A., Mandrazhi Z., Petrov A.M.</i> World trends in the development of expert and analytical activity in assessments and criteria.....	223
<i>Belgibayeva Zh.Zh., Nadyrov Sh.M., Zhanguitina G.O., Belgibayev A.K., Belgibayev A.A.</i> Tourist flows of Kazakhstan: statistics, geography, trends.....	232
<i>Chebotareva I.A.</i> Differentiation of powers of state authorities of the Russian Federation and local governments in the context of sustainable tourism.....	240
<i>Murzabekova Zh.T., Nasbekova S.K., Osmonaliev N.Zh.</i> Property relations in kyrgyz family: legal aspects.....	249
<i>Nesterov A.Y.</i> The right of juvenile convicts to personal safety in prisons of the federal penitentiary service of Russia: theoretical and methodological aspect.....	257
<i>Plotskaya O.A., Kolmakov P.A.</i> The ordinary law of the indigenous northern peoples of Russia in the XVII – XIX centuries: convergence and reception.....	268
<i>Absattarov R.B., Seisen N.B., Absattarov G.R., Nabiyeu V.G.</i> National contradictions in kazakhstan society and ways of their solution.....	275
<i>Tashcheva A. I., Gridneva S. V., Arpentieva M. R.</i> Value-motivational sphere of the deviant students and academicals counseling in higher schools.....	283
<i>Kassymova G.K., Krasnoshchechenko I.P., Menshikov P.V., Kosov A.V., Khudyakova T.L., Klepach J.V., Podol'skaya I.A., Stepanova O.P., Arpentieva M.R.</i> Meta-technologies of business and professional consulting in educational organizations.....	291
<i>Tyumaseva Z. I., Valeeva G. V., Nasyrova E.F., Krasnoshchechenko I.P., Yusipova I.V., Khudyakova T. L., Kassymova G. K., Arpentieva M. R.</i> Value-Motivational Sphere of the Deviant People and psychotherapy of educational relationships.....	303
<i>Dolgova V.I., Ognivova P.V., Bogachev A.N., Golyeva G.Yu., Kondratyeva O.A., Leonov P.L.</i> Formation of communicative skills of teenagers with low empathy level.....	313
<i>Aidarov B.J., Tankish N.P., Utegenov B.D.</i> Professional pedagogical mobility and specific features of its formation.....	322
<i>Abylkasymova A.E., Kuserbayeva M.R., Tamayev S.T.</i> Methodological problems of physics and mathematics in the works of al-Farabi.....	332
<i>Malgazhdarova T.G.</i> National model of education in the Republic of Kazakhstan as the key to realize the national identity.....	341
<i>Apendiyev T., Satov E.Z.</i> Some materials related to the national independence of Kenesary khan's movement.....	348
<i>Yessim G., Sarkulova M.S., Amen A.Zh.</i> System and genesis of ethnic diaspora culture.....	355
<i>Nussipbayev Y.B., Manabayev B.M., Isakhan M.</i> Use of internet resources by religious organizations.....	361

Information messages

Speech by the President of the National Academy of Sciences of the Republic of Kazakhstan, Academician Zhurinov M.Zh. at the Web of Science Award "Science Leader" 2020 (November 25, 2020).....	369
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