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PALEOGEOGRAPHICAL CONDITIONS OF ACCUMULATION OF OIL SHALE OF TITONIAN AGE IN THE CASPIAN SEDIMENTARY BASIN

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Abstract. In the Caspian sedimentary basin, four deposits of the Titonian age and several oil shale occurrences are developed richly. Regionally, the identified deposits belong to the Volga shale basin, most of which is located in Russia. Forecast resources in the northern part of the Kazakhstan side of the basin (Ozinkov, West Shagan, Barbastau, Novosemenov, Irtep perspective areas) amount to more than 13 bln tons of oil shale. But this is only a small part of the Caspian basin area. Shale oil is exposed in arc parts of salt domes. Most of their formations are overlaid by a case of younger rocks, which sink in all directions from the domes. In some places, the depth of the upper Jurassic strata reaches 1-1.5 km. The probability of detecting of new deep shale formations is high. Paleogeographical conditions of oil shale strata accumulation are restored. They were accumulating in depressions, which complicated the relief of the shallow platform sea bottom. The sea was warm, and the shallow depths provided good illumination of photic zones ensuring high bioproductivity of the sedimentation basin. Depressions created stagnant conditions, where clay and organic matter accumulated together. Oxygen-free stagnant conditions contributed to the conversion of the organic matter into kerogen. Such paleogeographical conditions existed in the entire water area of the Kazakhstan part of the upper Jurassic sea. It is necessary to carry out the specialized geological and geophysical works for a more accurate assessment of the resource potentials of the whole Caspian sea region.

Key words: shale oil, kerogen, paleogeography, upper Jurassic, Titonian stage, Caspian sedimentary basin

At present, the world is experiencing a downward trend in the reserves of almost all minerals, including oil and gas. Extraction dominates the growth of reserves, forcing scientists to look for new, alternative sources of energy raw materials. Our republic has giant oil and gas fields of Tengiz, Karachaganak, Kashagan, Zhanazhol, Uzen and others. Even with increase in hydrocarbon production, the available reserves will suffice for at least 50 years. However, long-term programmes of further economic development of Kazakhstan envisage expansion of the mineral resource base, both in terms of reserves and development of new unconventional sources of energy raw materials.

Therefore, the issue of the widespread use of oil shale as a promising raw material capable of replacing oil and gas is becoming topical. Shale oil is a variety of fine-grained rocks containing high-melt organic matter [1, 2, 3]. About 20% of these organic matter is made up of soluble bitumen, and the remaining 80% is represented by kerogen. It consists of heterogeneous detrital

and finely dispersed residues, mostly transformed under anaerobic conditions. The content of kerogen in oil shale can reach 60%, but usually it varies from 15 to 35%. Elemental composition of kerogen in the zone of catagenesis is described as follows: 64-93% C, 6-10% H, 0-25% O, 0,1-4,0% N, 0.1-8.0% S of the sapropel type, and 64-96% C, 1-5% H, 3-2% O, 0.1-2.0% N, 0.1-3.0% S of the humus-sapropel type. With metamorphism, the proportion of C increases and the proportion of H and heteroelements decreases. The structure of kerogen is represented in the form of a macromolecule composed of condensed carbocyclic nuclei, connected by heteroatomic bonds or aliphatic chains. Oil shale produces 2000-5000 kcal of heat.

In the process of pyrolysis, oil shale is able to release resin, from which it is possible to obtain flammable gas, benzene, fuel oil, phenols, and tannins. Ash, rich in microelements, can be used as fertiliser and building material. Shale oils often have an increased concentration of a number of valuable metals in demand by industry: rhenium, molybdenum, scandium, gold, uranium, etc.

The reserves of shale resin are hundreds of times higher than the reserves of natural oil and therefore are the largest potential resources of hydrocarbons.

Yet in the middle of the last century, due to the global energy crisis, many countries began to deal with the processing of oil shale for the purpose of obtaining the so-called “synthetic oil”. However, due to high production costs and imperfection of shale resin extraction technologies, the projects were closed [1, 4].

Today, new technologies allow obtaining kerogen distillation products directly from deposits without extracting rocks from the subsurface [5]. The cost of the obtained synthetic oil is comparable to the cost of extracting hydrocarbons directly from oil and gas fields. Using these technologies, American companies are currently producing about 650 billion m3 of gas, which has allowed the USA to abandon the purchase of imported gas and reduce the price for consumers by almost 15%. In the near future, the USA plans increasing the shale gas production to 40% of total consumption.

Other countries of the world, such as Poland, Ukraine and China, possessing own shale deposits, are also engaged in the problem of using this type of mineral raw material.

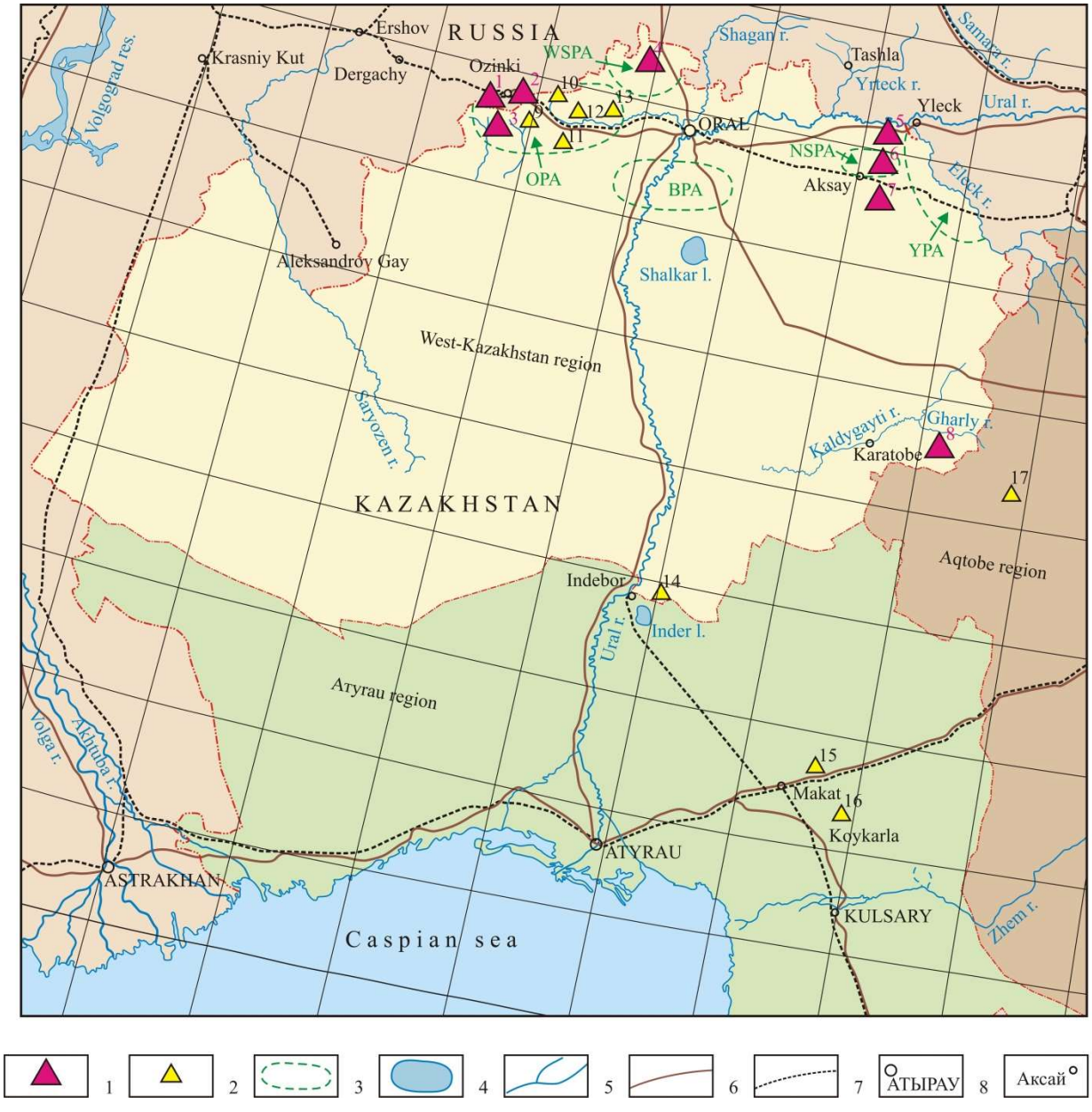
The Republic of Kazakhstan has significant reserves of oil shale. In its territory, 25 deposits and manifestations of oil shale were revealed, confined to deposits of the upper Devonian, lower Carboniferous, Permian, mid- and upper Jurassic and Paleogene age [6]. The largest coal shale deposits are Kendyrlik in the East Kazakhstan region, Kus-Muryn and Chernigov in the Kostanai region, and the Ileh in the Almaty region; the largest shale deposits are West Shagan, Black Zaton, TukSai, Novosemenov, KaraTobe in the West Kazakhstan region, Kyin, UshTobe in the Aktobe region, Baikozha in the Kyzyl-Orda region, Sagandyk and KaraAdyr in the East Kazakhstan region, and etc.[6]. Their total reserves are estimated at 800 mln tons. The fields differ in terms of the composition of source material and conditions of formation, which determines their qualitative characteristics. A distinctive feature of almost all deposits is that shale oil is exposed to daylight surface. The deposits above and unmentioned manifestations have been studied very little or not at all. Thus, balance reserves are approved for only three fields: Kendyrlik, KusMuryn, and Chernigov.

Kazakhstan has not put into operation any of the shale oil deposits due to their unprofitability under existing development and processing technologies. Hopefully, the coming years could bring methods of their profitable extraction. Therefore, the existing reserves of shale material may become in demand and contribute to the development of the economy of our Republic.

In addition to the identified deposits and manifestations of oil shale in the Republic, there are extensive promising areas within which it is highly probable that new large deposits of this type of energy raw material can be discovered. In order to scientifically predict and focus

prospecting work at the first stages, it is necessary to restore the palaeographic conditions for the accumulation of promising strata, within which bituminous rocks could be formed and preserved.

One of such promising regions is the Caspian sedimentary basin of over 200 thousand sq. km. In Kazakhstan, specialised work has been carried out locally, in small areas with shale oil exposed to daylight surface. The newest technologies of shale oil and gas production are developed for deep deposits of 1500-2000 m down. Within the Caspian region, oil shale strata are confined to sediments of the Volga stage, developed throughout its territory. It should be noted that, according to the current International Stratigraphic Scale (MSH 2018), it corresponds to the Titonian tier. However in Russia it is still being referred to as the Volga stage.



Picture 1 – Overview map of the location of deposits and oil shale occurrences in the Caspian sedimentary basin

1 – oil shale deposits: 1 – Ozinkov, 2 – Gremuchinsk, 3 – Kartashev - Belenkoe, 4 – West Shagan; 5 – Black Zaton, 6 – TukSai, 7 - Novosemenov, 8 – KaraTobe.

2 – oil shale occurrences: 9 – Chizha I, 10 - Semigl Mar, 11 - Shipovskoye, 12 - Gavrilino, 13 - Tsyganovskoye, 14 - Inder, 15 - Makat, 16 - Koykara, 17 - Maylisay.

3 – oil shale deposits perspective areas: OPA – Ozinkov, WSPA – West Shagan, BPA – Barbastau, NSPA – Novosemenov, IPP – Irtep.
4 – reservoirs (seas, lakes, reservoirs); 5 – rivers; 6 – highways; 7 – railroads; 8 – regional centers; 9 – other settlements.

Deposits of the Titonian tier of the Caspian depression are brought to the surface by processes of salt tectonics and exposed in the roofing parts of the domes. In many structures, they have survived the pre-Cretaceous erosion and have therefore been studied in detail (fig.1). The section of the middle Titonian substage, which contains layers of oil shale, consists of four zones [7-9].

Presence of sediments of the Subplanites sokolovi and S.pseudoscythicus zones has been established so far only in the AschiUil river basin on the KokBulak and ZhalMyrza domes, and they are represented by sandy clays with interlayers of marls and scattered phosphorite nodules on the first one and by limestones on the second.

Deposits of the Dorsoplanites panderi zone on the South Emba marginal buried uplift are composed of marls, often clayey, with subordinate interlayers of limestone clays, less often siltstones. In South Emba, they are represented by marly clays and marls. In the Caspian lowland and the sub-Ural plateau they include clays with subordinate interlayers of marls and sandstones. In the western Caspian depression, in the Aral Sea region, they are replaced by limestone with interlayers of limestone clays.

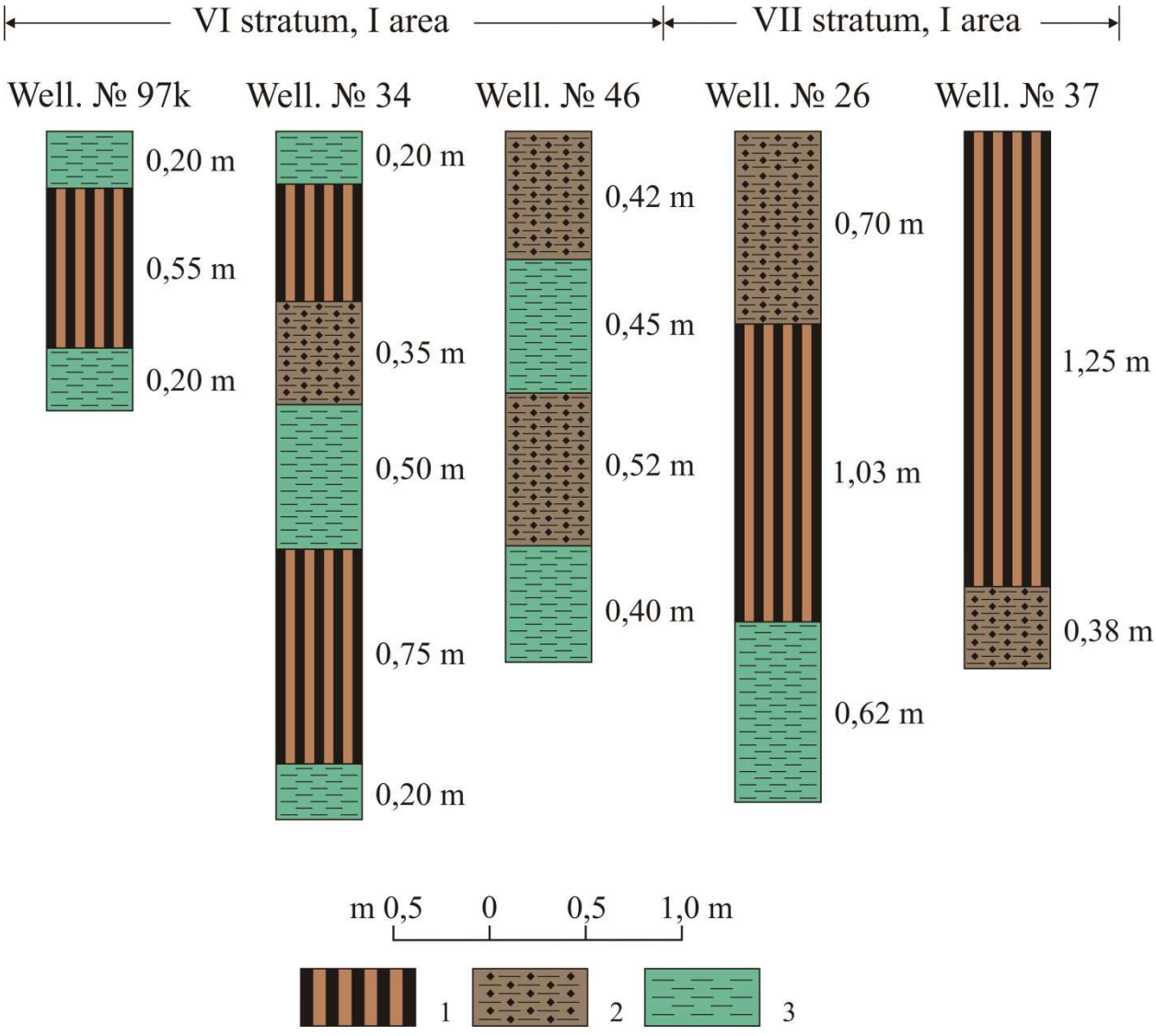
The Dorsoplanites panderi zone deposits are characterised by presence of oil shale horizons in the area of the South Emba, in the northern part of the sub-Ural plateau (on the domes of MailySai, Shyngyz, TukSai, etc.), in the north of the Caspian depression and in the southern spurs of the Common Syrt [8, 10].

Deposits of the Virgatites virgatus zone are almost everywhere are characterised by the predominance of carbonate rocks – marls and limestones – over clays and, less frequently, sandstones, the interlayers of which are confined to the lower sections of the zone.

The lithological composition of the Virgatites virgatus zone deposits and their sharp difference from the clays and sands of the neocomus usually overlapping them determine the regional traceability of the III reflecting seismic horizon corresponding to the neocomus bottom. Therefore, the reflected seismic-wave survey in the Caspian depression allows determining the depth of the bottom of the lower Cretaceous – the roof of the upper Jurassic deposits on the salt dome wings and in inter-dome depressions. Deposits of the Epiviratites nikitini zone, represented by clays, are identified only in five domes: Sargamys (on the NW periphery of the South Emba buried marginal uplift), Utektau (in the north of the sub-Uralian plateau, in the Big Hobda basin), KaraOba (in the NE part of the Caspian depression), AkOba (in its northern part) and Ozinki (on the southern spurs of the Common Syrt).

In the West Kazakhstan region, oil shale deposits and manifestations, in terms of location, geological and genetic features, belong to the Ural group (fig.1) [6, 8-10]. But in regional terms, this group belongs to the Volga shale basin, which occupies vast territory of the middle Volga region and the Common Syrt of Russia and the Caspian depression of Kazakhstan. Its total area reaches 350 thousand sq. km. The Russian part is occupied by the Ozinkov, Makarov, Saveliev, Kashpir, Undor, Buin, Usolsk and other fields, and the Kazakhstan area by the Novosemenov, TukSai, Black Zaton, West Shagan, KaraTobe and a number of manifestations of Kartashov-Belenky, Semiglavy Mar, Chizha I, Shipov, Tsiganov, Gavrilino, MailySai and on structures of South Emba. Thus, oil shale was identified in all four cardinal directions of the Caspian depression. Projected reserves of oil shale exceed 13 bln tons, or about 2 bln tons of “shale” oil (with average yield of primary resin of about 15%).

The Uralian oil shale deposits, as well as of the entire Volga shale-bearing basin, provide fairly high yield of primary resin during distillation, relatively low ash content and high caloric value. At the same time, there are two types of oil shale in the deposits, brown and grey. The former, as a rule, have a high resin yield on dry mass, reaching 24.6%, relatively low ash content (30-40%), high caloric value (up to 7254 kcal/kg).Grey shale is characterised by higher ash content (up to 70%), lower resin yield (6-8%, rarely 14%), lower thermal conductivity [6, 10]. Compared to oil shale of the Kendyrlik deposit, the shale of the Ural group has slightly lower hydrogen content (up to 70%).



Picture 2 – The structure of the working layers of Ozinkov deposit [10]
1 – oil shale, 2 – bituminous clay, 3 – clay

High resin yield and high caloric value make the Ural group oil shale a raw material for both fuel and chemical industries, that is, allow classifying it as a energy-technological group of raw materials. Its drawback is its relatively high sulphur content (3-8%, sometimes up to 17%), which affects the production of motor fuel. During the resin distillation, up to 30% of the benzene fraction and up to 10% of the kerosene fraction are released.

Chemically, oil shale ash consists of clay-carbonate with up to 30% of CaO, and can be used for liming acid soils.

Generally, the Ural group oil shale reserves, approved by the GKZ (in the Kazakhstan part), are not large. Total reserves of Black Zaton, TukSai and Novosemenov fields amount to 20 mln tons, however, minding the poor information and exploration state, they could be increased several times in magnitude. In addition, given the oil shale's omnipresence in the region, there are a number of promising areas with projected reserves of more than 13 bln tons. Prospecting works were carried out in 1983, in the eastern part of one of them, West Shagan, on the south flank of the Shagan oil shale deposit (Russia). They have shown a widely developed shale-bearing middle Titonian thickness with a sufficiently stable structure. Within the area, there are 4 oil shale layers with capacity from 0.3-0.9 m to 1.6-4.6 m. According to preliminary data, oil shale is ashy, high sulphur (2.7-4.2% on average), with the primary resin yield of up to 11-13% on dry shale. Total reserves of oil shale in the search area of 415 mln sq. m amounted to more than 2.4 bln tons, of which 1.4 bln tons accounts to most aged and high-quality oil shale of the lower and upper layers.

The Ural group oil shale as energy fuel is excellent raw material. The high-yield of the semi-coke resin makes it suitable for the chemical industry as well. The energy-chemical processing of pulverised oil shale can allow receiving high-calorific gas and benzene while using the coke residue characterised by high carbon content for heat energy. It should also be noted that oil shale contains increased concentrations of some microelements. Thus, the Jurassic shale of the Novosemenov deposit contains up to 0.3-2.0 g/t of rhenium, the rarest element, a valuable component of bimetallic catalysts [6].

Paleogeographic, paleotectonic and physicochemical conditions of oil shale formation

Shale oil is formed in the process of joint accumulation of organic (OM) and inorganic substances on bottom of sea or freshwater reservoirs. Consequently, conditions for the formation of oil shale include the abundance of organic life, early establishment of anaerobic environment and the absence of organisms that destroy organic matter.

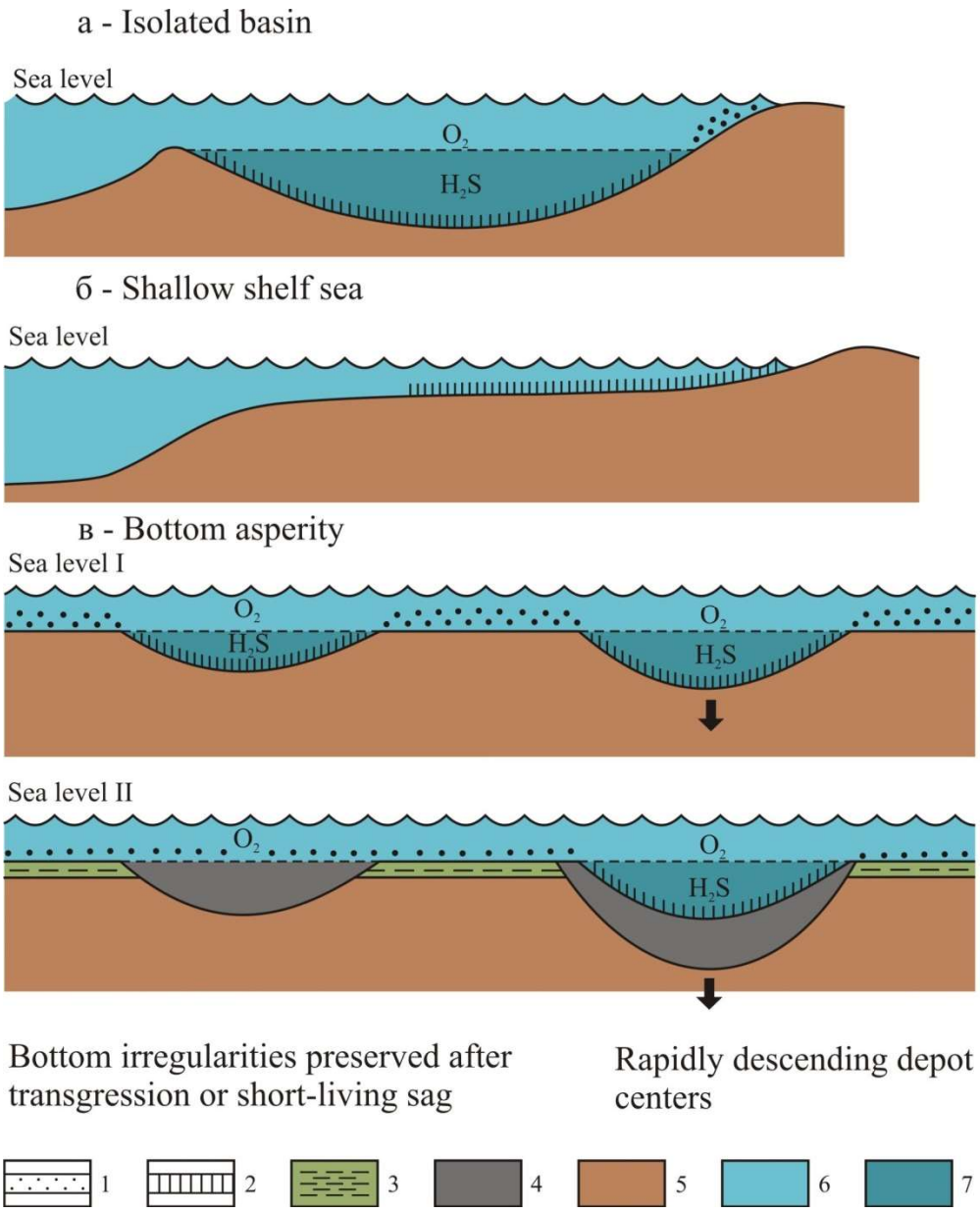
Main ingredients of organic matter are microscopic unicellular and colonial algae, freely floating in the water and transported by currents and waves (phytoplankton), attached algae growing on the bottom of reservoirs (phytobenthosis) and low primitive organisms (microplankton, fiankton) [1-3, 11]. They are united under the common name of "sapropel". The most favourable condition for their habitat is the photosynthetic zone (photographic zone), the depth of distribution of which does not exceed 50m. Here, high bioproductivity is created by sunlight, warm water, as well as the presence of large amounts of nutrients resulting from decomposition of extinct organisms. It has also been established that volcanic activity in the adjacent areas is a very favourable factor. The ash material falling down to the bottom enriches water and sediments with various microelements, which have a stimulating effect on the growth of algae and plankton. Hydrothermal mineralised water rising along deep faults has a similar influence.

In the Mesozoic and Cenozoic shales, the remains of higher plants (humus) may be present in relatively large quantities (up to 30%). The kerogen in these rocks is characterised by a lower hydrogen content, which is the highest caloric element. This significantly affects the quality of this type of raw material. According to the ratio of initial organic components, oil shale is subdivided into sapropel, sapropel-humus, humus-sapropel and residual-sapropel (corongyte-balkhashite) types [1, 2].

Oil shale deposits have been revealed in sediments of various ages from pre-Cambrian to modern ones. The facial, paleogeographic and tectonic conditions of bituminous rock accumulation have a wide variety. They accumulated in shallow seas, bays, lagoons, fjords, estuaries, delta bogs, freshwater lakes. Sedimentation basins ranged in size from small water

bodies to giant inland seas, similar to the present-day Caspian Sea. At the time of accumulation, the climate was favourable for accumulation of coal.

Processes of transformation of initial organic residues into kerogen of oil shale have not been studied sufficiently [12]. Their general mechanism is as follows: primary organic residue deposited on the bottom of reservoirs (pelagen) - clayey sludge (sapropel) – sapropel (oil shale or sapropel coals). It was established that the main part of kerogen is formed thanks to the lipid fraction of algae. As a result of processes of taphonomy and biostratinomy, further transformation of fossilized material takes place. Geochemical conditions could vary from oxygen-free reducing (shale of the Volga basin in Russia, the Green river formation in the USA, Sweden) to slightly oxidising (kukersity of the Baltic basin) [3].



Picture 3 - Sedimentological models of the accumulation of bituminous rocks in the epicontinental shallow sea basin [13]

Bottom conditions: 1- aerobic, 2 - anaerobic. Deposits: 3 – non-bituminous bioturbated shale, 4 – bituminous clay shale. 5 – Earth's crust. 6 – normal oxygen sea water. 7 – seawater with stagnant oxygen regime.

Dead organic residues fallen to the bottom are processed by microorganisms, worms, shellfish, and other organisms. Living in sapropel, various bacteria contribute to decomposition of organic matter, at first, aerobic ones, followed by anaerobic, as the thickness of overlapping layers increases. There is significant reduction in the oxygen content of organic matter. These transformations result in formation of kerogen. Continuous sedimentation on background of the bottom deflection leads to formation of thick overlying strata needed for compaction and diagenesis of sediments enriched with organic matter. Heat (above +1500C) and pressure cause degassing and loss of volatile components, transforming kerogen and forming sedimentary rock with high content of high-melt residual organic matter.

The contemporary literature refers to two types of oil shale [3] - torbanites and tasmanites. The former was accumulating in continental lakes and the latter under marine conditions.

According to facial and tectonic characteristics, all shale-bearing basins are classified into four groups [1-3]. The most widespread are deposits formed in shallow platform seas, confined to the thickness of fine-grained terrigenous, carbonate, siliceous and phosphate rocks. Such shale basins occupy huge territories, up to several thousand of square kilometres. Although capacity of their productive formations is small (few meters), they constitute the most important industrial shale type. Its examples are found in the Russian fields of the Baltic, Timan-Pechersk,Vychegodsk, Olenyok basins, the Swedish fields (Nerke, Westergotland, Oland), Irati in Brazil, the Tulebak basin in Australia and fields in the USA. This type includes also shale of the Ural group of the Volga basin.

Individual fields of this type were formed in the epiplatform stage of activated ancient platforms. Some researchers individuate them in a separate group.

The second type includes deposits of lake origin located in orogenic areas, where volcanic and hydrothermal processes, associated with deep faults, were developed widely. As mentioned above, introduction of ash material and mineralised water created favourable conditions for developing of phytoplankton. Total thickness of oil shale formations of such deposits can reach several hundred meters, with a fairly large distribution area. However, the quality characteristics of this type of shale are usually lower than those of shallow platform-type seas. Classic patterns are the Green river (USA), Condor, Randall and Stuart fields in Australia, the Fushun field in China, the modern Great Lakes of East Africa and Kendyrlik in Kazakhstan [1-3].

The third field type has limited distribution and low properties. Their formation took place in tectonic depressions created by sedimentary formations of considerable thickness, up to several hundred meters. Mensilite shale in the Carpathians is a typical representative of this group of deposits. This also includes shales of Sicily, the Black Sea Caucasian coast. The industrial value of this type is low.

Oil shale formed in small lakes in atectonic (non-tectonic) depressions forms the forth group. Volcanic and karst processes, as well as salt tectonics, led to formation of these reservoirs. They are of small size and contain not much of kerogen. The list of the fields include Novodmitriev, Florianov, Boltysh in Russia, and Pula, Gerze, Verksie in Hungary.

The oil shale strata of the Titonian age in the Caspian sedimentary basin were accumulated in the shallow platform sea area. Below we will consider in detail the paleogeographic and tectonic conditions of their sedimentation.

Bituminous rocks of the tasmanite type are spatially and genetically related to the precipitation of shallow seas of continental shelves and platforms. It is known that clayey rocks are deposited in areas with weak water flows, where the impact of waves and currents is minimal. However, the introduction of suspended clayey and thin siltstones is quite high. It provides accumulation of powerful fine-grained terrigenous strata. Three main types of clayey sediments

are distinguished by the content of organic matter in rocks: normal, limited and bituminous sediments [1, 2], which differ in the distribution of benthic forms of organisms.

Normal clayey sediments are characterized by a variety of complexes of burrowing and epifaunal organisms. The latter live on the surface of the bottom ground. Among the burrowing ones there are forms that feed on both suspended solids and sediments. Bivalve molluscs dominate. Limited clayey sediments usually contain small amounts of burrowing forms of all types and epifaunal organisms. The rocks are characterised by rare, mostly horizontal passages of silt flocks.

Bituminous clay sediments are not bioturbed, although they contain small amounts of benthic organisms. There are of bituminous rocks of various thickness here. Often such rocks are characterised by thin horizontal layering due to alternation of bituminous and clayey non-bituminous rocks. This indicates that the accumulation of precipitation occurred in a calm environment, below the wave base. On the surface as a result of weathering processes, they disintegrate into thin sheets (paper form of weathering).

These three types of precipitation are usually observed in sections, with thickness ranging from the first dozens of centimetres to dozens of meters (fig.2). Such a cyclical change of normal precipitation by limited and further bituminous sediments clearly shows the change of normal marine conditions of sedimentation to closed stagnant ones.

Necessary paleogeographical and geochemical conditions favourable for the accumulation of bituminous rocks were given above. Based on their analysis, three models of shale sedimentary marine basins have been developed. The first one is based on the study of sediment accumulation in the Black Sea (fig.3a) [13]. It is isolated, deep enough, with stagnant oxygen-free bottom conditions, favourable for accumulation and preservation of organic matter.

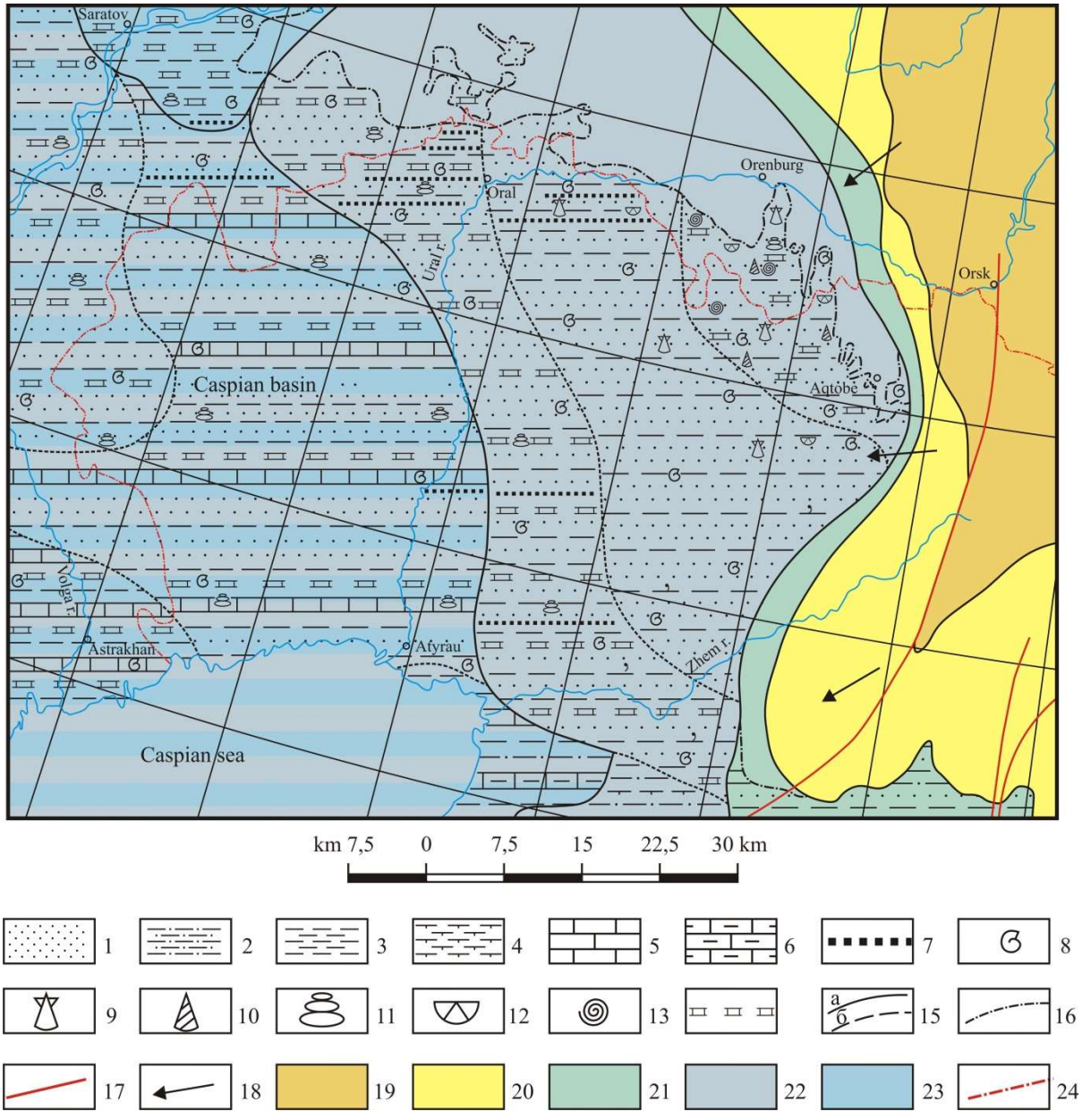
The second model, designed by E.Hallem [13], substantiates the accumulation of bituminous shale in shallow sea basins. It takes into account the facts that the marine shale strata have a distribution area and are spatially located in the lower parts of transgressive series, composed of shallow water facies. This model does not include thresholds that isolate ancient shale pools, which are not interpreted in their sections. According to E.Hallem [13], stagnant conditions favourable for the formation of oil shale are formed as a result of several factors in such reservoirs (fig.3b). The main ones are high bioproductivity, a warm and stable climate and a very gentle inclination of the sea floor towards the ocean. Geomorphology of the profile of such a shallow basin contributes to limiting the development of wave processes caused by winds and tides and the occurrence of limited circulation conditions. Cyclical repetition in the sections of bituminous and non-bituminous rocks is explained by the events of sea level fluctuations. With transgressions, the sea depth increases. Water circulation increases significantly, which causes aeration of bottom waters and sedimentation of non-bitumibous bioturbed sludge containing various faunal residues.

The model of the shallow sea is certainly developed very logically, but it cannot answer the absence of oil shale horizons in the upperparts of regressive series and only presence in powerful transgressive sections.

On the basis of the first two models, taking into account their drawbacks, a new concept of sedimentary basin of bituminous rocks accumulation was developed (fig.3c). The reason was the results of the study of the accumulation of Toar shale bituminous shales in Western Europe.

This model suggests existence of bottom depressions, described by quicker submergence than of the surrounding areas. In these depressions there is no bottom circulation and stagnant conditions are created. But aerobic precipitation is accumulated around it. After filling in the depressions with precipitation, the water circulation is activated, leading to the bottom aeration in this section. Under intensive submergence, the troughts may remain uncompensated.

From the above we can conclude that bituminous shales formed in deeper water conditions in relation to the synchronously accumulated non-bituminous sediments of lowland areas. But it is not a dogma and it all depends on morphology of the pool bottom. The above second model assumes simultaneous deposition of bituminous and non-bituminous sediments in shallow seas. The less is the sea water depth, the greater will be the impact of depressions and hillocks on reduction of water hydrodynamics and the creation of stagnant conditions. Presence of many bituminous shales on bottom of transgressive series or close to it convincingly confirms this conclusion.



Picture 4 - Litho-paleogeographic map for the Late Jurassic (Tithonian) time of the Caspian sedimentary basin [14 with the additions of the authors]

Sedimentary complexes: 1 – sands, sandstones, 2 – siltstones, silts, 3 - mudstones, clays, 4 - carbonate clays, 5 - limestones, 6 - clayey limestones, marls, 7 - combustible shales, bituminous rocks. Organic Residues: 8 – marine fauna (not specified), 9 - pelecypods, 10 - gastropods, 11 - foraminifera, 12 - brachiopods, 13 - ammonites. Indicators of sedimentation conditions and epigenetic transformations: 14 - carbonate content. Borders: 15 - paleogeographic settings (a-established, b - assumed), 16 - facial complexes. 17 - faults. 18 - the direction of the demolition of

clastic material. Paleogeographic settings: 19 - elevated denudation plains, 20 - lowland denudation plains, 22 - coastal plains, 23 - inner shelf, 24 - outer shelf.

In the territory of the modern Caspian depression in the Titonian time, about 145-150 mln yrs ago, there was a platform shallow sea, stretched from north to south. It took up a huge area. Its western border passed to the west of the Volga river (in the northern and central parts), and in the south it expanded to cover most of the Caucasus. In the east, the border reached the modern Urals and was traced south to Central Asia. The sea extended far beyond Kazakhstan to the north and south [14].

The sea was shallow, warm and favourable for various marine organisms and bottom vegetation. Thin clayey material entered the sedimentation basin from the west (the East European plain) and east (the Urals). Thanks to warm and humid climate, lush vegetation grew on shores. Forests and steppes were inhabited by numerous and diverse animals.

The seabed topography was generally relatively flat, slightly sloping towards the central part of the sedimentation basin. Its morphology was complicated by depressions of various scales, causing creation of stagnant conditions.

In these depressions there was an accumulation of bituminous sediments. It should be noted that the rocks of the lower Titonian sub-tier are developed almost in the entire territory of the former paleobasin. Exceptions are the roofing parts of salt domes, where they were blurred as a result of erosion processes in the lower Creataceous period. Oil shale deposits and occurrences are unevenly distributed throughout the upper Jurassic paleobasin, marking the unevenness of the seabed.

An interesting feature was revealed in the study of the accumulation of age synchronous bazhenites in Western Siberia. The total area of the Bazhenov formation exceeds 1 mln sq.km [15, 16, 18]. It is associated with the largest oil and oil shale deposits, with total reserves of more than 22 bln tons.

In the territory of Western Siberia in the upper Jurassic time there was a warm Tyumen Sea (fig.4), which also accumulation bituminous rocks [1, 15,16, 18]. But occasionally cold currents from the Arctic basin penetrated here from the north, significantly changing the sedimentation picture. Residents of warm water could not withstand significant drops in water temperature and died en mass. Falling to the bottom, they formed the most organic layers of bituminous rocks. At the next elevation of the Tymen Sea bottom, the cold currents retreated and the former warm-war conditions were restored in the area. This was repeated several times, forming specific cycles of alternation of bituminous and non-bituminous rocks. Similar conditions existed within the upper Caspian basin. 8 layers of oil shale were discovered. Only one bituminous rock horizon has been identified at the Novosemenovo field, 12 at the Black Zaton field, 6 at the Tuksai field, at the KaraTobe field, located to the south. The southernmost oil shale outcrop, which also includes only one formation, is located on the northern shore of the Inder lake. There is a pattern - the number of oil shale formations and their thickness decreases in the south direction. There are two reasons for this: the weakening of cold currents as they move south, and changes in seabed morphology.

Upper Jurassic oil shales are found in the northern part of the Caspian depression only on tops of salt domes. But these exposures are singular. Most of their development area is covered by the case of the overlying Meso-Cenozoic rocks. Therefore, it is possible to predict with a high degree of certainty the discovery of new oil shale deposits under sedimentary cover in closed areas.

Within Western Kazakhstan, where the upper Jurassic shale deposits are widely developed, five promising areas have been identified (Ozin, West Shagan, Irtep, Novosemenov and Barbatau) (fig.1) with projected reserves of oil shale of more than 13 bln tons, or about 2 bln tons of “shale” oil (with an average yield of primary resin of about 15%). These are the areas adjacent to the

already identified oil shale deposits, within which they are exposed on salt dome structures. They are concentrated in the northern half of the Caspian depression, near or directly at the border with Russia. According to geophysical data, the productive horizons of the lower Titonian age spread in all directions from them, sinking to the depths of more than one km and more.

Thus, we summarise that paleogeographical and tectonic conditions favourable for the accumulation of oil shale existed in the early days in the whole area of the Caspian basin. New manifestations of these bituminous rocks are likely to be identified in areas covered by younger sediments. For a more accurate assessment of the resource potential of the entire Caspian Sea region it is necessary to carry out geological and geophysical work with the drilling of exploration wells.

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Economic Sciences

AUDITOR INDEPENDENCE AND AUDIT QUALITY

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ABSTRACT

Auditor independence, a fundamental principle in auditing, ensures that auditors maintain objectivity, impartiality, and professional skepticism in their work. The relationship between auditor independence and audit quality has been widely debated and studied in the accounting and auditing profession. This research article aims to thoroughly investigate the impact of auditor independence on audit quality and its implications for the reliability of financial reporting. The study employs a mixed-methods approach, combining quantitative analysis and qualitative interviews with auditors, regulators, and corporate stakeholders. The quantitative analysis involves examining a substantial sample of audit engagements and utilizes various measures of auditor independence, such as auditor tenure, non-audit services, and auditor rotation. These measures are used to assess their correlation with indicators of audit quality, including restatements, internal control weaknesses, audit adjustments, and the likelihood of detecting material misstatements. On the other hand, the qualitative interviews provide deeper insights into the perceptions and experiences of key stakeholders, exploring their perspectives on the significance of auditor independence and its influence on audit quality.

The research findings shed light on the complex and nuanced relationship between auditor independence and audit quality. The quantitative analysis reveals both positive and negative associations, suggesting that the impact of auditor independence on audit quality may vary depending on the specific context and various factors at play. These factors may include the unique characteristics of the audit engagement, the attributes of the audit firm, and the regulatory environment. The qualitative interviews offer valuable insights into the mechanisms through which auditor independence affects audit quality, including the challenges auditors face in maintaining independence, the influence of client pressure, and stakeholders' perceptions regarding the credibility of auditors' opinions.

The implications of this research are significant for auditors, regulators, financial statement users, and policymakers. The findings can guide the development of regulatory policies aimed at strengthening auditor independence and enhancing audit quality. Moreover, the insights gained from this study can assist auditors and audit firms in improving their practices and procedures to uphold independence and conduct high-quality audits. By addressing knowledge gaps and presenting empirical evidence supported by qualitative insights, this research contributes to the existing body of literature on auditor independence and audit quality. Ultimately, the goal of this study is to improve the effectiveness of auditing processes, foster trust in financial reporting, and promote the overall integrity of the financial markets.

INTRODUCTION

Auditor independence, a fundamental and indispensable principle in auditing, lies at the core of ensuring the trustworthiness, credibility, and integrity of financial reporting. This concept guarantees that auditors maintain an objective and impartial stance when evaluating and reporting on the financial statements of organizations. The significance of auditor independence stems from its role in instilling confidence in financial markets, safeguarding the interests of investors, and facilitating the smooth operation of corporate governance mechanisms. Over time, the relationship between auditor independence and audit quality has garnered substantial attention and sparked extensive discussions within the accounting and auditing field. Audit quality encompasses the extent to which an audit effectively identifies and addresses material misstatements in financial statements, thereby enhancing the reliability and usefulness of the information provided to stakeholders. It encompasses various factors, including the adherence of auditors to professional standards, the thoroughness of audit procedures, the application of professional skepticism, and the overall effectiveness of the audit process. The primary objective of this research article is to conduct a comprehensive examination of the intricate relationship between auditor independence and audit quality. By investigating the factors influencing auditor independence and exploring their implications for audit quality, this study aims to contribute valuable insights to the existing body of knowledge and provide practical guidance for auditors, regulators, policymakers, and other stakeholders in the auditing profession. To achieve this objective, the research will adopt a mixed-methods approach, combining quantitative analysis and qualitative interviews.

The quantitative analysis will involve an extensive examination of a substantial sample of audit engagements, utilizing various measures of auditor independence such as auditor tenure, provision of non-audit services, and auditor rotation. These measures will be assessed in relation to specific indicators of audit quality, including the identification of material misstatements, the effectiveness of internal control systems, and the overall reliability of financial statements. In addition to the quantitative analysis, qualitative interviews will be conducted with auditors, regulators, and corporate stakeholders to gain deeper insights into their perceptions and experiences regarding the significance of auditor independence and its impact on audit quality. These interviews will offer a comprehensive understanding of the challenges faced by auditors in maintaining independence, the factors that influence independence in practice, and the perceived benefits of independence on audit quality. By integrating both quantitative and qualitative approaches, this research aims to capture the complex and multifaceted nature of the relationship between auditor independence and audit quality. The findings of this study will contribute to the existing literature by providing empirical evidence, supported by qualitative insights, into the factors that shape auditor independence and their implications for audit quality and the reliability of financial reporting.

The outcomes of this research will have practical implications for auditors, audit firms, regulators, and policymakers. The findings can inform the development of regulatory policies aimed at enhancing auditor independence, improving audit quality, and strengthening investor confidence. Moreover, the insights gained from this study can assist auditors and audit firms in refining their practices and procedures to better safeguard independence, promote ethical conduct, and deliver high-quality audits.

In conclusion, this research seeks to provide a comprehensive analysis of the relationship between auditor independence and audit quality. By investigating the factors influencing auditor independence and assessing their impact on audit quality and the reliability of financial reporting, this study aims to advance the understanding of this critical aspect of the auditing profession and contribute to ongoing efforts to enhance the integrity and effectiveness of financial reporting.

1. THE CONCEPT OF AUDITOR INDEPENDENCE

Auditor independence is a fundamental principle in auditing, highlighting the necessity for auditors to maintain objectivity, impartiality, and freedom from conflicts of interest. It is a crucial element that ensures the trustworthiness, reliability, and integrity of financial reporting. The concept of auditor independence encompasses two aspects: independence of mind and independence in appearance, both of which are essential for auditors to carry out their audit responsibilities with integrity and unbiased judgment. Independence of mind refers to the mental attitude and state of mind that enables auditors to act ethically, exercise professional skepticism, and form objective opinions. It requires auditors to possess a critical and inquisitive mindset, allowing them to evaluate evidence objectively and arrive at independent conclusions. This aspect of independence is vital in fulfilling auditors' responsibility to provide reliable and unbiased assurance on financial statements. Independence in appearance, on the other hand, relates to the perception of external stakeholders, such as investors, creditors, and the public, regarding the auditor's independence. It necessitates auditors to avoid actions or relationships that could create a perception of bias or compromise their ability to act independently. Maintaining independence in appearance is crucial for upholding public trust and confidence in the audit profession and the financial statements issued by entities. The significance of auditor independence lies in its ability to protect against undue influence, conflicts of interest, and pressures that may compromise the objectivity and integrity of auditors. Independence serves as a mechanism to ensure that auditors can exercise professional judgment, apply rigorous audit procedures, and provide reliable and unbiased opinions on the fairness of financial statements. Regulatory bodies, such as the International Auditing and Assurance Standards Board (IAASB), have established standards and guidelines to guide auditors in maintaining independence. These standards outline specific requirements and prohibitions concerning relationships with audit clients, financial interests, and the provision of non-audit services. The objective is to mitigate threats to independence and enhance the reliability and quality of audits. Various threats to auditor independence can arise, including financial interests, close relationships with audit clients, and the provision of non-audit services. For instance, auditors may face threats to independence when they have a financial stake in the client organization, have personal relationships with key individuals in the client's management, or provide non-audit services that could compromise their objectivity or create conflicts of interest. To address these threats, auditors are required to implement safeguards to protect and uphold their independence. These safeguards may include appropriate rotation of audit partners, effective governance structures within audit firms, and adherence to professional ethics and codes of conduct. Additionally, audit committees play a vital role in overseeing auditor independence and ensuring the integrity of the audit process.

In summary, the concept of auditor independence is a cornerstone of the auditing profession, providing a crucial basis for the credibility and reliability of financial reporting. It encompasses independence of mind and independence in appearance, emphasizing the need for auditors to act objectively, ethically, and without any conflicts of interest. By upholding the principles of independence, auditors contribute to the trust and confidence placed in the audit profession and the financial information provided to stakeholders.

2. AUDIT QUALITY AND ITS DIMENSIONS

Audit quality is a crucial element within the realm of auditing, comprising a range of factors that influence the efficiency and trustworthiness of the audit procedure. It pertains to the extent to which an audit engagement successfully achieves its goals of offering a reasonable level of assurance and identifying significant errors or discrepancies in financial statements. The assurance of superior audit quality holds significant importance in preserving the trust of investors,

facilitating well-informed decision-making processes, and upholding the overall integrity of financial reporting.

2.1 Compliance with Auditing Standards

An aspect of audit quality involves the degree to which the audit engagement adheres to recognized auditing norms. These norms, exemplified by the International Standards on Auditing (ISA) set forth by the International Auditing and Assurance Standards Board (IAASB), furnish auditors with directives for carrying out audits in a methodical and thorough manner. Adherence to these standards guarantees that auditors employ appropriate methodologies, uphold professional skepticism, and acquire substantial evidence to substantiate their assessments of the accuracy of financial statements.

2.2 Material Misstatement Detection

Another aspect of audit quality pertains to the proficiency of auditors in detecting significant inaccuracies within financial statements. These inaccuracies, known as material misstatements, encompass errors or omissions that have the potential to impact the decisions made by users of financial statements. Auditors bear the responsibility of formulating and implementing audit procedures that can effectively uncover these misstatements, regardless of whether they arise from fraudulent activities or unintentional errors. The capacity to identify material misstatements holds paramount importance in bolstering the dependability and trustworthiness of financial reporting.

2.3 Evaluation of Internal Control Systems

Audit quality encompasses the assessment of internal control systems in entities as well. Internal controls consist of the policies, procedures, and mechanisms established by management to ensure the dependability of financial reporting and the protection of assets. Auditors evaluate the design and efficacy of these internal controls to ascertain their reliance on them throughout the audit process. The effectiveness of this assessment plays a significant role in bolstering the overall quality of the audit and instilling confidence in the accuracy of the financial statements.

2.4 Professional Skepticism

Professional skepticism constitutes a vital component of audit quality. It entails the mindset adopted by auditors, characterized by a probing intellect, a discerning evaluation of audit evidence, and a readiness to scrutinize assertions made by management. Sustaining a skeptical outlook throughout the audit engagement is imperative for auditors as it enables the exercise of professional judgment and the vigilance necessary to identify potential material misstatements. By fostering thorough and impartial audit procedures, professional skepticism significantly contributes to the attainment of elevated audit quality.

2.5 Communication and Reporting

The quality of communication and reporting by auditors stands as a pivotal element of audit quality. It falls upon auditors to convey their discoveries and opinions to stakeholders in a clear and effective manner through the audit report. The degree of clarity, transparency, and comprehensiveness reflected in the audit report greatly influences the understanding and usefulness of the conveyed information. By facilitating effective communication and reporting, auditors heighten the dependability and pertinence of the audit process, fostering stakeholder confidence in the accuracy of the financial statements. In essence, audit quality encompasses several facets, including adherence to auditing standards, the identification of material misstatements, the evaluation of internal control systems, the application of professional skepticism, and proficient communication and reporting. By upholding a high level of audit quality, auditors diligently fulfill their responsibilities, furnish reliable assurance regarding financial statements, and contribute to the trustworthiness and transparency of financial reporting practices.

CONCLUSION

The research conducted on the relationship between auditor independence and audit quality has yielded significant insights into these crucial aspects of the auditing profession. The primary objective of the study was to explore the factors that impact auditor independence, the influence of independence on audit quality, and the consequences of compromised independence on the reliability of financial reporting. Through an extensive analysis of literature, empirical studies, and qualitative inputs, several key findings have emerged. The research has affirmed the critical role played by auditor independence in upholding the credibility, reliability, and integrity of financial reporting. Both independence of mind and independence in appearance were identified as essential dimensions that auditors must maintain to ensure objectivity and impartiality in their audit engagements.

Various factors were identified as influential in shaping auditor independence, including auditor tenure, the provision of non-audit services, and auditor rotation. The study revealed that longer auditor tenure could potentially compromise independence due to familiarity threats, while the provision of non-audit services posed self-interest threats. Conversely, auditor rotation was found to mitigate familiarity threats and enhance independence. The research also shed light on the implications of compromised independence on audit quality. When independence is compromised, it can lead to heightened audit risk, diminished professional skepticism, and potential biases in the evaluation of financial statements. These consequences undermine the reliability and credibility of financial reporting, posing risks to stakeholders and the overall functioning of financial markets. To address these concerns, the research proposed various measures and safeguards to enhance auditor independence and promote high-quality audits. Key components identified included regulatory reforms, professional standards, and effective corporate governance mechanisms. Mandatory rotation of audit partners, restrictions on non-audit services, and robust audit committee oversight were recommended as potential solutions to strengthen independence.

The outcomes of this research have practical implications for auditors, audit firms, regulators, and policymakers. The findings can guide the development of regulatory policies aimed at enhancing auditor independence and improving audit quality. Auditors and audit firms can benefit from the insights gained by refining their practices and procedures to ensure compliance with independence requirements and promote ethical conduct.

In conclusion, the research on auditor independence and audit quality has underscored the significance of independence in upholding the credibility and reliability of financial reporting. By examining the factors that influence independence and their impact on audit quality, this study has made valuable contributions to the existing knowledge in the auditing profession. The findings highlight the need for auditors, regulators, and policymakers to prioritize and safeguard auditor independence to ensure high-quality audits and bolster stakeholder confidence in financial reporting practices. Further research in this field is warranted to explore additional dimensions and factors that can influence auditor independence and audit quality, as well as the long-term effects of regulatory reforms and industry practices.

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Pedagogical Science

Digital Learning Tools to Create New Learning Environments

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Abstract

In the 21st-century digital era, it is critical to create digital-based learning environments and provide opportunities for students to meet the needs of modern education. It is important that teachers expand their digital teaching practices and enhance students' learning processes based on digital tools. Digital learning tools can be of different types and purposes. Some digital tools serve to create interactive content, some are learning management and communication platforms, some have assessment-instrument developing functions and so on. Some of the benefits of digital learning are flexibility for students in terms of full-time material accessibility, personalized and self-paced learning, autonomous and self-directed learning, collaborative learning opportunities, engaging lessons and new learning experiences, digital literacy development opportunities, easier track to progress, etc. Digital learning tools were integrated into teaching English as a Foreign Language (EFL) at Sokhumi State University (Tbilisi, Georgia) during the academic year 2022-2023 as a part of the EU *Erasmus+* project *DITECH (Developing and Implementing Technology-Enhanced Teaching and Learning at Georgian HEIs)*. The survey conducted with 20 first-year EFL learners at the end of the academic year showed that students had absolutely positive attitudes toward the incorporation of digital tools in their learning practice. According to the students, the benefits that the use of digital learning tools brought to them was increased learning motivation, active learning, frequent interaction and feedback from the teacher, increased teamwork and collaboration skills, boosted creativity skills, a more effective learning process, and their learning progress. Despite the fact that digital learning tools used during the course were unfamiliar to the whole group, the students did not perceive that using digital tools made their learning process complicated. The students considered integrating digital learning tools in all teaching courses to be essential. They expressed a willingness to continue using the learned digital tools in the future in other courses as well. Hence, it can be inferred that by integrating digital learning tools into teaching, teachers can contribute to the creation of a new, transformative learning environment.

Keywords: *Digital learning, benefits, integration of digital learning tools, students' attitudes*

Digital Learning

In the education of the digital era, it is of crucial importance to create digital-based learning environments and provide opportunities for students to meet the needs of contemporary, 21st-century education. It is essential to shift from traditional and teacher-fronted classrooms to modern, student-centered and computerized learning environments. Teachers need to facilitate and promote digital teaching practices and thus, extend students' digital learning experiences.

Digital learning increases access to education and knowledge while empowering students with a mindset and skills that prepare them for their success. Digital learning involving digital tools enhances the learning experience, makes the learning journey richer. Digital learning tools include

a wide variety of applications and learning platforms that facilitate teaching, learning, interaction and assessment. There are hundreds of digital learning tools that improve the academic process, grant autonomy to students, encourage collaboration, and strengthen communication between learners and teachers.

Digital learning tools may be assessment tools (tools for creating quizzes, tests, etc.), tools for creating educational games, platforms that serve as communication channels, platforms that allow producing creative and interactive content, and so forth.

Overall, digital learning is beneficial to students for many reasons. The advantages of digital learning are discussed in the paragraphs below:

Students have any-time access to materials in online courses. They can reread previous units and materials, and rewatch video materials or recorded lectures. Students gain control over their study, they have full flexibility over when to study, how much, at what pace, etc.

Digital learning promotes self-directed learning. Students of modern education need to be competent in self-directed learning, they need to have skills to take ownership of their own learning, do research, expand topic-related knowledge, etc. Online courses provide great autonomy to students. Students develop time-management skills - they organize their studies, allocate their time properly in taking the steps to complete the course.

Digital learning facilitates personalized learning. Digital learning can be tailored to the needs of each learner. Content, delivery and pace of teaching and learning can be adjusted to each student. Students can study at their own pace. Teachers get a better insight into which methods and strategies of teaching are more efficient for their students. Thus, digital learning is advantageous for providing personal learning experiences.

Digital tools allow blended learning comprising both face-to-face and online learning. Digital tools also help to implement a flipped classroom model. In the flipped classroom model, learning is flipped. In flipped learning, students complete the lower cognitive levels of Bloom's taxonomy (*Remembering* and *Understanding*) before they come to class, the middle two cognitive levels (*Applying* and *Analyzing*) are accomplished during the class, and the higher cognitive levels (*Evaluating* and *Creating*) are executed after class by the students. Digital tools allow teachers to create audio and video resources that students are exposed to before they come to class and that prepare students for classroom activities.

Digital learning fosters collaboration – students who live far from each other can work on projects in pairs or groups, have shared documents, hold video conferences, and interact through different collaboration platforms. Technology can bring people together from all over the world.

Using technology and digital tools in the teaching and learning process enhances students' digital literacy. In the present-day, computer age having a high level of digital literacy is essential for students to succeed in academic and professional life, as well as in the workplace. So, digital learning prepares students for working life.

Digital learning generates new learning practices. For example, games-based learning is an effective teaching strategy that allows learners to construct knowledge in a motivational and enjoyable way.

Digital learning promotes increased involvement. Digital learning produces more engaging lessons. Content can be delivered to students in a variety of ways - audio or video materials can be created, or already produced multimedia resources can be used, subject matter can be conveyed through graphic organizers, infographics, animations, etc. Interactive resources and content improve students' motivation to learn. Digital learning ensures better knowledge retention. Interactive content is more memorable for students than mere texts of books.

Digital learning allows teachers and students to track student progress closely. Summative or formative assessments are more transparent and accessible. Learning Management Systems (LMS) have automated test scoring. Students have easy access to their grades and feedback on

online learning platforms. In online courses, teachers can easily observe what parts of the course lacked students' engagement and they can set goals on how to improve the condition. Teachers as well as students can easily see in what areas students need improvement.

Integrating Digital Learning Tools in EFL Teaching (A Case of Sokhumi State University, Tbilisi)

Project *DITECH* is one of the European Union *Erasmus+* educational projects (duration of the project 2021-2024) implemented in the Georgian higher education sphere. Seven higher education institutions of Georgia (Sokhumi State University is one of them) and three European higher education institutions (Tallinn University, Kaunas University of Technology, and University College Cork) are involved in the project. The general aim of the project is to enhance the quality of higher education by developing and implementing technology-enhanced teaching and learning in Georgian higher education institutions.

Within the framework of the project, academic staff of Tallinn University and Kaunas University of Technology conducted TOT (Training of Trainers) sessions for the representatives of the project member 7 universities of Georgia (workshops in Tallinn University were held on May 22-28, 2022 and workshops in Kaunas University of Technology were held on October 10-15, 2022). Participants were introduced to innovative technology-enriched learning strategies and ways to create a digital learning environment. Practical workshops aimed to teach how to plan, design, develop, implement, and evaluate online courses. Participants got familiar with various digital tools for developing engaging interactive learning resources and creating, recording and editing interactive educational videos. Participants became acquainted with innovative digital tools such as *Tinkercard* (for creating 3D digital designs), *Powtoon* (Video creation tool), *Voki* (Speaking characters for education); *Storybird* (for making visual stories), *Lingt* (for creating writing and speaking assignments); *Gather Town* (Interactive virtual space), *Visme* (for creating presentations, interactive infographics, videos, charts & graphs, etc.) and others.

As the main target groups of the project are students, academic staff of universities, and in-service/future school teachers, the trained representatives of Georgian universities held training sessions for the academic staff of their universities and started implementing the acquired knowledge in their own teaching practices.

Digital learning tools learned within the project were integrated into teaching English as a Foreign Language (EFL) in a group of 20 first-year students at Sokhumi State University during the academic year 2022-2023. Below a brief description of digital tools applied in the mentioned EFL learning group is given.

Padlet. *Padlet* is a digital noticeboard for sharing information. *Padlet* was used by the teacher to post topic-related resources (articles, videos, etc.) in one place. *Padlet* was used by the EFL learning group students for uploading completed assignments, projects, recorded interviews, etc. It was a good way for sharing the work done with each other. *Padlet* was also applied by the students to post their questions, comments or ideas.

Canva. *Canva* is an online graphic design tool to create documents, whiteboards, presentations, videos, websites, mind maps, worksheets, reports, planners, proposals, class schedules, graphic organizers and more. *Canva* was used by the teacher to develop lesson plans. The students created presentations, short videos and concept maps using *Canva*.

Piktochart. *Piktochart* is a web-based graphic design tool that allows users to create posters, flyers, diagrams, charts and graphs, presentations, brochures, banners, newsletters, schedules, reports and more. *Piktochart* was used by the teacher as well as the students for creating engaging infographics related to EFL learning.

Edpuzzle. *Edpuzzle* is a web-based tool for editing online videos and adding interactive content. *Edpuzzle* was used by the teacher to integrate interactive videos into the teaching and

learning process. Through *Edpuzzle* the teacher added audio commentaries, extra resources or assessment questions to self-made or existing *Youtube* videos for the students.

Miro. *Miro* is a collaborative digital whiteboard platform that allows teams of any size to brainstorm, design and build projects together. *Miro* was used by the students when working on different projects in small groups.

Mentimeter. *Mentimeter* is a web-based interactive presentation tool that enables a presenter to integrate polls, multiple-choice or open-ended questions, or quizzes with which audience members can interact live. *Mentimeter* was used by the teacher when needed to conduct polls or oral quizzes in EFL teaching.

GeopardyLabs. *GeopardyLabs* is a web tool that allows teachers to create Jeopardy-like games. *GeopardyLabs* was used in the teaching and learning process to review the covered material and check the students' knowledge of particular topics.

Lingt. *Lingt* is an online tool that allows teachers to create writing or speaking assignments – develop written or oral content of tasks and get written or oral answers from students. Homework was frequently assigned to students on *Lingt.* Written or oral feedback was provided to each student's homework by the teacher as well.

Wakelet. *Wakelet* is a content curation platform that allows teachers to gather, organize and share multimedia resources (text, images, videos, etc.) with students in meaningful, visually-attractive, digital portfolios. *Wakelet* was used by the teacher to share topic-related materials and resources in one organized downloadable portfolio.

At the end of the academic year 2022-2023, a small survey was conducted with the EFL learning group in which digital learning tools were integrated. The questionnaire applied to 20 EFL learners is given below (Tables 1 and 2).

Table 1. Questionnaire for the students

Frequency and Descriptive Tables		Frequency				
Item	Statement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1	Using digital learning tools has increased my motivation toward learning.	0% 0	0% 0	0% 0	35% 7	65% 13
2	Using digital learning tools has generated an active learning process.	0% 0	0% 0	0% 0	20% 4	80% 16
3	Using digital learning tools has promoted autonomous learning.	0% 0	0% 0	0% 0	40% 8	60% 12
4	Using digital learning tools has fostered my creativity skills.	0% 0	0% 0	0% 0	25% 5	75% 15
5	Using digital learning tools has helped to increase my teamwork and collaboration skills.	0% 0	0% 0	0% 0	20% 4	80% 16
6	Digital learning tools have facilitated to have frequent interaction with the teacher and get frequent feedback on my learning.	0% 0	0% 0	0% 0	30% 6	70% 14
7	Using digital learning tools has created a more effective learning process.	0% 0	0% 0	0% 0	40% 8	60% 12
8	The integration of digital learning tools has complicated my learning process.	45% 9	55% 11	0% 0	0% 0	0% 0
9	Using digital learning tools has contributed to my learning progress.	0% 0	0% 0	0% 0	45% 9	55% 11
10	Using digital learning tools has helped to increase my digital skills.	0% 0	0% 0	0% 0	15% 3	85% 17
13	In the digital age, it is imperative that digital learning tools were integrated into all teaching courses.	0% 0	0% 0	0% 0	25% 5	75% 15

Table 2. Questionnaire for the students (continuation)

Frequency and Descriptive Tables		Frequency			
Item	Statement	All of the tools were new	Most of the tools were new	Some of the tools were new	None of the tools
11	How familiar were the tools used during this course to you before this course?	85% 17	15% 3	0% 0	0% 0
Item	Statement	Definitely will	Probably will	Probably won't	Definitely won't
12	Will you use the tools you used in this course in other courses in the future?	100% 20	0% 0	0% 0	0% 0

The questionnaire results revealed that all the students felt absolutely positive toward the integration of digital learning tools in an EFL class. 65% of the students strongly agreed and 35% of the students agreed with the statement that using digital learning tools increased their motivation toward learning. The whole group considered that using digital learning tools generated an active learning process (80% with strong agreement and 20% with agreement with the statement). All the participants also considered that using digital learning tools promoted autonomous learning (60% with strong agreement and 40% with agreement with the statement). Based on the results, it seems that using digital learning tools fostered students' creativity skills (75% of the students strongly agreed and 25% of the students agreed with the statement). The whole group showed agreement with the affirmation that using digital learning tools helped to increase their teamwork and collaboration skills. 70% of the students strongly agreed and 30% of the students agreed that digital learning tools facilitated to have frequent interaction with the teacher and get frequent feedback on their learning. All the students (100%) perceived that using digital learning tools created a more effective learning process. The students did not consider that the integration of digital learning tools complicated their learning process (45% with strong disagreement and 55% with disagreement with the statement). It turned out that using digital learning tools contributed to students' learning progress (55% with strong agreement and 45% with agreement with the statement). 85% of the students strongly agreed and 15% of the students agreed with the statement that using digital learning tools helped to increase their digital skills. According to the findings, the students before were not familiar with the digital learning tools used during this class. For 85% of the students, the tools were quite new, and for 15% of the students, most of the tools were new. All the students (100%) revealed that they will definitely use the tools in other courses in the future. The students believe that in the digital age, it is imperative that digital learning tools were integrated into all teaching courses (75% with strong agreement and 25% with agreement with the statement).

Conclusion

Technological advances of the last century have brought us to the digital age. To thrive in the contemporary digitalized world, it is vital to create digital-based learning environments and help students equip themselves with the skills they undoubtedly need. Transferring teaching on digital tracks has many advantages for students. Some of these advantages are full-time access to learning materials and great flexibility for students in this regard, the opportunity for personalized learning, the authority of self-directed learning, the opportunity for collaborative learning, the opportunity to improve digital literacy, the opportunity for engaging, various and new learning practices and experiences, the easier track to progress and so forth.

The effectiveness of digital-based learning was proved by the results of the survey conducted with an EFL learning group consisting of 20 first-year students at Sokhumi State University, Tbilisi. The students evaluated the fact of the integration of digital learning tools in their EFL learning positively. According to the students, the benefits that using digital learning tools brought to them were increased learning motivation, active learning, frequent interaction and feedback from the teacher, increased teamwork and collaboration skills, boosted creativity skills, and a more effective learning process and learning progress. Even though the digital learning tools used during this course were new for the whole group, the integration of the tools did not appear to have complicated the students' learning process. The inclusion of digital learning tools in all teaching courses seems necessary to the students and they expressed a willingness to continue implying the learned digital tools in other courses as well. Thus, it can be concluded that by integrating digital learning tools into teaching, teachers can contribute to the creation of a new, transformative learning environment.

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The role of proverbs and sayings in language and culture

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Proverbs and sayings are wonderful, broadly utilized in discourse, steady, brief expressions. There are two signs impossible to miss as it were to proverbs. Usually these are the generalizations of the settings of idioms as well as teacher, enlightening nature. The largest collector of legends V.I. Dahl within the XIX century so formulated the determination of proverbs: "Proverb- a brief story, sentence, teaching" [24, p. 142]. The saying is void of generalizing meaning and teacher. The sayings do not generalize anything, they do not instruct anybody. V. Dahl composed around the idioms: "Sayings are an indirect phrase, metaphorical discourse, a basic moral story, the manner of form in which a thing is expressed in words, but except a story as well as assertion, completion. The proverb replaces as it were the coordinate discourse, does not concerts, in some cases and does not title things, but conditionally exceptionally clearly hints" [24, p. 191].

Shalabayev defined the idioms as a figurative, short, notorious phrase, practical, rhythmic and practical in practice. The word is an imaginative, rhythmic sentence. Unlike the proverb, it is obvious that there is no gesture in it, but the sentence is incomplete. Though, the author did not pay attention to the prologue, the history of development, collection and publication. A genre does not fully describe its features and relationships with other genres [15, p 56].

Kadyr Myrzaliev, M. Gabdullin read proverbs and sayings along with riddles in a textbook for universities, which he calls "Kazakh people's oral folklore" as a separate chapter. Firstly, the researcher collects idioms and phrases, tactfully describes the character, literary and social meaning of the story. According to Gabdullin, primarily from literature, the idiom is the outcome of logical thought, which is presented in the type of an enormous meaning of thought and is utilized as a brief indication of different phenomena that occur in human existence, community situations and historical events. From here, Gorky says: "History and mantle very briefly tell the story of nation, the whole life experience of the public."

The analyst Dahl notes that the idioms are "literary, broadly utilized in conversation, constant, short, frequently metaphorical, sometimes multi-valued, having a metaphorical expression, more often than not formalized in discourse as portion of a sentence, some of the time being musically organized, not having properties to instruct and generalize the communicative and chronicled encounter of the individuals" [24, p. 212].

The idiom and saying distinguish in that the idiom acts in speech as independent judgment, and the idiom receives final registration and concrete sense the same as in the article, i. e. it is only a type of the judging (The look-ruble bestow, i.e. Someone look). The difference between saying and the idioms is that idioms have folklore and portable plans (Whatever the child is not, it would not be a cry. You do not spoil the porridge together with oil), and the idioms possess only a literal plan (finished business-walk boldly).

As it is noticed that the shrewdness and soul of the individuals are showed in idioms and phrases, and information of idioms and sayings of individuals promotes not as it were only to good information of the dialect but also to a stronger understanding of the method of thinking and the nature of the people.

Idioms and phrases existed in a removed moment as well as are established within the profundities of centuries. Numerous of them showed up indeed when there was no composing.

Consequently, it is better rectify to affirm that idioms and phrases have a folk root that their main origin is within the general intellect of the individuals.

The origin of idioms and phrases is literary as well as folk books. As the idiom is in Latin, French, or German, before being an English idiom, this idiom may have already come from a lot of languages. Perhaps it was probably English before the proverb was written. That is why we cannot be completely convinced of the origin of the idiom. Some English idioms were actually assimilated, but many did not.

A large type of idioms and phrases in English is originated on the holy book of the Bible. It was widely read and widely public, a large group of biblical chains became a linguistic unity, ready for use based on human identity, consistency, which signifies integrity. The research showed that most of them were kept in the original, without any changes. For instance: You cannot serve the same god. There are also slightly modified variants of idioms and phrases that go back to the Bible. It was clarified that poets, writers, politicians made a significant contribution to enriching the vocabulary of the English language with a clear, concise and universal statement. For instance: “The customer is always right” contains information belonging to one of the largest shopping centers in Europe. The case is that in all stores there are strict rules as customer respect. This word is widely spoken as well as traditionally utilized. There are many English “copyright” sayings that are so ready to use.

Thus, the overwhelming many of idioms and phrases in English appear from the holy book as the Bible, as well the other from the works of talented Shakespeare’s writers, popular poets and writers, and prominent politicians.

The basic distinction between Russian and English paremilogism is that a large group of Russian idioms and phrases was associated with people (speakers, wise, elderly, etc.), who are widely spoken from generation to generation. And the main source of English is the religious movement, the most sacred book and the most important examples of such great people like Shakespeare.

The verbal character of the transmission of these units indicates the origin of the idiom precisely to the sphere of folklore. Already in its very name, the idiom consist a straight reference to the attitude to oral speech. V.I. Dahl considers the proverb as a product of the only folk medium of communication: “What idioms and phrases must go to the individual, no one will argue in this, there is no proverb in an educated and enlightened society. The higher society does not accept ready idioms because it is pictures of foreign life to it and not his language; and he does not compose, perhaps, from politeness and secular decency: the idiom is not in the eyebrow, but in the eye.”

The work of idioms and phrases in English and Russian languages were engaged by such scientists as A.N. Afanasyev, F.I. Buslayev, V.V. Vozdev, K.I. Grigas, A. Dandis, V.P. Zhukov, X. Kasares, Yu.I. Levin, G.L. Permyakov, A.A. Potbnya, etc.

According to V.G. Gaka, phraseological units are signs of national culture in a certain language and some of the most vivid manifestations of the specific language of determined people.

V. Telia contends that with the assistance of phrases ethnolinguistics and lingvoculturology thinks about implies and conceivable ways of social conventions and values into the dialect [56, p. 35].

The study of G.L. Permyakov was the premise of present day lingvoculturological considers which incorporate society, scholarly and phonetic approaches to learn phrases and idioms within the dialect. Within the system of these considers, sayings and proverbs are examined from the case of see of the exemplification within the film of individuals brain research, lifetime, past, convictions, traditions, ceremonies, as well as mentality.

Idioms and phrases are an invariable part of any spoken language. They were passed by phrase of mouth from generation to generation until they were recorded as well as became folklore treasures. Thus, they reflect the culture of the individuals, its state nature and mentality. In a brief idiom or saying, the centuries-old encounter of the individuals is concluded. “Idioms and phrases are described by a certain response to all marvels of reality, mirroring the lifetime and ideology of the individuals in all diversity. They are described by the exchange of household, communicative, philosophical, devout, morals well as ethical, stylish individual sees. The basic object of proverbs is the person’s assessment of goal wonders of actuality that express thus the worldview”. [23, p. 104] For instance, in English the idiom “Make hay while the Sun shines” has been known for an extended time that goes back to the field works in the territory of England. So, in the old days, any farmer felt the rightness of this thought, not necessarily expressed by these words. But after hundreds of individuals possess expressed this thought in different ways, after trial and error, this thought was finally formed and began its life as a proverb. In Russian this proverb translates as “Коси коса, пока роса; Куй железо, пока горячо”.

This also applies to the idioms “Will not add every eggs in a basket”, that arose as an outcome of the practical experience of trade relations between England and other countries. In Russian this idiom translates as “Не клади все деньги в один карман”.

Every idiom and phrase in the first place captures the collective knowledge of individuals

e. “The idiom is not just a phrase. It expresses the opinion of the individuals. It is a folk assessment of living, observation of the people’s mind”. [3, p. 82]

Idioms and phrases, being an integral type of the speech, indicate the culture, originality and basic significance of the individuals. Therefore, the work of idioms and phrases helps not as it were to improve the pronunciation and broaden the vocabulary but also to realize the state essentials of the individuals whose speech is being studied.

The differences between various languages, in particular, Russian and English, make it conceivable to uncover the state specificity of idioms and phrases almost obviously. It is known that Russian and Englishmen are home speakers of Russian and English languages, who live in various social and natural conditions, as a outcome of which they are described by different history, religion, mores, principles of morality, psychology, etc. In idioms and phrases discover the phrase unconventional to individuals a mindset, a method of judging, a quirk of see; they show the lifetime as well as the manner, soul and nature, means and habit, convictions and superstitions. Idioms and phrases make it conceivable to demonstrate both way of life as well as the topographical area, past, and conventions of a community joined together by one culture.

Contrasting idioms and phrases with other language unit is one of the most obvious aspects of the complexity as well as deepness of the point. Generally, idioms and phrases are not interpreted directly from one language to another, unless they are generally accepted. When translating from one language to another, you can use the meaning (absolute meaning) or equivalent value to exactly correspond the sense and composition of the connection. Particularly in simultaneous translation, it is needful for speed and accuracy. Based on this goal was published “English idioms and phrases and their equivalents in the Russian and Kazakh languages” written by T. Baymahanov, N. Uteshev, N. Baytoleev. In their works English idioms and phrases are differentiated into ten semantic types and given its alternatives in Russian and Kazakh languages. Although English idioms have their same meaning in the Kazakh language, they have direct translation points. During the study, it was noticed that scientists and researchers focused on the English option of idioms and phrases, as well as they were studied only in their own way. They suppose that the outcome of comparable studies of two or more languages theoretically complement linguistic knowledge and any word can be passed from generation to generation. The mysterious thought, the imaginative, sharp word of the people of the advanced wisdom of his age can be widespread and popular.

Researchers tend to consider proverbs as one of the main "codes" of culture, as "the language of everyday culture that had evolved over many centuries", which is passed down from generation to generation and reflects all the categories and settings of life philosophy of the people, which is a native speaker [56, p. 219, 241]. Proverbs are "the autobiography of the people", "mirror of his culture" [62, p. 38]. The study of proverbs and sayings of a people gives an opportunity to acquire new, deeper knowledge about the people and its cultural traditions and morals.

Each language has a special picture of the world, and the language personality is obliged to organize the content of the statement according to this picture. The concept of a picture of the world (including language) is based on studying the representations of the person about the world. Representatives of cognitive linguistics rightly assert that our conceptual system, which is displayed as a language picture of the world, depends on the physical and cultural experience and is directly related to it [39, p. 64].

In spite of the fact that proverbs, sayings, and phraseological units refer to different linguistic clichés (stable verbal combinations), all of them, reflecting in their semantics a long process of development of the culture of people, fix and pass from generation to generation.

The language picture of the world reflects the cognitive, cultural and social characteristics of the native people, as well as the geographical conditions of their residence. This reflection is determined by the mentality of the people [31, p. 44]. The language picture of the world is a way of consciousness of reality, reflected by means of language, the model of integral knowledge about the conceptual system of representations, represented language [37, p. 46].

The fact that proverbs and sayings keep the knowledge of the world and of the person in this world allows scholars to speak of the proverbial notion of peace. So, E.V. Ivanov in the book "The world in English and Russian proverbs" writes about existence of the proverbial picture of the world as "separate fragment, a part of a language picture of the world" [31, p. 3], and also about existence of a proverb mentality (mentality which is manifested in the proverbial picture of the world). The proverb mentality is not the mentality of proverbs, but reflected in the proverb fund mentality of the people, more precisely, certain social groups of the people [31, p. 49].

The worldview of the people and their world understanding is embodied in the language in the system of typical images, standards, stereotypes, myths, symbols, etc. The language composition of the language plays a special role in this, as in the figurative content of its units is embodied cultural and national world vision. The culturally significant meaning of the image itself is revealed by the literal reading of the idioms [56, p. 249] or proverbs [14, p. 78].

Proverbs and sayings are the heritage of the people and popular wisdom. Behind the proverb stands the centuries-old history of the people, it is "for the past result, and for the future-a possible action" [11, p. 49].

Studying proverbs in the context of cultural traditions, V.N. Telia comes to the opinion that they are "a powerful source of interpretation, because proverbs are traditionally transmitted from generation to generation the language of centuries-formed ordinary culture, in which all the criteria and settings of this life-setting of the native speaking people are reflected in the international form" [56, p. 241].

Thus, at the moment, researchers have not yet reached a consensus on the affiliation of proverbs and sayings to the area of phraseology. However, many scholars and researchers relate proverbs and sayings to phrasebook expressions. Being organized in the form of sentences, proverbs and sayings as phraseological units refer to the part of the phraseology. There is also no consensus on the definition of "proverb" and "saying". Each researcher interprets these terms in his own way, but the majority of linguists consider proverbs and sayings as stable phrases of instructive character reflecting peculiarities of a language picture of the world of one or another people.

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Программа элективного курса «Современный литературный процесс в Казахстане»

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Пояснительная записка

Элективный курс «**Современный литературный процесс в Казахстане**» предназначен для учителей русского языка и литературы и учащихся старших классов.

Учебно-методический комплекс по элективному курсу знакомит с ключевыми текстами актуальной литературы Казахстана; углубляет представление о реалистической, постмодернисткой литературе; исследует поэтику наиболее заметных авторов современной поэзии и прозы; демонстрирует многоформатность русской и русскоязычной литературы Казахстана, рассматривает ее в общекультурном процессе.

Теоретической базой изучения современной литературы Казахстана является разработанная наукой теория литературных жанров и проблема ментальности, принцип комплексного подхода к исследованию творчества наиболее известных авторов, позволяющий объединить историко-культурный и теоретико-литературный аспекты их анализа.

В процессе изучения особое внимание уделяется чтению художественных текстов, составлению электронных литературных хрестоматий, словарных статей, буктрейлеров, эссе.

В основу изучения творчества отдельных авторов положен хронологический принцип, который поможет старшеклассникам, с одной стороны, усвоить особенности развития литературы, с другой стороны, проследить эволюцию системы жанров русскоязычной литературы Казахстана в целом.

Актуальность данного элективного курса заключается прежде всего в том, что полученные знания формируют умение анализировать тексты произведений, определять их жанровую принадлежность, место в литературном процесс, грамотно выразить свои мысли и создавать собственные высказывания.

Цель курса: формирование целостного представления о современном литературном процессе Казахстана как самостоятельном историко-литературном явлении, отражающем общие тенденции развития русской и русскоязычной литературы Казахстана.

Задачи элективного курса:

1) изучить творчество современных писателей и поэтов Казахстана в жанрово-типологическом аспекте.

2) развить навыки аналитического и типологического подхода к литературному процессу и художественному тексту на разных уровнях содержания и формы.

3) формировать теоретическиую базу для развития умений аргументированного обоснования социальных явлений и процессов; умений грамотной аргументации собственной позиции.

Образовательная программа «Современный литературный процесс в Казахстане» составлена на основе Государственного общеобязательного стандарта основного среднего образования,

утвержденного постановлением Правительства РК от 31 октября 2018 года № 604, по учебным программам по общеобразовательным предметам, утвержденных приказом Министерства образования и науки Республики Казахстан от 3 апреля 2013 года № 115 (с внесенными изменениями и дополнениями на 25 октября 2017 года № 545)

Формы изучения курса: групповая и индивидуальная; работа с текстами, семинарские занятия, практикум, конференции, ответы на поставленные вопросы как результат самостоятельного осмысления, анализ текстов, написание эссе, аннотаций, буктрейлеров, использование различных каналов поиска информации.

Методическое обеспечение программы.

Программа составлена таким образом, чтобы большую часть знаний, навыков и умений обучающий получал в результате практической деятельности. Практические занятия – работа с текстами, научными публикациями, таблицами, аудио и видеоматериалами, поиск и отбор информации, написание эссе.

Ожидаемые результаты:

В результате освоения элективного курса обучающийся должен:

Знать:

- основные специфические особенности и пути развития современной литературы Казахстана как литературы полиэтнической;
- закономерности формирования и эволюции жанровой системы русской литературы Казахстана;
- специфику современного литературного процесса в Казахстане;
- творчество конкретных авторов, представителей современного литературного процесса в различных региона страны.

Уметь:

- самостоятельно анализировать тексты изучаемых произведений, определять их жанровую принадлежность, роль в эволюции творчества отдельных авторов и конкретных жанров, место в литературном процессе;
- выделять составляющие современного литературного процесса, понимать особенности функционирования литературы в традиционных формах и в медиапространстве.

Владеть:

- навыками историко-литературного анализа;
- принципами комментированного чтения художественных текстов.
- навыками подготовки аннотаций, составление рефератов, буктрейлеров.

Календарно-тематическое планирование курса (34 часа)

№	Темы	Часы	Рекомендуемые виды деятельности на уроке	Учебные ресурсы
1	Введение в курс. Современный литературный процесс в Казахстане: вопросы ментальности	1	Исследование информации	
2	Поэт и общественный деятель Олжас Сулейменов: творческая биография	1	Изучение основных этапов творчества поэта	Работа с ресурсами: тексты, аудио, видеоматериалы.
3	Поэзия и проза Олжаса Сулейменова	2	Создание ассоциативной карты. Чтение и анализ произведения Языковые средства выразительности.	
4	Поэзия Бахытжана Канапьянова и его издательская деятельность	1	Исследование информации.	
5	Поэзия Бахыта Кенжеева: анализ переводов и проблема циклизации.	1	Написание аннотации	
6	Стихотворные сборники	1	Определение стихотворных размеров, рифмовки	
7	Основные этапы творчества Бахыта Каирбекова. Сборники стихотворений	1	Заполнение концептуальной таблицы	Письменные работы учащихся.
8	Историко-литературный процесс в поэзии Валерия Михайлова. «История Великого джута»	2	Чтение и анализ текстов	
9	Женская поэзия в Казахстане: Тамара Мадзигон, Ольга Григорьева, Айгерим Тажи	2	Информационная обработка текста. Формулирование проблем текста. Комментарий к проблеме.	Тексты произведений
10	Литературовед, переводчик и стиховед Александр Жовтис	2	Создание буктрейлера	Работа с ресурсами: тексты, аудио, видеоматериалы.
11	Специфика современного литературного процесса рубежа XX-XXI вв.	2	Исследование информации	
12	Основные направления, жанры и представители русскоязычной литературы в Казахстане	2	Написание аргументированного эссе	
13	Литературное творчество Ольги Марк. Деятельность фонда «Мусагет»	1	Чтение и анализ текстов	Письменные работы учащихся.
14	Представители казахстанского русскоязычного рассказа. Жанровые разновидности и поэтика	2	Заполнение концептуальной таблицы	Работа с ресурсами: тексты, аудио, видеоматериалы.
15	Проблематика и поэтика малой прозы Надежды Черновой, Умит Тажикеновой	1	Объяснение собственной точки зрения	

16	Казахстанский русскоязычный роман: представители, жанровые разновидности и поэтика (Дюсенбек Накипов, Николай Веревочкин, Аслан Жаксылыков)	1	Исследование информации	Письменные работы учащихся.
17	Проблематика, тип героя и поэтика в произведениях Михаила Земкова и Ильи Одегова	2	Составление модели художественного пространства	Работа с ресурсами: тексты, аудио, видеоматериалы.
18	Молодежная проза: представители, жанры, проблематика, тип героя	1	Чтение и анализ текста	
19	Детская литература Казахстана: жанры, проблематика, тип героя	1	Создание буктрейлера	
20	Детская литература Казахстана периода Независимости страны	1	Подготовка рекламного проспекта	
21	Критика и современное литературоведение в Казахстане	2	Заполнение концептуальной таблицы	
22	Анализ конкретного текста и выдвижение аргументов (в форме тезисных заявлений).	2	Создание блок-схемы, тезисного плана.	
23	Защита проектов	2	Взаимооценивание по схеме выставления баллов. Комментирование.	Творческие работы учащихся.
Итого: 34 часа				

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Effects of professional development on the quality of teaching

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Abstract

There isn't much strong evidence that teacher professional development is effective. This study demonstrates a collaborative, pedagogy based professional development method for influence on teaching quality. This study is based on the idea that teachers' quality, which in turn depends on their ongoing professional growth, greatly affects the quality of education. The purpose of this study was to discover the impact of professional development, creative work, and job dedication on teachers' ability to learn effectively.

The quality of the teaching staff (teaching professionals and the chances for ongoing professional development that are available to them both have a significant role in determining the standard of education. School reforms and greater learning are positively impacted by professional development and the successful performance of instructors (Gopinathan, 2016). Teachers' contributions to boosting the value of human resources are increasingly being seen as strategic. The importance of maximizing teacher quality in all educational forms has been highlighted, since it is the teacher who develops learners with high standards and competitive potential.

Keywords: teacher development, collaboration, professional development, teaching rounds, quality teaching, job dedication

Introduction

For ESL instructors to benefit from available Professional Development (PD) opportunities, a deeper understanding of their ideas of PD is essential. The four main effects of PD that enabled instructors to improve the standard of their practice are as follows:

(a) refinement of teachers' character and behavior

(b) sustaining teachers' currency of knowledge in terms of qualifications, content and overall knowledge and experience, thereby growing into quality practitioners with certificates and credentials,

(c) enriching teachers' quality of delivery via improved skills and expertise, and

(d) maintaining teachers' professional standards.

Globally, all educational systems agree that the most important internal element affecting student performance is the quality of the teaching. Millions promoting funds are invested in teacher professional development each year in the name of raising teaching standards, and complex regulatory frameworks have been created to guarantee that educators participate in continuous professional learning activities. However, only a few research provides solid proof of the effects of these actions. Additionally, there are frequently no obvious ties between PD sessions and classroom practice. As a result, there is what some define as a "evidence gap" when it comes to identifying the long-term impacts of PD on either teaching practice or student results.

Concerns regarding the quality of teaching in schools are increasingly being accepted in two different approaches, each of which has achieved substantial political support, in the absence of convincing evidence for PD. One strategy aims to raise quality by only allowing the "best and the brightest" to enter the teaching profession. According to this kind of reasoning, a teacher's quality—typically interpreted as their academic qualifications, though occasionally attitudes and

personality factors are also taken into account—determines the quality of the lessons they provide. However, the suggested narrowing of selection criteria fails to offer a short-term solution and disregards the effects of novice teacher development as a strategy for "fixing" the quality of teaching.

If significant economic reforms are not made at the same time, it is also not conceivable. A second strategy focuses on developing sophisticated methods to assess the effectiveness of instruction.

Even However, unless evaluation of teaching quality is accompanied with an efficient approach to professional development, it will have little influence on raising teaching quality.

Given the drawbacks of these strategies, the issue of how to enhance education continues to be of utmost importance on a global basis. Thus, finding ways to assist and support teachers and student teachers (i.e., preservice) continues to be a strategy worth pursuing with some urgency—both morally, in support of these teachers and their numerous students, and practically, in regard to the enormous resources necessary to completely rebuild the teaching workforce from beginning to end.

Professional development

Teachers can acquire the information and skills they need to effectively manage the learning problems of students via effective professional development. Professional development must be carefully planned, implemented, and evaluated in order to be effective in fulfilling the educational requirements of educators. Participating in professional development requires educators to apply their newly acquired knowledge and abilities. Professional development is worthless unless it improves teachers' lessons or administrators' ability to operate their educational institutions.

Factors determine the professional development in which educators participate

A school system might think that all educators within the system, or educators employed at a particular institution or level of study, are expected to take part in professional development programs the system creates in order to achieve its educational goals. This typically happens when the educational system is putting a new curriculum into place. Some systems plan professional development programs for teachers so that the majority of learning takes place at the facility level. The leadership team or administrator of the institution may support or direct teachers' professional development in order to assist the school achieve its objectives after reviewing student data and educator requirements. If a teacher's performance appears unsatisfactory by the school's principal may demand that the teacher take part in professional development.

Despite the substantial corpus of research on PD, few studies directly link specific teacher development activities to changes in teaching practice and/or improved student outcomes.

The PD has often been restricted to a short part of teaching practice, a small number of instructors, or a specific topic area where studies have demonstrated beneficial impacts. Results including teacher satisfaction, attitude change and dedication to innovation, self-efficacy, and impacts on student achievement increases have been stated as effects.

Nevertheless, some academics refer to an emerging "consensus" that efficient PD strategies encourage transformative practice over reliability, involve teachers as both learners and teachers, are needs-supportive, occur during the educational day, and are integrated into practice (Armour & Yelling, 2007; Desimone, 2009; Ingvarson et al., 2005). The majority of attempts to put these principles into practice have been pricey and produced a low return on investment (Harris and Sass, 2011, Hill et al., 2013). Leading scholars have come to the conclusion that investing in few instructors or finding more resources is necessary to achieve professional development of the highest level.

The approach presented not only expands on these stated "principles of effective PD," but it can also be used to teach all subjects at all levels of education (K–12) for a relatively modest cost. It seeks to assist educators in enhancing their instruction while also fostering their effectiveness, wellbeing, and professional engagement. Approaches that subject instructors to higher degrees of responsibility, evaluation, and performance review clash with this. Our method simultaneously and adamantly seeks to present proof of some kind that will convince governments and educational institutions that their expenditures will pay off, particularly in terms of student outcomes.

The use of pedagogical frameworks to improve teaching is becoming more popular, although the QT framework is distinct from others in use, such as CLASS (Pianta, LaParo, & Hamre, 2008) and Framework for Teaching (Danielson, 2007). First, the QT framework provides a thorough analysis of teaching, including issues with social justice, student participation, and curriculum (Gore, 2007). By doing this, it prevents the complicated, diverse business of teaching (Jackson, 1968) from being reduced to a collection of methods or techniques. Instead, the QT framework is more of an idea of "the practice of teaching" (Lampert, 2010, p. 29), which is comparable to the practice of law or the practice of medical care.

According to Evans (2014), this method may have tremendous effects on teachers' cognitive, affective, and behavioral learning. The latter is typically the focus when frameworks are created and/or utilized exclusively for evaluation reasons. The QT framework gives structure and direction for the numerous minor decisions that instructors make every day by operationalizing diverse theoretical views. Importantly, the QT framework avoids the proliferation of independent practices in a way that becomes challenging with its three guiding principles of Intellectual Quality, Quality Learning Environment, and Significance (like the 1001 teaching activities identified in a 1929 study by Charters and Waples, as cited in Zeichner,2012).

The QT framework gives a degree of exactness that creates a distinct objective that instructors may work toward. Teachers study each element's meaning before choosing the best code for the lesson they witnessed using the main question and coding scale. After arriving at their own conclusions, the PLC members debate the data they have collected from the lesson and their justifications for the suggested codes in an effort to come to a consensus on the most appropriate code for each element. The PLC members may have in-depth discussions regarding their practice in general as well as the lesson they watched thanks to the coding and discussion process.

The framework also makes it possible to acknowledge that the appropriateness or relevance of various goals will depend on the specific educational situation. In lessons where risk is high and safety is a concern, such as when learning to throw a throwing instrument or working with heat sources in science, or when the teacher wants to convey important messages to all students (such as explaining a key concept or conveying a set of instructions), "student direction"—giving students control over some aspects of their learning—will be less relevant. We believe that the QT framework is "comprehensive enough to encompass teachers' concerns, manageable enough to give focus to their thinking and practice, and open enough to enable their critical engagement" (Bowe & Gore, 2017, p. 1). This combination of specificity and contextualization, we contend, makes the QT framework "manageable enough to give focus to their thinking and practice."

Additionally, an observation tool cannot support instructional development on its own, as Sartain and Stoelinga point out. A strict instructional rubric is essential for defining good instruction and developing a common vocabulary for teachers and principals to discuss instruction, but the real driving force behind teacher and instructional growth lies in the dialogues themselves. (p. 41)

A method of teacher professional development called Quality Teaching Rounds is created to facilitate such discussions. In order to inform continuing improvement of their profession, it

listens to both the content of dialogues about teaching practice (through the QT framework) and the mechanisms by which constructive conversations may occur (by offering a safe environment for their critical examination).

Methodology

Among the techniques for fostering teacher professionalism are the lesson study, which aims to improve learning processes through various peer-provided input, classroom action research (CAR), workshops, and teacher collaboration. Other techniques include enhancing teachers' performance in terms of discipline, motivation, administration, creativity, and innovation.

A strong faculty development program that may increase the teacher's knowledge and competence is essential for providing high-quality instruction. It could provide an efficient and sensible approach to carry out best practices and achieve objectives. Teachers' training and professional development activities are intervening elements in effective education. The professional viewpoint of a teacher can have a significant role in developing proficiency. Students' attention can be peaked and their academic performance can be improved by a teacher's expertise and enthusiasm for the teaching profession. Therefore, while receiving minimal benefit from professional development events, a teacher may still instruct. Although professional development activities have never been thoroughly examined to meet the demands of the instructors, it has been discovered that they have minimal impact on the performance of the teachers. Professional development is currently lacking in enthusiasm and follow-through and is not connected to the success of teaching strategies in the classroom, but this study implies that strategic planning, execution, and assessment of professional development activities may be more advantageous for teachers. Future research may thus be planned in this area.

CONCLUSION

Thus, this research study draws the conclusion that the process and quality of teacher learning are influenced by a variety of elements, including job dedication and inventive behavior. It has been established that dedication to one's work influences conduct in educators. The level of a teacher's behavioral performance increases with their level of dedication. The results of this study mostly agreed with those of earlier investigations, however there were a few occasions when they did not. The majority of studies confirmed the idea that professional development of teachers' job commitment increased educational quality and developed human resources of competitive quality by allowing staff members to plan their future careers and gain from the institution. Additionally, it is clear from this research that creative work has an impact on job commitment.

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Medical Sciences

Clinicoepidemiology and Management of Acute Poisoning at a Tertiary Care Hospital's Emergency Department

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Keywords: Acute poisoning, toxic agents, pesticide poisoning, household poisoning, food poisoning, drug/medication poisoning, mortality, management.

Introduction:

Poison is described as any agent that could harm, kill, or impair everyday physiological features in humans, inflicting standard or nearby harm or disorder within the body [1]. Since the beginning of time, poisoning deaths have been documented. The Ebers papyrus (circa 1500 B.C.) contains information about many recognized poisons, including hemlock (the state poison of the Greeks), aconite (a Chinese arrow poison), opium, and metals such as lead, copper, and antimony. There are several references to poisons and their use as means of suicide or as weapons for homicide in the literature of ancient Greece [2-3]. Although its nature and the related morbidity and mortality differ from nation to nation, poisoning is a significant issue everywhere in the world [4]. Poisoning is a global medical and social problem. Acute poisoning (AP) is a common reason for visits to emergency departments and hospitalizations worldwide, as well as a common cause of morbidity and mortality. Understanding the epidemiology of poisoning and its changes is critical for both emergency physicians and public health practitioners [5-6]. Intentional or accidental poisoning is both possible. Unintentional poisoning happens when a person consumes or administers a drug without intending to hurt others. In contrast, intentional poisoning results from the consumption or administration of a substance to cause harm. Due to changes in human lifestyle and social behavior, there are more occurrences of poisoning on the rise [7]. As a result of recent advances in chemical technology, a significant number of new compounds used in trade, industry, and medicine have been classified as poisonous substances. In the developing world, the case fatality rate for self-poisoning is typically 10–20%, but for specific pesticides, it can be as high as 50–70%. The causes of the high case fatality rate are multifactorial, but they include the high toxicity of locally available poisons, difficulties in transporting patients across long distances to hospitals, a limited supply of healthcare workers in comparison to a large number of patients, and a lack of facilities, antidotes, and training for the management of pesticide-poisoned patients [2-8].

Epidemiology:

According to WHO (World Health Organisation) estimates based on 2012 statistics, accidental poisoning claims 193,460 lives annually throughout the world. However, over 60% of all fatal self-harm incidents in rural Asia involve poisoning, making it a significantly more significant issue than hanging or other physical self-harm methods [9]. In developing nations, poisoning is a relatively common occurrence, and the effects are far more severe than in wealthy nations due to weak regulations and inadequate health care. In poor nations, pesticides are the most frequently used chemicals for self-harm [10]. Poisoning is a serious health issue that affects people all over the world, yet the type of poison and the morbidity and mortality that go along with it can vary from place to location and change over time. More than three million incidents of poisoning are reported by the WHO each year, with 99% of fatal poisonings occurring in underdeveloped nations, especially among agricultural workers [11]. Self-poisoning accounts for approximately 15–20% of the burden of medical units and emergency departments in economically developed countries such as the United Kingdom [12-13]. Acute poisoning is a serious medical emergency that is a leading source of morbidity and mortality in underdeveloped nations such as India. Every year, 1 to 1.5 million cases of poisoning are reported in India [14]. Compared to many other prevalent illnesses that have an impact on public health, poisoning has a different health burden. Poisoning substantially impacts the after-effects on the patients and caregivers living in addition to the 68.2 hospitalizations per year per 100,000 populations following a hospital stay and expenditures [15]. These impacts may be reflected not only in the victim's mental and physical health but also in the legal, social, and occupational health of society as a whole. The most typical form of poisoning in industrialized nations is tablet overdose. Paracetamol continues to be the drug used most frequently in overdoses in the UK (United Kingdom) (presentations of intentional self-poisoning account for 50% of all overdose cases) [16-17].

Mortality:

Nearly 700 people worldwide pass away from poisonings every day, and for every fatality, many more suffer the effects of poisoning. Nearly 4,000 people every year pass away from poisoning in developed nations like the United Kingdom. Nearly 50,000 people per year in India pass away from poisoning [13-18]. Different regions of the world have different case fatality rates for poisoning. Less than five people who self-poison are fatally injured for every 1000 patients admitted to European hospitals [19]. In rural Asian hospitals, there are 100–200 fatalities for every 1000 patients hospitalized. Most self-poisoning cases in rural developing countries involved organophosphate chemicals as the primary poison, which caused the majority of deaths. Hospital-based surveys found that up to 46% of deaths were reported [8].

Table No.1: Pattern of Poison in India

Region	No. of patients	M (%)	F (%)	Intentional (%)	Common Poisons involved	Mortality (%)
Delhi 1999-2000 [20]	2719	57	43	53	Household- 44.1% Drugs- 18.8% Pesticides-12.8% (aluminum phosphide most common)	Not available [N.A]
Mangalore 2001-2003 [22]	33207	70	30	72	Agrochemical -49% Drugs-17% Alcohols-13%	33.82% Aluminium phosphide-67.6%
Mangalore 2001-2003 [23]	546	69.9	30.1	68	Organophosphates-35.% Alcohols-12.4% Drugs-11.8%	Not available [N.A]
Yavatamal Maharashtra 1997-2001[24]	4245	67	33	63.4	Organophosphate-23.1% Alcohol-21% Organochlorine-12%	28.5% Organophosphate-43.3%

According to many studies conducted in India, the mortality rate from poisoning ranges from 3.3% to 34%. According to the National Poisons Information Center of India, the most common mode of poisoning is the suicidal use of household products such as OP, carbamates, pyrethroids, etc., as they are readily available, cheap, highly toxic, and can be used with food or drink [25]. According to the National Crime Records Bureau, poisoning was responsible for 4.6% of the 451,757 unintentional deaths in India in 2014 and 6.3% of the 413,457 unintentional deaths in 2015. In 2015, food poisoning and snakebites caused 1,624 and 8,554 deaths, respectively. Of the methods used by suicides to end their lives, poisons accounted for 26.0% (34,254) and 27%, respectively.

Types of poison:

There are various ways in which a poisoning situation may present itself to a medical professional or hospital. The following four presentation types are generally used:

1. Chronic: Chronic methods involve consuming small amounts over an extended period, which leads to a steady deterioration of the state as a whole. Arsenic, phosphorus, antimony, and opium are the poisons that are most frequently employed to cause chronic poisoning.

2. Fulminant: A massive dose causes fulminant poisoning to occur. Death occurs quickly and occasionally without any warning symptoms in this situation.

3. Acute: Poisoning can occur suddenly or acutely by ingesting small amounts several times in a short period, as well as by swallowing one large, bulky dose.

3. Subacute: Subacute poisoning combines elements of both acute and chronic poisoning.

Common acute poisoning type:

A. Pesticide poisoning

B. Household material poisoning

C Food poisoning

D. Drug/Medication poisoning

A. Pesticide poisoning:

Pesticides are compounds used to kill pests, which can be insects, rodents, fungi, nematodes, mites, ticks, mollusks, and unwanted weeds or grasses.

a. Insecticides

b. Rodenticides

c. Fungicides

d. Acaricides

e. Herbicides

a. Insecticides:

These are compounds that kill or repel insects and more species for example, organophosphates, carbamates, organochlorines, pyrethrum, and its derivatives (pyrethroids). Accidental exposure or overexposure to pesticides can have serious implications. The potential for pesticide accidents is real. While most of these pesticides can be used with relatively little risk, some are extremely toxic and require special precautions.

i. Organophosphorus Compounds: [27]

- Organophosphates (ops) are lipophilic compounds formulated in petroleum distillates as emulsifiable concentrates or suspensions. Wettable powders, dust, and granules are also available. Some products are formulated as impregnated resins, fogging formulations, or smokes.
- They are used extensively as an insecticide, miticides, and amplitudes in agriculture and horticulture, contributing maximum to the incidence and mortality due to acute poisonings.

Mode of action: [28]

- Organophosphates are potent acetylcholinesterase inhibitors that prevent the enzyme from hydrolyzing released acetylcholine into choline and acetic acid. As a result, there is an excess of acetylcholine that can bind to the acetylcholinesterase with sustained stimulation of local receptors.
- Although endogenous hydrolysis occurs, the resulting conjugate is vastly more stable than the acetylcholine-acetylcholinesterase conjugate. The acetylcholinesterase is essentially destroyed very slowly over days to weeks by phosphorylated enzymes.
- The alkyl group is gradually lost from the acetylcholinesterase once it has been phosphorylated, and the enzyme can no longer hydrolyze substances on its own within the following 24 to 48 hours.

ii. Organochlorines: [29]

- Organochlorine compounds are widely used as pesticides in agriculture and as environmental pesticide control products. Commercial preparations are commonly dissolved in petroleum distillates, which form emulsions when added to water.
- The ɣ-isomer of benzene hexachloride called lindane is used clinically as an ectoparasiticide. Organochlorines are of toxicological concern, and some, like dichloro diphenyl trichloroethane (DDT) and chlordane, have been banned for commercial use as they persist in the environment and accumulate in biological systems. Based on their chemical structure, they are classified into DDT and its analogs, ɣ-benzene, hexachloride, and cyclodienes.

Mode of action: [30]

- DDT and its analogs affect the sodium channel and sodium conduction across the neuron's membrane, particularly the axon. They also change the way acetylcholine, norepinephrine, and serotonin are metabolized.
- Cyclodienes and lindane appear to inhibit GABA-mediated chloride channels in the central nervous system. Endosulfan's neurotoxic mechanism involves inhibition of calmodulin-dependent Ca2+-ATPase activity, changes in the serotonergic system, and inhibition of GABA receptors. An important property of chlorinated hydrocarbons, particularly toxaphene, chlordane, DDT, and lindane, is their ability to induce liver enzymes that metabolize drugs.
- Evidence points to an important role for benzoquinones in the hepatotoxicity of chlorinated hydrocarbons in contrast to traditional epoxides. Cytochrome P450 appears to be involved in the covalent attachment of reactive protein metabolites.

iii. Pyrethrins and Pyrethroids: [31]

- Pyrethrins are active insecticidal ingredients present in the oleoresin extract of dried chrysanthemum flowers. They are esters of pyrethrin and chrysanthemum acids formed by the keto-alcohols pyrethrolone, cinerolone, and jasmiolone.
- Pyrethrin I and II are the two most potent pyrethrin and chrysanthemum ester insecticides. The synthetically derived compounds used as "insect knockdowns" are called pyrethroids, which are subtly modified to resist photolysis and improve stability in the natural environment.
- Piperonyl butoxide is added to these compounds to increase their effectiveness and prolong their activity. Many pyrethrin-pyrethroid insecticides are formulated in petroleum distillates for spray applications, and some are marketed in cans pressurized by propellants.

Mode of action:[31]

- Permethrin is a type I pyrethroid that doesn't have a cyano group.
- Type II drugs are more potent in this regard and also work by inhibiting inhibitory GABA-mediated chloride channels.
- Pyrethroids, like DDT, prolong the inactivation of the sodium channel by binding to it in the open state. Very young children are likely to be more susceptible to pyrethroid poisoning because they may not hydrolyze pyrethrum esters effectively. Two types of allergens present in crude pyrethrum oleoresin have been identified: glycoproteins or glycopeptides with molecular weights from 60,000 to 200,000 (the most important) and sesquiterpene lactones, mainly pyrethroids (the least important). Refined pyrethrins and synthetic pyrethroids are believed to have little or no allergenic activity.

b. Rodenticides:

These substances are lethal to mice, rats, moles, and other rodents. Alpha-naphthyl-thiourea, cholecalciferol, arsenic, barium carbonate, bromethalin, fluoroacetamide, sodium mono-fluoroacetamide, red squill, and strychnine are a few examples of anticoagulants. Several of these, such as phosphorus, zinc, and aluminum phosphide, as well as long-acting anticoagulants (particularly bromadiolone), are extremely frequently involved in human poisoning.

Mode of action:

i. Zinc and Aluminum Phosphide: [33]

- Ingestion of the toxin causes gastric acid to change the substance into phosphine gas, which is then absorbed into the circulation through the gastrointestinal tract. The toxin can also spread through inhalation or skin absorption. Cytochrome C oxidase system inhibition is caused by the toxin.

ii. Elemental phosphorus: [34]

- This substance smells faintly of garlic and could glow in the presence of air. Both red and white (yellow) phosphorous are types of substance. For contests, the former is used. For rodenticides, the latter is used. White phosphorous is extremely toxic and can harm both the local and global environment. When consumed, it immediately damages tissue by producing phosphoric acid and phosphorus pentoxide in the area. Additionally, phosphorous binds to calcium in circulation, resulting in serious hypocalcemia.

c. Fungicides: [35]

Fungicides are substances that are used to kill or prevent the spread of fungi and their spores. They are effective against rust, mildew, and other plant-damaging fungi. The majority of fungicides harm fungal cell membranes or prevent the fungi from producing enough energy to survive. Examples include sodium azide, hexachlorobenzene, captan, captafol, bavistin, and thiocarbamates.

i. Thiocarbamates:

- Benomyl, bendiocarb (or thiobenzcarb), cycloate, diallate, ferbam, molinate, thiram, thiophanate, triallate, zineb, and ziram are just a few examples. Benzimidazole compounds (ethylene bisdithiocarbamate or ethylene thiourea) are also used as fungicides and include carbendazim, ETU, mancozeb, maneb, and vondozeb.

Brands:

- Propineb: Antracol
- Carbendazim: Bavistine, Benguard, Benfil, Dhanustin, Derosal, Fungi guard, JK Stein, Kilex, Paedistin
- Benomyl: Benlate, Benofit
- Benthiocarb: Saturn
- Mancozeb: Bayleton, Captofol.

These substances have a low level of toxicity and are employed as fungicides. Unlike carbamates, they do not block acetylcholinesterase.

d. Acaricides:

- Acaricides are insecticides that are effective against the ticks and mites that belong to the arachnid subclass Acari. Acaricides are employed in both medicine and agriculture, albeit with different goals in terms of selective toxicity.

Mode of action: [36]

- Many acaricides are acknowledged to disrupt mitochondrial respiration with the aid of stopping electron transport and/or oxidative phosphorylation. These acaricides generally have a fast-to-moderate effect. inhibit the enzyme responsible for the synthesis of ATP.

e. Herbicides:

- An herbicide is a substance used in lawns or gardens to kill weeds. Herbicides are used on food crops to target undesirable plants while protecting the crops from damage. Certain herbicides have been outlawed in several towns and localities due to concerns that they pose a risk to people, pets, and other animals.
- Examples include acrolein, dalaphon, paraquat, glyphosate, diquat, atrazine, propazine, simazine, nitrofen, and chlorophenoxy compounds.

Mode of action

i. Paraquat: [37]

- The formation of reactive oxygen species causes NADPH (nicotinamide adenine dinucleotide phosphate) depletion, lipoperoxidation, cellular damage, and mitochondrial damage, which ultimately causes apoptosis.
- As paraquat gets distributed to various tissues after 6 hours of intake, multiorgan failure can happen within hours or even days.
- Target tissues (with high oxygen and energy needs): heart, kidney, liver, and lungs

ii. Glyphosate: [38]

- Many of the hazardous side effects of glyphosate may be caused by polyoxyethylene amine, an anionic surfactant that is found in commercial solutions. Surfactants on their own have been linked to circulatory failure, respiratory failure, convulsions, widespread edema, and gastrointestinal erosion.

B. Household material poisoning:

a. Naphthalene:

Naphthalene is a PAH (polycyclic aromatic hydrocarbon) commonly found in the environment and used in various products.

Uses:

- Industrial Applications: Naphthalene is utilized in the production of chemicals, including dyes, solvents, and pesticides.
- Mothballs: Naphthalene is commonly used in mothballs and moth crystals to protect clothing and other stored items from moth infestation.
- Fuel: In some regions, naphthalene is used as a fuel or fuel additive.

Mode of Action: [39]

- In the body, naphthalene undergoes metabolism primarily in the liver. It is first metabolized by hepatic mixed function oxidases into naphthalene-1,2-oxide, which is further converted to 1,2-dihydroxy-1,2-dihydronaphthalene or conjugated with glutathione. The dihydrodiol can then be conjugated with glucuronic acid or sulfate or undergo further oxidation to form highly reactive 1,2-dihydroxy naphthalene or 1,2-naphthoquinone. Naphthalene can also be metabolized into mercapturic acid derivatives.
- The metabolites of naphthalene, such as naphthols and naphthylglucuronates, are excreted in urine as 1-naphthyl mercapturic acid, conjugates of 1,2-dihydronaphthalene-1,2-diol, and 1- and 2-naphthols. Conjugates of glutathione are primarily excreted in bile.
- Naphthalene can be absorbed through oral, inhalation, and dermal routes. Individuals with G6PD (glucose-6-phosphate dehydrogenase) deficiency are particularly susceptible to the toxic effects of naphthalene metabolites.

- Overall, the toxic effects of naphthalene are mediated by its metabolites, which can cause hemolytic anemia and potential damage to the liver and kidneys.

b. Camphor:

Camphor is a white, crystalline substance derived from the wood of camphor trees or synthesized from turpentine oil. It has a variety of uses, including as a fragrance, in traditional medicine, and as an insect repellent. However, it is important to note that camphor can be toxic if used improperly or consumed in excessive amounts.

Mode of Action:[40]

- When camphor is ingested in toxic amounts, it can have a direct impact on the central nervous system (CNS) and other organs in the body. The toxic mode of action of camphor involves its interaction with various receptors and systems, leading to a range of symptoms and effects.
- CNS Stimulation: Camphor acts as a CNS stimulant, meaning it affects the brain and spinal cord. It can cross the blood-brain barrier and bind to specific receptors in the CNS. This leads to an increase in neuronal activity and can result in symptoms such as restlessness, excitability, agitation, and tremors.
- GABA Receptor Inhibition: Camphor is known to inhibit the function of gamma-aminobutyric acid (GABA) receptors, which are responsible for inhibiting neuronal activity and promoting relaxation. By blocking these receptors, camphor disrupts the normal balance of neuronal signaling and can cause overexcitation and CNS stimulation.

C. Food poisoning:

Food poisoning refers to an illness caused by consuming contaminated food or beverages. The toxic mode of action of food poisoning can vary depending on the specific pathogen or toxin involved.

a. Bacterial Food Poisoning: [41]

- Salmonella: Salmonella bacteria invade the gastrointestinal tract and produce toxins that cause inflammation and damage to the intestinal lining, leading to symptoms such as diarrhea, abdominal cramps, fever, and vomiting.
- Campylobacter: Campylobacter bacteria attach to the lining of the small intestine, causing inflammation and the release of toxins. This results in symptoms including diarrhea (often bloody), abdominal pain, and fever.
- Escherichia coli (E. coli): Certain strains of E. coli, such as E. coli O157:H7, produce Shiga toxins that damage the lining of the intestines. This can lead to severe symptoms like bloody diarrhea, abdominal pain, and in some cases, kidney damage (hemolytic uremic syndrome).
- Listeria monocytogenes: Listeria bacteria can invade the bloodstream and cross the blood-brain barrier, causing meningitis and other severe complications. Symptoms of listeriosis include fever, muscle aches, nausea, and diarrhea.

b. Viral Food Poisoning: [42]

- Norovirus: Noroviruses infect the cells of the stomach and intestines, leading to inflammation and disruption of normal digestive functions. This results in symptoms such as vomiting, diarrhea, nausea, and stomach cramps.
- Hepatitis A: Hepatitis A virus primarily affects the liver, causing inflammation and damage. Symptoms may include fever, fatigue, loss of appetite, nausea, and jaundice.

c. Toxin-Mediated Food Poisoning: [43]

- Staphylococcus aureus: Staphylococcus bacteria produce heat-stable toxins that are resistant to high temperatures. Ingesting food contaminated with these toxins can cause rapid-onset symptoms like nausea, vomiting, abdominal cramps, and diarrhea.

- Clostridium botulinum: Botulinum toxin, produced by the bacteria Clostridium botulinum, is one of the most potent toxins known. Ingesting food containing the toxin can lead to botulism, a serious illness characterized by muscle weakness, paralysis, and respiratory failure.

D. Drug/Medication poisoning:

Drug or medication poisoning refers to the harmful effects caused by the ingestion, inhalation, injection, or absorption of drugs or medications in excessive amounts or inappropriate ways.

a. Opioid Poisoning: [44]

Opioids, such as morphine, heroin, oxycodone, and fentanyl, bind to opioid receptors in the central nervous system. They suppress the respiratory center in the brain, leading to respiratory depression, sedation, and potentially fatal respiratory arrest.

b. Benzodiazepine Poisoning: [45]

Benzodiazepines, such as diazepam, lorazepam, and alprazolam, enhance the activity of gamma-aminobutyric acid (GABA), a neurotransmitter that inhibits brain activity. Overdose can result in excessive sedation, respiratory depression, confusion, and impaired coordination.

c. Antidepressant Poisoning: [46]

Tricyclic antidepressants (TCAs), selective serotonin reuptake inhibitors (SSRIs), and other classes of antidepressants can cause toxic effects in overdose. TCAs block the reuptake of norepinephrine and serotonin, leading to anticholinergic effects, cardiac toxicity (such as arrhythmias), and central nervous system depression. SSRIs primarily affect serotonin levels and can lead to serotonin syndrome, characterized by agitation, confusion, tremors, and potentially life-threatening symptoms.

d. Acetaminophen Poisoning: [47]

Acetaminophen (paracetamol) overdose can cause liver damage. Excessive amounts of acetaminophen are metabolized into a toxic compound called N-acetyl-p-benzoquinone imine (NAPQI), which depletes glutathione, an important antioxidant in the liver. The accumulation of NAPQI causes oxidative stress and liver cell damage.

e. Nonsteroidal Anti-inflammatory Drug (NSAID) Poisoning: [48]

NSAIDs, such as aspirin, ibuprofen, and naproxen, inhibit the production of prostaglandins, which are involved in inflammation and pain. Overdose can lead to gastrointestinal irritation, stomach ulcers, kidney damage, and in severe cases, cardiovascular complications.

f. Anticholinergic Poisoning: [49]

Anticholinergic drugs, including certain antihistamines, antidepressants, and medications for motion sickness, block the action of acetylcholine, a neurotransmitter involved in various bodily functions. Excessive anticholinergic effects can lead to dry mouth, blurred vision, urinary retention, constipation, confusion, and elevated body temperature.

Signs and symptoms:

Physical examination:

A physical examination typically includes:

- Inspection (Body View)
- Palpation (touching the body with fingers or hands)
- Auscultation (hearing sounds)
- Percussion (making sounds, usually by tapping on specific areas of the body)
- A complete physical examination should be performed to identify complications and aid in diagnosis.
- Particular attention should be paid to vital signs, mental status (depressed or agitated), respiration (depression, signs of pulmonary edema or aspiration), pupils (size, responsiveness, presence of nystagmus), skin (abnormal sweating or dryness, blistering be given) bowel sounds (increase or decrease).

Based on the results of the physical examination, the doctor should specifically consider the presence of a toxidrome. We can identify a specific poisoning agent based on specific symptoms and signs. It can assist us in identifying the specific toxic agent. In most cases, the poisoned patient presents with one or more of the following features or signs and symptoms:

- The immediate appearance of pain in the abdomen, nausea, vomiting, and loose stools
- Impairment of consciousness
- Dehydration due to vomiting or diarrhea
- Respiratory/Cardiovascular depression
- Dilated pupils
- Hypothermia
- Convulsions

Table No. 2: Toxic Syndromes

Toxic syndromes	Causes	Symptomatology
Anticholinergic syndrome	Antihistamines, antiparkinsonian drugs, atropine, scopolamine, amantadine, antipsychotic drugs, antidepressants, antispasmodics, skeletal muscle relaxants, many plants (especially datura), and fungi (e.g. Amanita muscaria)	Delirium with mumbling speech, tachycardia, dry hot skin, mydriasis, myoclonus, urinary retention, decreased bowel sounds. Convulsions and arrhythmias in severe cases
Cholinergic syndrome	Organophosphates, carbamates, parasympathomimetic drugs, and some mushrooms	Confusion, CNS depression, salivation, lacrimation, urinary and fecal incontinence, vomiting, sweating, fasciculations, seizures, miosis, pulmonary edema, tachycardia or bradycardia
Sympathomimetic syndrome	Cocaine, amphetamines, upper respiratory decongestants (phenylpropanolamine, ephedrine, and pseudoephedrine)	Paranoia, delusions, tachycardia, hypertension, hyperpyrexia, sweating, mydriasis, seizures, arrhythmias
Sedative syndrome	Opiates, barbiturates, benzodiazepines, ethanol, methaqualone, meprobamate, ethchlorvynol, glutethimide, clonidine	Miosis, hypotension, bradycardia, hypothermia, CNS depression, hyporeflexia, coma, rarely convulsions

Diagnosis:

- Poisoning in patients with impaired consciousness or unexplained symptoms
- History of all Consider available sources
- Testing that is focused and selective
- Identification of the toxin involved is based on history, physical examination, clinical course, and selected diagnostic tests.
- Specific drug concentrations can help confirm the diagnosis and make treatment decisions.

Diagnostic tests: [50]

Laboratory tests are indicated in the following cases:

- Any intentional ingestion

- When the substance ingested is unknown
- When a toxin can cause moderate or severe toxicity
- The patient has more than minimal symptoms

Laboratory tests:

- Complete blood hemograms
- Renal function tests and liver function tests
- Chest x-rays
- Electrocardiograms,
- Urine routines
- Abdominal ultrasounds
- Cholinesterase levels
- ABG analysis
- Serum calcium and serum electrolytes.

Additional Tests for Intentional Poisoning:

- ECG is a screening test for intoxication with tricyclic antidepressants or other cardiotoxic agents (tricyclic antidepressants cause QRS interval prolongation and tachycardia).
- Chest X-rays are useful for detecting pulmonary lesions in patients suspected of having aspiration, noncardiogenic pulmonary edema, or other pulmonary lesions.
- Abdominal radiographs are useful diagnostic tools for patients who may have ingested radiopaque substances such as lithium, iron, lead, and other heavy metals. Drug packaging and enteric-coated compounds can also be detectable on individual films.

General management of poisoning: [51]

A. Stabilizations:

Whenever possible, the initial investigation should focus on identifying and fixing any life-threatening issues. The ABCs of resuscitation (airway, breathing, and circulation) must all be taken into consideration.

B. Evaluation:

If the patient is not experiencing a crisis and is awake, speaking normally, and has a normal pulse, carry out a comprehensive check. In terms of treatment, the focus should be on fundamentally supportive actions.

C. Decontamination:

This is in connection to the delivery of activated charcoal, stomach evacuation, and skin/eye decontamination.

D. Eliminating Poisons:

This can be done through diuresis, peritoneal dialysis, hemodialysis, hemoperfusion, etc., relying on the circumstance.

E. Administration of Antidotes:

Unfortunately, less than 5% of poisonings have an antidote.

F. Psychiatric and Nursing Care:

Patients who are comatose or who have been rendered disabled by the poison require general nursing care in particular. Ample follow-up for a while may be required because some poisoning instances have long-lasting aftereffects. Psychiatric intervention is frequently essential in suicidal overdose.

Minimizing or preventing toxin ingestion

Gastrointestinal decontamination methods can be used to prevent the absorption of ingested toxins. However, it's important to note that these methods should be used judiciously, considering the potential harm they can cause and the specific effects of the toxins involved.

a. Gastric lavage: [52]

Gastric lavage, also known as stomach pumping, is a method used to remove toxic substances from the stomach. However, it's important to note that gastric lavage is not routinely recommended for all cases of poisoning and should only be considered in specific situations and under medical supervision. The procedure should be performed by trained healthcare professionals. Here is a general outline of how gastric lavage may be performed:

- The patient should be in a supine position on a tilted bed, with the head lower than the feet (Trendelenburg position). This helps prevent aspiration of gastric contents.
- If the patient is not intubated and there is a risk of loss of airway protective reflexes (e.g., reduced level of consciousness), endotracheal intubation may be necessary to protect the airway and prevent aspiration.
- A large-bore, single-lumen tube (such as an orogastric or nasogastric tube) is inserted into the stomach. The tube should be measured to ensure proper placement.
- Normal saline (NS) or another suitable solution is used for gastric lavage. The solution is administered in aliquots (10-15 mL/kg of body weight) into the gastric tube and then aspirated back out using gentle suction. This process is repeated several times until the aspirated fluid is clear, indicating that most of the toxic substance has been removed.
- The patient's vital signs, oxygen saturation, and general condition should be closely monitored throughout the procedure. The lavage procedure may need to be repeated several times to achieve optimal toxin removal.

It's important to note that gastric lavage is contraindicated in certain situations, including:

- When the patient is at risk of aspiration (e.g., reduced level of consciousness, unprotected airway).
- In cases of ingestion of substances with high aspiration potential (e.g., hydrocarbons).
- In cases of corrosive ingestion, gastric lavage can cause further damage to the esophagus and stomach.

b. Activated charcoal: [53]

Activated charcoal is commonly used in cases of poisoning to prevent the absorption of toxins from the gastrointestinal tract. Here is a general outline of the method of administration of activated charcoal in poisoned patients:

- Activated charcoal is most effective when administered within one hour of toxin ingestion. However, it can still be considered for certain toxins beyond the one-hour mark, depending on the specific circumstances and the recommendation of a healthcare professional.
- The recommended dose of activated charcoal is 1 gram per kilogram of body weight. The dose may be adjusted based on the patient's age, weight, and the specific toxin involved. It is typically administered as a single dose.
- Activated charcoal should be mixed with a suitable liquid to form a suspension. Commonly used liquids include water, fruit juice, or flavored beverages. Mixing the charcoal with a sweetened liquid or using charcoal preparations with added flavors can help improve palatability, especially for children.
- For patients who are conscious and able to swallow, the activated charcoal suspension can be given orally. It is important to provide clear instructions to the patient to drink the entire amount of the suspension.
- In cases where the patient is unconscious or intubated, an orogastric or nasogastric tube can be used for the administration of activated charcoal. The charcoal suspension is administered through the tube, and care should be taken to ensure proper tube placement and to avoid complications.

c. Catharsis: [54]

Catharsis refers to the use of cathartic agents to induce bowel movements and promote the expulsion of toxic substances from the gastrointestinal tract. However, the routine use of

cathartics in poisoned patients is no longer recommended and has limited clinical evidence to support its effectiveness. The American Academy of Clinical Toxicology (AACT) and the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT) do not recommend the routine use of cathartics in poisoned patients.

d. Whole bowel irrigation (WBI): [55]

Whole bowel irrigation (WBI) is a method used in certain cases of poisoning to facilitate the elimination of toxic substances from the gastrointestinal tract. It involves the administration of a large volume of solution through the rectum to flush out the contents of the entire bowel.

The method of whole bowel irrigation:

- The patient should be in a supine position on a bed, preferably with the head elevated at an angle of at least 45 degrees, to minimize the risk of aspiration.
- A rectal tube or large-bore nasogastric tube is inserted into the rectum. The tube should be inserted carefully to avoid causing any trauma or discomfort to the patient.
- Polyethylene glycol-electrolyte solution (PEG-ELS) is commonly used for whole bowel irrigation. The solution should be infused slowly and continuously through the rectal tube using an infusion pump or gravity-based system. The rate of administration may vary depending on the patient's condition and the recommendation of a healthcare professional.
- The patient should be closely monitored during the irrigation process. Vital signs, fluid balance, and electrolyte levels should be regularly assessed. If the patient experiences vomiting, the irrigation may need to be temporarily discontinued and resumed at a slower rate once the vomiting subsides.
- To reduce the risk of nausea and vomiting associated with the irrigation solution, antiemetic medications, such as metoclopramide, may be administered as prescribed by a healthcare professional.
- As the irrigation solution passes through the gastrointestinal tract, it will stimulate bowel movements and promote the elimination of toxins. The fluid and stool expelled during the process should be monitored to ensure the clearance of toxic substances.

e. Urine alkalinization: [56]

Urine alkalization is a method used in specific cases of poisoning to enhance the elimination of certain toxic substances from the body. It involves increasing the pH of the urine to make it more alkaline, which can facilitate the elimination of acidic toxins through the urine.

urine alkalization in poisoned patients

- Urine alkalization is typically considered in cases of poisoning where the toxic substance is known to be acidic and has a tendency to undergo reabsorption in the renal tubules. Examples of toxins that may benefit from urine alkalization include methotrexate, salicylates (aspirin), and certain phenobarbital overdoses.
- Sodium bicarbonate ($NaHCO_3$) is the most commonly used agent for urine alkalization. It is typically administered intravenously to achieve the desired alkaline effect. The dose and infusion rate will be determined by a healthcare professional based on the specific circumstances and the patient's condition.
- Urine pH should be monitored regularly to ensure that it reaches and maintains the desired alkaline level, typically around pH 7.5. This can be done using pH test strips or laboratory testing.
- It is important to note that urine alkalization should be approached with caution and under medical supervision. Potential complications and side effects, such as electrolyte imbalances or worsening of certain clinical conditions, need to be carefully monitored and

managed. In some cases, multiple-dose activated charcoal or other specific antidotes may be preferred over urine alkalization.

Antidotes: [57]

Specific antidotes are rarely necessary due to the limited availability of genuine antidotes in practice. However, it is important to acknowledge the potential life-saving impact of the appropriate and timely administration of specific antidotes in certain situations.

Table No.3: Specific antidotes

Poison	Antidote	Dosage	Route
Acetaminophen	N.Acetyl cysteine (Mucomyst)	140 mg/kg loading, followed by 70 mg/kg q4h	PO
	N.Acetyl cysteine (Acetadote)	150 mg/kg over 1 h, followed by 50 mg/kg over 4 h	IV
Anticholinergic	Physostigmine	0.02 mg/kg over 5 min; may repeat q5- 10min to 2 mg max	IV/IM
Benzodiazepines	Flumazenil	0.2 mg/kg over 30 sec; if the response is inadequate, repeat q1 min to 1 mg max	IV
Carbon Monoxide	Oxygen	100 % FIO2, via non-re breather mask (or ET if intubated)	Inhalation
Ethylene glycol, methanol	Fomepizole	15mg/kg load; 10mg/kg q12hx 4 doses; 15mg/kg q12h until EG level is <20 mg/dL	IV
Opioids	Naloxone	0.01-0.1 mg/kg; adolescents/adults: 0.04-2 mg, repeated as needed; may give continuous infusion	IV
Organophosphates	Atropine	0.05-0.1 mg/kg repeated q5-10min as needed	IV
	Pralidoxime (2-PAM)	25-50 mg/kg over 5-10 min(max: 200mg/min); can be repeated after 1-2hr, then q10-12hr as needed	IV/ IM
Salicylates	Sodium bicarbonate	Bolus 1-2 mEq/kg followed by a continuous infusion	IV

Conclusion:

Acute poisoning is a concerning public health problem that disproportionately affects a significant portion of the young population. The sociodemographic tendencies of affected patients have played a vital role in identifying the impact of acute poisoning cases, highlighting the crucial need for targeted interventions and awareness campaigns aimed at this specific population group. These findings underscore the importance of comprehensive preventive strategies, focused interventions for high-risk groups, and enhancements in acute poisoning case management. They provide valuable groundwork for future research, policy development, and the implementation of effective public health measures to address the growing concern surrounding acute poisoning. Furthermore, it is recommended to delve deeper into the specific risk factors contributing to acute poisoning incidents, explore the long-term outcomes of poisoning cases, and evaluate the effectiveness of implemented preventive measures. These endeavors will aid in refining existing

strategies, designing tailored interventions, and ultimately alleviating the burden of acute poisoning.

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EPIDEMIOLOGY, METHODOLOGY AND RESULTS OF BREAST CANCER SCREENING IN KAZAKHSTAN

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Annotation: The article deals with the epidemiological and organizational aspects of early diagnosis of breast cancer, based on its secondary prevention using a population method of active detection of this pathology in clinically asymptomatic individuals - screening. A detailed algorithm for the preventive examination of the female population is presented and the results of mammographic screening in a regional context are presented. It has been shown that the use of mammography based on the use of low-dose X-ray radiation allows a differentiated approach to diagnosis, development of management tactics and targeted treatment of these patients.

Key words: breast cancer, epidemiology, morbidity, mortality, screening, mammography.

The concept of "Screening" in medicine (English screening - screening) is a method of actively identifying individuals with any pathology or risk factors for its development, based on the use of special diagnostic studies, including testing, in the process of mass examination of the population or its individual contingents. The key concept of screening is the detection of oncopathology at a stage when further treatment changes its prognosis and further clinical course. It is carried out for the purpose of early diagnosis of a disease or predisposition to it, which is necessary to provide timely treatment and preventive care. Screening results are also used to study the prevalence of the disease (or group of diseases) being studied, risk factors for its development, and their relative importance. The main conditions for screening are the availability of trained personnel and a standard approach to identifying the trait under study and evaluating

the results. The applied methods should be sufficiently simple, reliable and reproducible. At the same time, it is necessary that they have sufficient sensitivity and high specificity [1,2,3].

Breast cancer is in the 1st ranking place in the structure of the frequency of malignant tumors of both sexes of the population with a specific weight of 15.4% (2020 - 14.5%). This situation has been stable since 2004. In addition, breast cancer occupies the 1st ranking place and constantly remains at this position in the structure of female oncopathology.

The incidence rate of breast cancer per 100 thousand population in 2021 in the country as a whole increased to 26.3 (22.8 in 2020). In the structure of the incidence of regions, breast cancer occupies the 1st ranking place in most regions and cities of the country, except for four: Akmola, Atyrau, Kyzylorda and North Kazakhstan regions, where lung cancer has taken the 1st ranking place.

Above the average republican level, the incidence of breast cancer was established in 9 regions of the country: Pavlodar - 47.4 - the highest level, Karaganda - 40.1, East Kazakhstan - 39.9, North Kazakhstan - 38.2, Kostanay - 35.8, Akmola - 29.8, West Kazakhstan - 28.4 regions and Almaty - 34.5, Nur-Sultan - 28.4. The indicator is lower in 8 regions: Turkestan - 11.7, Kyzylorda - 14.4, Zhambyl - 15.1, Atyrau - 15.7, Mangystau - 17.3, Almaty - 17.7, Aktobe - 24.3 regions and Shymkent - 21.9 per 100 thousand population [4].

In the structure of the causes of death of both sexes from this disease, for the twelfth year in a row, it occupies the 3rd position, amounting to 8.7% in 2021 (7.8% in 2020). In general, the mortality rate from breast cancer in the republic increased from 5.9 to 6.2 per 100,000 population.

The regions where the mortality rate from breast cancer is above the average level in the republic include: North Kazakhstan - 11.4 (maximum level), Pavlodar - 10.0, East Kazakhstan - 8.5, Akmola - 8.2, Kostanay – 7.5, West Kazakhstan - 6.9 regions and years. Almaty - 9.5 and Nur-Sultan - 6.6 per 100 thousand population. The lowest rates were noted in Atyrau - 3.0, Aktobe - 3.5, Turkestan - 3.6, Mangistau - 3.6, Kyzylorda - 4.1, Zhambyl - 4.8 and Almaty - 5.8 regions [4].

Mass screening to identify breast cancer patients should mainly involve healthy women without any signs of the disease or symptoms. Screening not only helps to detect hidden forms of cancer that can be treated, but also has psychological value for women. As a result of screening, women are convinced that they do not have breast cancer, and this is the most important potential success of such programs. While the ultimate goal of screening is to reduce breast cancer mortality, its immediate goal is to detect cancer before clinical manifestation. However, breast cancer is a heterogeneous disease, which can significantly affect the effectiveness of screening. Screening models for breast cancer are usually based on the fact that the majority of detected tumors are invasive cancers in the early stage of progression. In addition, it must be taken into account that the detection of cancer (or its precursors) before clinical manifestation increases the risk of false positive diagnosis [5,6].

Mammography has a sensitivity of 95% and a specificity of 97%. These indicators decrease when examining women with denser mammary glands (young age, use of hormone therapy), with low quality mammography, and also with insufficient qualifications of the radiologist. Detection of high-grade invasive cancer by screening, when the tumor is not yet detected by clinical examination (palpation), means the possibility of reducing mortality from breast cancer [7].

Preventive screening for early detection of breast cancer in the Republic of Kazakhstan includes [8]:

1) mammography of both mammary glands in two projections - direct and oblique in the mammography room of the city, district polyclinic (mobile medical complex). All digital mammograms in the presence of a system for archiving and transferring medical images are copied to CDs and other electronic media and transferred to the server of the mammography room of the Cancer Center using specialized licensed software integrated between medical organizations; in case of impossibility of digital transmission - they are printed on X-ray film at a

scale of 1:1 - 100% (1 patient - 1 set - 2 or 4 mammograms) with subsequent transfer to the mammography room of the Cancer Center;

2) interpretation of mammograms according to the BI-RADS classification (M0t, M0d, M1, M2, M3, M4, M5) by two or more independent radiologists of the same medical organization - double reading or different medical organizations: a radiologist of the mammography room city, district polyclinic (mobile medical complex) - the first reading, and the radiologist of the mammography room of the Cancer Center - the second reading;

3) in-depth diagnostics - targeted mammography, ultrasound examination (hereinafter - ultrasound) of the mammary glands, trepanobiopsy, including under ultrasound or stereotaxic control for histological examination, which is carried out in case of detection of pathological changes on mammograms (M0d) in the mammography room of the Cancer Center.

♦ An average medical worker or a responsible person of the organization of outpatient care sends the patient for mammography to the district, city polyclinic.

♦ The X-ray laboratory assistant of the mammography room of the city, district polyclinic (mobile medical complex) performs mammography, fills out a referral for double reading of mammograms and transmits the referral through information interaction.

♦ Radiologist of the mammography office of the city, district polyclinic (mobile medical complex): fulfills the requirements for the safety and quality of mammographic examinations; evaluates the quality of the images provided and the correctness of the installation; performs repeated mammography in the M0t category (technical errors of mammography); determines the radiological density of the mammary glands on the ACR scale (A, B, C, D) indicating this parameter in the study protocol; conducts the first reading of mammograms with interpretation of the BI-RADS classification results. In the M0d category (undetermined or suspicious radiological changes requiring additional examination), the study protocol indicates the predominant pathology: education, asymmetry, violation of architectonics, microcalcifications; sends mammograms, electronic copies of mammograms through the archiving system and transfer of medical images to the workplace of the mammography office of the Cancer Center together with directions for double reading of mammograms; directs low–dose computed tomographic images through the system of archiving and transferring medical images to the workplace of the computer tomography office of the Cancer Center together with copies of images recorded on CD-ROMs or other electronic media and directions for double reading.

♦ The radiologist of the mammography room of the Cancer Center: evaluates the quality of the provided images and the correctness of the styling. Viewing digital x-ray images transferred to the server or on digital media (CD, DVD) is carried out on a monitor for interpreting digital x-ray images with a resolution of at least 5 megapixels, which has a certified grayscale transmission in accordance with the DICOM standard; conducts a double (second) reading of mammograms with the interpretation of the results according to the BI-RADS classification, using, if necessary, archival images. Organizes the third reading according to indications. With double reading, an independent interpretation of the images is carried out (blinding method - the second radiologist does not know the results of the first reading); in the M0m category (technical errors in mammography), recommends repeat mammography; in the M0d category (uncertain or suspicious radiographic changes requiring additional examination), the study protocol indicates the predominant pathology: education; asymmetry, violation of architectonics, microcalcifications; recommends that the outpatient care organization, according to indications, invite the patient for in-depth diagnostics (targeted mammography, ultrasound of the mammary glands, trephine biopsy, including under ultrasound or stereotaxic control, followed by histological examination of the material); collects and archives all mammograms (films and electronic media) made as part of the examination. The shelf life of mammograms is at least 3 years after leaving the age subject to a screening study; the results of the double (second) reading are transferred to the outpatient care

organizations through information exchange.

♦ Indications for in-depth diagnostics are the conclusions of double reading mammograms M0d (uncertain or suspicious X-ray changes requiring additional examination).

♦ In-depth diagnostics is carried out in two stages. At the first stage, ultrasound is performed, according to indications, targeted mammography, possibly with an increase (with asymmetry, violation of architectonics and the presence of microcalcifications). When visualizing a suspicious pathology (M4 and M5), the second stage is performed - trepanbiopsy, including under ultrasound control and stereotaxic control for histological examination.

♦ Histological examination is carried out in the laboratory of pathomorphology or pathological bureau. Morphological interpretation of the biopsy is carried out in accordance with the recommendations of the World Health Organization.

♦ Physician or responsible person of the outpatient care organization:

1) upon receipt of a mammography result according to the BI-RADS classification:

- in case of M0t (technical errors in mammography) - sends the patient for a second X-ray examination to the mammography room of the city, district polyclinic (mobile medical complex);

- with M0d (undefined or suspicious X-ray changes requiring additional examination) - sends the patient for in-depth diagnostics to the mammography room of the Cancer Center;

- with M1 (no changes detected) - recommends that the patient undergo a follow-up mammography examination after 2 years. With radiological density of the mammary glands, C and D are sent for ultrasound of the mammary glands to exclude a false-negative result of mammography;

- with M2 (benign changes), refer the patient for a consultation with an oncologist (mammologist) of the clinical diagnostic department, followed by a screening mammography examination after 2 years;

- with M3 (probable benign changes) - sends the patient for short-term dynamic radiation observation to the local doctor with the recommendation of control mammography or ultrasound in 6 months;

- with M4 (signs that cause suspicion of malignancy), M5 (practically reliable signs of malignancy) and if it is technically impossible to perform a trepanbiopsy or a biopsy is refused, a referral to an oncologist (mammologist) of the clinical diagnostic department for dynamic observation and decision on the verification of the identified pathology;

2) upon receipt of the result of a histological examination:

- benign education - refers the patient to an oncologist (mammologist) of the clinical diagnostic department for dynamic monitoring, followed by a screening mammography examination after 2 years;

- formation with an indeterminate malignant potential or carcinoma in situ - refers the patient to the Cancer Center for consultation and treatment, followed by dynamic observation by an oncologist (mammologist) of the clinical diagnostic department at the place of her attachment;

- malignant neoplasm - refers the patient to the Cancer Center for treatment and follow-up;

3) communicates the results of the screening examination to the patient in any available way (by telephone, in writing, through electronic means of communication);

4) enters the results of double reading, in-depth diagnostics, histological examination, recommendations of the radiologist of the Cancer Center mammography room into the information system.

Establishing the size of the primary tumor is especially important in screening. Tumor size is an important criterion for evaluating the quality of screening and determining the ability of X-ray mammography to detect non-palpable tumors. Therefore, it is extremely important that pathologists measure tumor diameter as accurately as possible. The smaller the size of the primary

tumor, the greater the likelihood of error in determining its size.

Now, regarding the results of breast cancer screening. The detection rate of this oncopathology in 2021 was 1.78 per 1000 examined (in 2020 - 1.44), i.e. 1402 cases of breast cancer were detected out of 787619 examined women of the target group from 40 to 70 years old in 2021 (in 2020 - 1072 cases out of 744972 examined women). At the same time, by regions, the lowest detection rate compared to the national average was noted in Zhambyl (0.54 per 1000 examined), Kyzylorda (0.98), Mangistau (1.10), Atyrau (1.11), Almaty (1.26), Turkestan (1.36), Akmola (1.53) regions and the city of Nur-Sultan (1.54 per 1000 examined). Compared to 2020, there was an increase in the detection of breast cancer in all regions, with the exception of the Mangistau region, where there was a decrease from 2.44 to 1.10 per 1000 examined.

A high proportion of 0-I stages of breast cancer (over 50%) was noted in 8 regions (2020 - in 7 regions): Almaty, West Kazakhstan, Karaganda, Pavlodar, North Kazakhstan, Turkestan regions, cities of Nur-Sultan and Shymkent.

Low levels of early detection of breast cancer (below 40%) were noted in Mangistau (5.6%), Atyrau (19.2%), Aktobe (26.5%), East Kazakhstan (29.3%), Zhambyl (32.3%), Kyzylorda (35.0%) and Akmola (38.5%) regions.

The proportion of patients with breast cancer detected at stages 0 and I was 47.9% (in 2020 - 48.6%), stage II - 47.6% and 46.8%, respectively. At the same time, localized cancer (0-I and II stages) amounted to 95.5% (95.4% - in 2020). At the same time, not a single case in stages III-IV was detected in Atyrau, West Kazakhstan, Kyzylorda, Pavlodar regions, the cities of Nur-Sultan and Shymkent. In total, 52 cases of breast cancer in stage III and 11 cases in stage IV were detected (in 2020 - 38 and 11, respectively).

Summarizing the above, we can state that satisfactory results of breast cancer screening can be achieved only with its proper organization, high quality of conduct, active participation in the medical examination of the population, and the use of highly sensitive instrumental methods of preventive examination. High-quality screening of breast cancer leads to early diagnosis of various precancerous diseases and malignant neoplasms at an early stage, which, in turn, allows for timely treatment and improved prognosis. Surveyed target groups who for one reason or another do not participate in this screening should be informed that there are no other screening methods that could also effectively reduce mortality from breast cancer.

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Biological Sciences

THE ROLE OF PROTEOLYTIC ENZYMES IN THE PATHOGENESIS OF FUNGAL PATHOLOGIES IN PLANTS

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The conducted studies are dedicated to clarifying the role of proteolytic enzymes in pathologies caused by xylotrophic macromycetes living in plants.it became known that there is a certain dependence between the pathologies recorded in plants and proteolytic enzymes.it was determined that the activity of proteolytic enzymes is higher in polytrophic fungi from an eco-trophic point of view, and they are more prone to parasitism.

Key words: plant, macromycete, pathology, proteolytic enzyme, polytroph, parasitism

An enzyme is a product of living cells and is synthesized in living organisms. It is known that the metabolism of all living things takes place with the participation of enzymes. Until recent years, enzymes were mainly obtained from various animal, plant tissues and microorganisms. Some animal tissues, such as the lining of the stomach, contain large amounts of enzymes. However, it is impossible to organize the purchase of enzymes from these tissues due to the limitation of the raw material base [1; 2].

However, modern research and scientific facts prove that bacteria and fungi are more appropriate in this regard. Thus, bacteria and fungi grow rapidly and synthesize active enzymes, and these enzymes are very resistant to external environmental factors [3; 4; 5].

At the same time, with the help of proteolytic enzymes, fungi enter the cell wall of plant substrates and degrade polymers (cellulose, lignin, hemicellulose, protein, pectin, etc.) first of all, it is enriched with metabolites of various (food, fodder, medical and technical) purposes. On the other hand, fungi destroy the cell wall of plants, enter the plant tissue and destroy the antibodies of the substrate and the mechanism of protein synthesis. In this process, i.e., in terms of studying the physiological mechanism of invasion and virulence, proteolytic enzymes are of particular importance. Basidilated fungi, including protease types such as alkaline protease, cysteine protease, metalloprotease, and aspartate protease synthesized by xylotrophic macromycetes, together with other enzymes, play an important role in the penetration of the pathogenic fungus into the host plant and in the nutrition of the pathogen. Thus, proteases play an important role in destroying the protein mass of plant tissue during the settlement of xylotrophic macromycetes in trees, in destroying the plant's enzyme production and immune system - antibodies (keep in mind that the particles of the immune system are of protein origin) [6; 7].

In the course of the conducted research, it became clear that the mineralization of plant residues and the return of these minerals to the food chain in nature is characterized by the decomposition-pathogenic properties of xylotrophs. Also, the presence of a close relationship between pathogenicity and proteolytic enzymes was also determined.

Thus, in the conducted studies, 3 types of mushrooms were selected as active producers of proteolytic enzymes: Inonotus hispidus, Ganoderma applanatum, Bjerkandera adusta. Note

that I. hispidus is considered a true biotroph, G. applanatum is a polytroph, and B. addusta is a saprotrophic fungus. It is known that the important role of proteolytic enzymes in pathogenesis has been confirmed in the studies conducted on micromycetes. However, certain specificity is observed in the pathogenic activity of macromycetes. Thus, proteolytic enzymes in macromycetes belonging to polytrophs are characterized by stronger and different mechanisms of action. If we generally characterize the relationships between fungi and plants as symbiotic, parasitism, and neutralism, then this relationship refers to parasitism. Therefore, it has been experimentally proven that the pathogenic activity of xylotrophic fungi inhabiting plants is related to the proteolytic enzymes they synthesize.

In general, due to their economic and ecological advantages, the demand for enzymes in industries is also increasing rapidly. Enzymes are used in the food industry, light industry, pharmacology, production of detergents and cleaning agents, cosmetology, etc. widely applied in fields and the demand for them is increasing day by day.

Proteases have also received special attention in industrial fields. Different researchers have indicated various sources as the producers of these enzymes, but the enzymes obtained from mushrooms are economically efficient - they cost less, due to their high quality, large quantity and wide variety of production, they differ from other producers and gain advantage.

Finding producers of enzymes and the role of these catalysts in expanding the raw material base of the food and pharmacology industry is invaluable. Biotechnology is considered as the only opportunity to create low-waste and environmentally friendly technologies and promises great prospects.

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Political Studies

Perspectives of military cooperation between the Republic of Kazakhstan and the Republic of Türkiye

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Annotation. The world is undergoing global change as it enters a new age of rapid development and large-scale transformations. At the outset of 2022, Kazakhstan was shaken by a wave of social unrest, as a result of which 232 people died; conflict in Ukraine escalated on 24 February 2022, which led to the large-scale humanitarian crisis. Against this background, the current system of international challenges and threats is becoming more complicated, the global situation is deteriorating alarmingly, existing conflicts and crises are intensifying, and new ones are emerging [1]. According to the Law on national security of the Republic of Kazakhstan, “military security is the state of protection of vital interests of man and citizen, society and the State from external and internal threats associated with the use of military force or intention to use it” [2]. Therefore, it is necessary to strengthen the military security of Kazakhstan, and in this article the analysis on the current state of Kazakhstan's military security will be provided, the importance of diversification of Kazakhstan's military cooperation and the perspectives in military cooperation with Turkey will be illustrated.

Keywords: The Republic of Kazakhstan, The Republic of Türkiye, military security, cooperation, defense.

To begin with, in 2021, in the message of the head of state Kassym-Jomart Tokayev to the people of Kazakhstan named as “The unity of the people and systemic reforms are a solid foundation for the prosperity of the country”, he gave a number of instructions on reformatting the Armed Forces, other troops and military formations. The President stressed that strengthening the defense capability, increasing the responsiveness to threats should become priorities of national importance [3].

As a result, today there are several strategic documents related to the military security of the Republic of Kazakhstan:

1) the Military doctrine of the Republic of Kazakhstan, which was renewed in 2022, where taking into account possible military threats to the Republic of Kazakhstan, the main directions of state activity in the military-political, military-strategic and military-economic spheres, mobilization training of the state, as well as the main measures for the development of the military organization of the Republic of Kazakhstan are determined.

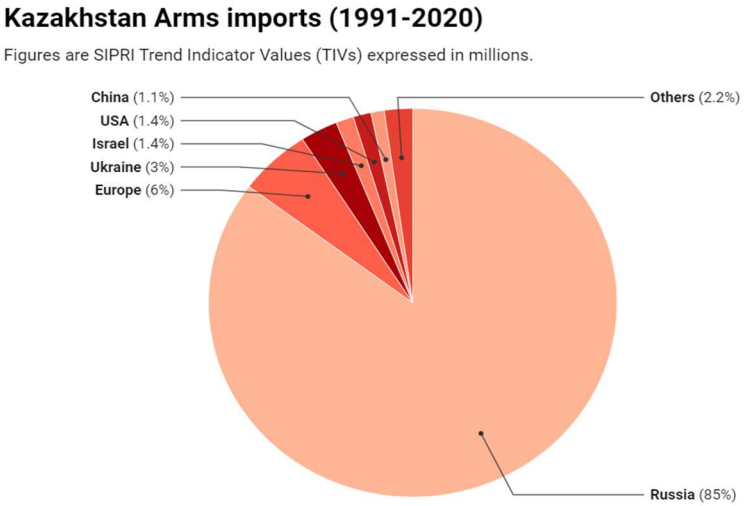
2) the Law "On National Security of the Republic of Kazakhstan", that regulates legal relations in the field of national security of the Republic of Kazakhstan and defines the content and principles of ensuring the security of man and citizen, society and the state, the system, goals and directions of ensuring national security of the Republic of Kazakhstan.

3) the Charter of the Collective Security Treaty Organization, which is the founding document of the CSTO, the organization in which Kazakhstan has its membership.

Secondly, Kazakhstan strengthens cooperation in the field of international security within the framework of the United Nations, the Organization for Security and Co-operation in Europe, participates in the development of the collective security system within the framework of the Collective Security Treaty Organization and the Shanghai Cooperation Organization. All of the aforementioned facts illustrate our multivector policy and the willingness to contribute to international security [4].

However, despite these facts, it is important to mention the 2022 January events that illustrated the weaknesses of some spheres and one of them is military security. There was a legal request to Kazakhstan's partners under the Collective Security Treaty to send a peacekeeping contingent. In the speech given after these events, Tokayev mentioned that "at the time of making such a decision, we could have completely lost control over Almaty, which would simply have been given to the terrorists". But still, it was understood that our national security was under threat and it is necessary to be ready for any internal and external threats in the future [5].

Also, turning to the statistics, the SIPRI analysis demonstrates that in all Central Asian countries, except Turkmenistan, Russia is leading in the field of arms supplies. Even if the data for Kazakhstan illustrates the diversified list of suppliers, Russia remains the main supplier of Kazakh weapons.



Secondly, even though CSTO agreed to provide military assistance and to restore order and stability during the January protests, the organization showed its drawbacks during the Armenian-Azerbaijani and Kyrgyz-Tajik border disputes which both escalated in September 2022. Indeed, dissatisfied with the passive response of CSTO, to which Yerevan appealed while hostilities with Azerbaijan were ongoing, the Armenian authorities turned to the EU and the United States. In addition, in October 2022, Armenia refused to participate in the military exercises Rubezh-2022 (Frontier-2022) in Tajikistan. Also, Kyrgyzstan did not participate in the CSTO military exercise due to the military escalation and clashes at the Kyrgyz-Tajik border [6].

Therefore, there is an urgent need to take the measures of pursuing a multi-vector foreign policy in order to establish ties with other partners and avoid dependence on any one external force [7]. Even a small Swiss army is considered one of the most combat-ready among other European countries, despite its "neutral status". One of the foundations of Kazakhstan's security should be the constant support and preservation of the geopolitical balance of power in the region, especially taking into account the constraints and limits of our landlocked

geographical position. Delicate and multivectoral balancing, making themselves useful, and cultivating some degree of regular cooperation across Central Asian countries – could well pose the key to unlocking more permanent peace in the region. And one of such balances may be the development of military-political cooperation between the Turkic states [8].

History of the military cooperation between the Kazakhstan and Turkey

Military cooperation between Kazakhstan and Turkey has a long history dating back to the early years of Kazakhstan's independence in 1991. This partnership has been strengthened over the years through mutual interests, shared values, and a commitment to regional security and stability. In this research paper, we will explore the history of military cooperation between Kazakhstan and Turkey, highlighting key events, agreements, and initiatives that have contributed to this important relationship.

In 1993, Turkey and Kazakhstan signed a “Joint Declaration on Strategic Partnership” which established a framework for cooperation in various fields, including defense and security. It marked the first stage of the Turkish-Kazakhstan relations in the military field, the period of their formation. This agreement was intended to establish cooperation in the field of military education between the Government of the Republic of Kazakhstan and the Government of the Republic of Turkey. This was a general document that allowed take the first steps in the development of military ties. The declaration highlighted the importance of enhancing economic cooperation between the two countries through increased trade, investment, and technology transfer. For example, Turkey and Kazakhstan have collaborated on various infrastructure projects, including the construction of a natural gas pipeline that connects Kazakhstan to Turkey. The declaration provided the basis for the development of a strong military relationship between Turkey and Kazakhstan. For example, the establishment of the Kazakhstan-Turkey Peacekeeping Battalion in 1996 was a direct result of this agreement. This battalion was created to support UN peacekeeping operations and to strengthen regional stability. The battalion has since been deployed to various missions around the world, including in Kosovo, Iraq, and Afghanistan [9].

The next no less important agreement was signed in 2002, which is called "Military Cooperation Agreement" that aimed to enhance military ties between the two countries. The agreement was an important milestone in their bilateral defense and security cooperation and led to the establishment of the High-Level Military Dialogue Mechanism between the two countries. The Military Cooperation Agreement marked a significant step in the defense relationship between Kazakhstan and Turkey. It recognized the importance of promoting regional security and stability through enhanced military cooperation and coordination. The establishment of the High-Level Military Dialogue Mechanism provided a platform for the two countries to regularly exchange views on regional security issues and to identify areas of common interest and cooperation [10]. This agreement was renewed in 2017 during a visit to Kazakhstan by the Turkish Minister of Defense, Fikri Işık.

In 2019, two countries signed "Kazakhstan-Turkey 2019" is a Joint Declaration signed between the two countries in 2019, aimed at further strengthening and deepening their bilateral cooperation in various fields [11]. The declaration covered a range of issues, including political, economic, and cultural cooperation, as well as enhancing security cooperation. Here, arises the question, is this declaration effective? This joint declaration has been effective in promoting closer bilateral ties between the two countries. Some of the key achievements are:

1. Economically: The Joint Declaration has led to a boost in economic ties between Kazakhstan and Turkey, with trade volume between the two countries increasing significantly in recent years. According to the Turkish Statistical Institute, trade volume between the two countries reached $4.2 billion in 2020, an increase of 15.4% compared to the previous year. The two countries have also worked on joint investment projects in various sectors, including energy, infrastructure, and agriculture [12].

2. Increased political cooperation: The Joint Declaration has helped to enhance political cooperation between the two countries. Kazakhstan and Turkey have exchanged high-level visits, signed various agreements on cooperation, and worked together on regional and international issues, including Syria and the fight against terrorism. For instance, in January 2021, the foreign ministers of both countries met in Ankara to discuss bilateral and regional issues.

3. Strengthened security cooperation: The Joint Declaration has also strengthened security cooperation between the two countries. Kazakhstan and Turkey have worked together on counterterrorism, border security, and defense cooperation, including joint military exercises and the exchange of military expertise and training. In 2021, the two countries held a joint military exercise called "Steppe Eagle" to enhance their interoperability and exchange of experience [13].

Overall, the military cooperation between Kazakhstan and Turkey has been mutually beneficial and has contributed to regional security and stability. This partnership has grown in strength over the years through joint exercises, training programs, and defense industry collaboration. As the two countries continue to face common security challenges, their military cooperation is likely to remain an important aspect of their strategic partnership.

Regulation of bilateral military cooperation between Kazakhstan and Turkey

To ensure the security of any state it is necessary not only to create our own combat-ready army, but also to strengthen military ties with other countries. Turkish military cooperation with Kazakhstan is one of the most important areas of bilateral relations. For Kazakh leadership military dialogue with Ankara contributes to the diversification of military ties. For Turkish ruling elite development of military-technical and military educational cooperation makes it possible to expand political influence on young Central Asian republic.

Assessing the nature of the agreements concluded, it can be concluded that in the first half of the 90s, the leadership of the Republic of Kazakhstan was very cautious about the development of military cooperation with Turkey, focusing on military-educational contacts. In part, this may be justified by fears that Moscow will react negatively and that Kazakhstan did not have a clear foreign policy strategy [14]. It should be noted that during this period, the Turkish side expressed dissatisfaction with the development of military cooperation, it was concerned about the close cooperation of the two countries, especially Kazakhstan with Russia.

One of the primary areas of cooperation between Turkey and Kazakhstan in the military sector is the exchange of knowledge and expertise. The countries conduct joint military exercises and training programs, with the aim of sharing experiences and improving their respective armed forces' capabilities. In 2021, for instance, the Turkish and Kazakh armies held joint military exercises in Kazakhstan, focusing on counter-terrorism operations. Another aspect of the military cooperation between the two countries is the arms trade. Kazakhstan has purchased military equipment and weapons from Turkey, including Bayraktar TB2 unmanned aerial vehicles (UAVs), which have been used in the country's fight against terrorism [15]. The two countries have also established a joint venture to produce and export military vehicles, including the Altay main battle tank. As an addition, it should be noted that, in 2012, the countries signed a memorandum of understanding to enhance cooperation in the defense industry. In 2013, they signed an agreement on military education and training, enabling Kazakh military personnel to receive training in Turkey's military schools and academies.

Proof of the military cooperation between Turkey and Kazakhstan can be seen in the high-level visits exchanged between the two countries' officials. For instance, in 2019, the Chief of the General Staff of the Kazakh Armed Forces, Major General Murat Maikeyev, visited Turkey to meet with his Turkish counterpart, General Yaşar Güler. During the visit, the two countries discussed ways to enhance their military cooperation further.

In conclusion, Turkey and Kazakhstan have established a cooperative relationship in various fields, including the military sector. Through joint military exercises, knowledge exchange,

arms trade, and bilateral agreements, the two countries have strengthened their military relations over the years.

SWOT analysis on Kazakh-Turkish military cooperation

Turkey and Kazakhstan have been developing cooperation in the field of military defense for several years with the aim of strengthening their national security and promoting regional stability. The two countries have signed various agreements and held joint military exercises, including air force exercises, peacekeeping operations and anti-terrorism exercises [16].

Strengths:

1. Geopolitical position. Kazakhstan and Türkiye are located at strategically important geographical positions. Kazakhstan has borders with China and Russia and is also in close proximity to oil and gas fields in Central Asia. Turkey, on the other hand, is located at the crossroads of Europe and Asia, and also has access to the Black Sea, the Mediterranean Sea and the Aegean Sea. They have an access to important transport routes such as the Silk Road and the Caspian Sea and can use their geographic position to strengthen their economic and political position in the region. In addition, their location can be useful in strengthening security in the region, as they can play an important role in countering terrorist threats and other security challenges [17].

2. Common Interests. Ensuring regional stability and security is one of the priorities for both countries, Kazakhstan and Turkey are members of many international organizations and actively participate in regional processes such as the Collective Security Treaty Organization (CSTO) and the Organization of the Islamic Conference (OIC), where they can cooperate in the field of ensuring security and stability in the region. Cooperation in the economic sphere is mutually beneficial for both countries, especially in the fields of the oil and gas industry, transport and tourism [18].

3. Strong military potential. It should be noted that Türkiye and Kazakhstan have different levels of military potential. Turkey is one of the largest armies in the region, has a strong military industry and is involved in international operations. Kazakhstan, on the other hand, has a small army and does not participate in international conflicts.

However, Kazakhstan is useful for Turkey as a strategic partner and a base for military installations. This can be useful for maintaining stability in the region and protecting our interests. In addition, they can play an important role in peacekeeping operations and participate in conflict resolution in the region [19].

Weaknesses:

1. Limited resources. Kazakhstan and Turkey are countries with limited resources and finances, which limits their ability to develop the defense sector.

2. Insufficient number of experts. Both countries may face a shortage of defense experts, which could hinder the implementation of ambitious projects.

3. Criticism of neighboring countries. The cooperation between Turkey and Kazakhstan has revealed a lot of criticism. There is a lot of propaganda that allegedly Turkey is turning Kazakhstan against Russia, wants to create the Great Turan, etc. Consequently, it means that Turkey will penetrate and strengthen its position in the countries of the sphere of Russian interests [20].

4. Turkey's participation in NATO and Kazakhstan in the CSTO. The participation of two cooperating countries in international organizations creates serious problems for the countries' cooperation in the field of military cooperation.

ANKA strike unmanned aerial vehicles in Kazakhstan. This is far from the first step in military cooperation between the two countries. Also, at the end of last year, Kazakhstan bought strike UAVs from Turkey, which caused sharp criticism from Russian experts [21].

Opportunities:

1. Joint military exercises. Kazakhstan and Turkey may conduct joint military exercises that will allow them to develop their forces and capabilities in the field of defense.

Indeed, joint military exercises are one way to develop defense capabilities and forces for Kazakhstan and Turkey. Such exercises allow both countries to improve their skills and experience in the field of military affairs, as well as to develop new tactics and strategies.

It is important to note that the conduct of joint military exercises must be carried out in compliance with international law and respect for the sovereignty and independence of each country. It is also necessary to ensure maximum safety and protection of the participants in the exercises and the population on whose territory they are held.

2. Experience exchange. Such an exchange will allow both parties to learn the best practices and technologies in the field of defense, which will help them improve their military forces and capabilities. They can exchange experience in various areas of defense, such as designing and developing weapons, training the military, organizing military exercises, etc. [22].

3. Joint research and development. Kazakhstan and Turkey can cooperate in the field of research and development, for example, in the field of cyber security, development of new technologies, etc. Both countries have strong scientific and technological potentials and are also interested in strengthening economic and cultural ties.

Kazakhstan and Turkey are strategic partners within the Shanghai Cooperation Organization and the Turkish Science and Technology Council. These organizations provide a platform to promote cooperation between the scientific and technological communities of both countries.

In addition, Kazakhstan and Turkey can also cooperate in the field of education and exchange of experience in order to provide quality education for the youth of both countries in scientific and technological fields [23].

4. Expansion of trade and economic cooperation. Military-defense cooperation can become a catalyst for expanding trade and economic cooperation between the two countries. This is due to several factors.

First, defense cooperation can help build trust between the two countries. The development, production and sale of defense products require a high level of mutual understanding and trust between partners. If these relationships are successful, they could expand to other areas of cooperation, including trade and the economy.

Second, military-defense cooperation can create mutual interests in technology and science, which can contribute to the expansion and development of other sectors of the economy. Also, in the process of interaction, joint research and development may occur, which can lead to new products and technologies, which in turn can become an object of trade and economic cooperation.

Finally, defense cooperation can also contribute to stability and security in the region, which can have a positive effect on trade and economic relations between countries. Stability and security are essential conditions for economic development, and if these conditions are met, countries can feel more confident that their economic interests will be protected and progress [24].

5. Technology Transfer. Defense cooperation can facilitate the exchange of technology between the two countries, which can enhance their military capabilities. This exchange may concern various areas, including the production of weapons and military equipment, electronics, communications systems, cybersecurity, and other areas. At the same time, such an exchange can lead to the creation of joint projects, the development of new types of weapons and equipment, and the improvement of the skills of specialists [17].

6. Regional stability. Military defense cooperation can contribute to regional stability and security, which can benefit both countries.

Kazakhstan and Turkey have extensive experience in dealing with problems of regional stability and conflict. Both countries are actively involved in international efforts to combat

terrorism and criminal groups, as well as to establish peace and stability in the region.

In addition, Kazakhstan and Turkey have long-term plans to strengthen their partnership and cooperation, which can help mitigate the possible negative effects of instability in the region [25].

5. Kazakhstan and Turkey can also take advantage of opportunities to cooperate with other countries and international organizations to obtain the necessary resources and funding. For example, Kazakhstan is a member of the Collective Security Treaty Organization (CSTO) and the Shanghai Cooperation Organization (SCO), which can provide financial and technical support for military cooperation.

Threats:

1. Differences in political views. Differences in political views can make defense cooperation between Kazakhstan and Turkey difficult, especially if they involve important issues such as arms sales or military operations in the region [26].

2. Instability of the region. Political, economic and social contradictions within the region may also affect cooperation between Kazakhstan and Turkey.

3. Insufficient funding. Military defense cooperation requires significant financial outlays that may not be available to Kazakhstan and Turkey, especially in the face of economic difficulties or limited resources [27].

3. External threats. Both countries face external threats from terrorism, extremism and geopolitical tensions in the region.

First, terrorist and extremist groups may try to use the military cooperation between Turkey and Kazakhstan for their own purposes, for example, to gain access to new technologies or weapons. This could threaten the security of both countries and other regional players.

Second, geopolitical tensions in the region could create conflicts between Turkey and Kazakhstan or their allies, which could also hinder defense cooperation.

4. International sanctions. International sanctions imposed on any of the countries may limit their ability to cooperate in the field of military defense. It may lead to a ban on the export and import of military goods and technologies, as well as restrictions on financial and investment transactions related to military cooperation.

For example, in connection with Turkey's military actions in Syria and other territories, some countries may impose sanctions against Turkey, which may lead to limited military cooperation between Turkey and Kazakhstan. It is also possible that sanctions may be imposed on Kazakhstan in connection with its relations with other countries or in connection with the violation of human rights or democratic principles.

To sum up, Kazakhstan and Turkey have developed strong military cooperation over the years. Overall, the military cooperation between Kazakhstan and Turkey is a crucial aspect of their strategic partnership, which aims to promote peace, stability, and economic development in the region. The two countries have signed several agreements, namely the “Joint Declaration on Strategic Partnership” of 1993, “Military Cooperation Agreement” of 2002, “Kazakhstan-Turkey 2019”, also held joint military exercises such as “Steppe Eagle”, created a join battalion to enhance their defense capabilities and strengthen their strategic partnership. Through the SWOT-analysis it was understood that there are opportunities to work together, coordinate forces and provide their own armed forces, especially in order to diversify arms imports in the future.

The main guarantor of our security should be long-term political stability and socio-economic development of the country, through effective economic and political reforms, as well as through an increase in the standard of living of the population and the increase of human capital. And the national security is not the exception and necessary reforms need to be conducted in order to ensure regional peace and security.

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Historical Sciences

ӘОЖ 94(574)

Тәуелсіз мемлекет құру жолындағы қозғалыстың басталуы

Начало движения к созданию независимого государства

The beginning of the movement towards the creation of an independent state

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Аңдатпа. Алашорда үкіметі мен Түркістан (қоқан) автономиясы туралы көптеген теріс пікірдегі еңбектер жарық көрді. Олар Алашорда үкіметі мен "қоқан автономиясының" пайда болуын кеңес өкіметіне қарсы бағытталған әрекеттер мен байланыстырды. Бүгінгі мұрағат құжаттар мен дерек көздері ұлттық мемлекет құру жолындағы ұмтылыстарды объективті баға беріп, саралауға мүмкіндік берді.

Аннотация. Опубликовано много работ с отрицательными отзывами об Алашординском правительстве и Туркестанской (Коканской) автономии. Возникновение Алашординского правительства и «коханской автономии» они связывали с действиями, направленными против советской власти. Сегодняшние архивные документы и источники данных позволили объективно оценить и выделить стремления к созданию национального государства.

Abstract. Many negative opinions about the government of Alashorda and the autonomy of Turkestan (Kokan) were published. They linked the emergence of the Alashorda government and the "Kokan autonomy" with actions directed against the Soviet system. Today's archival documents and data sources have made it possible to assess and analyze the aspirations of the nation-state.

Түйін сөздер: Автономия үшін қозғалыс, зерттеушілердің пікірлері, Сырдария қазақтарының съезі, өзін-өзі билеу мәселесі.

Ключевые слова: Движение за автономию, мнения исследователей, съезд сырдарьинских казахов, вопрос самоуправления.

Keywords: Movement for autonomy, opinions of researchers, congress of Syrdarya Kazakhs, the issue of self-rule.

1917 жылдың 5–13 желтоқсан аралығында Орынбор қаласында болып өткен екінші жалпықазақ съезінде құрылған Алашорда Үкіметін құрамы жағынан мұсылман діншілдері мен қазақтың шағын ауылдың бай топтарынан құрылды, өзінің мақсаты жағынан өлкеде қанаушы құрылысты қайтадан жандандырғысы келді,[1] – десе, “Қоқан автономиясын”

жақтаушылар Түркістанның еңбекші халқын өздерінің жағына алдау және қорқыту жолымен тартуға әрекеттенді[2] делінген жалаң, үстірт еңбектердің жарық көріп келгені белгілі.

Мұндай еңбектердің жарық көруіне себеп болған біріншіден, кеңестік тарихтану ғылымының ұстанған ұстаным бағыты еді. Олар алашорда үкіметі мен қоқан автономиясының пайда болуын кеңес өкіметі мен большевиктер партиясы қызметіне қарсы бағытталған әрекеттермен байланыстырды. Екіншіден, қазақ, татар, өзбек т.б. осы секілді түркі тілдегі құжаттарға менсінбей қараушылық, жергілікті халықтың рухани өміріне қатысты фактілерді елемеушілік. Үшіншіден, шетелдерде жарық көрген әдебиеттердегі осы мәселе төңірегінде пікірлерді объективті тұрғыдан бағалаудың орнына "жалақорлар" тәрізді сөз тіркестерін қолдануға үйіршілдік еді. Осылардың барлығы өз кезегінде теориялық деңгейі төмен, таяз еңбектердің өмірге келуіне себепші болды. Ал бұл жай қазіргі уақытта баршамызға аян.

"Қоқан автономиясы" мен Алашорда Үкіметінің дүниеге келуі және олардың өз қызметі мен күресі, мақсаты мен мұраты жөнінде шетелдік зерттеушілер мынандай ой-тұжырым айтқан. Олар мұны Қазақстан мен Орта Азия халықтарының тәуелсіздікке ұмтылған ерік-жігері және кеңестік тәртіпке қарсы алғашқы ұйымдасқан қарсылығы деп бағалайды. Бұл оқиға олардың пікірінше кеңес өкіметі олардың өзін-өзі басқаруын "сөз жүзінде ғана мойындап, ал іс жүзінде оны көзге де ілмейтіннің" айқын дәлелі. Мәселен, профессор Б. hайт "Түркістан Ресей мен Қытай аралығында" атты еңбегінің "алаш орда ұлттық үкіметі" деген тарауында былай дейді: қазан революциясынан кейін далалық облыстар тонаушылықпен айналысқан орыс әскерлері мен жұмысшыларының олжасына айналды. Орталық өкімет болған жоқ. Әрбір қалада және әрбір ауданда осы кезде... "жұмысшы, әскер және шаруа кеңестері" өздерін нағыз қожайын ретінде сезінде. Осындай шатасқан жағдайда Алаш Орда қазақтар үшін автономия құруға талпынды... Қоқандағы Түркістан ұлттық Үкіметі Алаш Орда үкіметімен бірігуге немесе тығыз ынтымақтастық жасауға талпынды. Ол мақсатпен 1918 жылдың қаңтарында Түркістан қаласында (Яссы) екі Үкімет өкілдерінің конференциясы өткізілді... Түркі халықтарының жеке ұлттық мемлекеті ұзақ өмір сүрген жоқ. Бірақ олар ұзақ жылдар бойғы орыс үстемдігіне қарамастан, халықтық ерік- күшін білдірді, ұлттық намысын оятты,[3] – деп жазды.

Ағылшынның орта азияны зерттеу орталығының директоры, профессор және дипломат Дж. Уйлер қоқан үкіметінің құрылуы жөнінде: "орыс революциясының өн бойындағы ең көрнекті оқиға, осыған дейін қаналып келген халықтарға өзін-өзі басқару құқын беретінін мәлімдеген Қоқан Үкіметінің құрылуы болып табылды",[4] – деп жазды. Алашорда Үкіметі мен Түркістан (Қоқан) автономиясы туралы осы сияқты мазмұндағы пікірлерді басқа да шетелдік зерттеушілер еңбегінен молынан табылады. Мысалы, Гарвард университетінің профессоры Р. Пайпис (АҚШ), Гувер институтының профессоры Р. Конквест (Англия), Лондон университетінің профессоры Х. Сетон-Уотсон, Колгейт университетінің проф. М. Б. Олкот т.б. айтты. [5]

1917 жылғы ақпан революциясынан кейін басталған ресей империясы бұғауында болған барлық халықтардың ұлт-азаттық қозғалысында алға тартқан ең өзекті мәселелердің бірі – өзін-өзі билеу мәселесі болатын. Ал бүгін тарихқа айналған түркістан (қоқан) автономиясы мен алаш орда үкіметінің құрылуы орта азия мен Қазақстан халықтарының өзін-өзі билейтін егемен мемлекет құру жолындағы ұлт-азаттық қозғалысының бастау көзі болатын.

Қазақстан мен түркістан халықтары өзін-өзі билейтін мемлекет құру жөніндегі бар үміттерін Құрылтай жиналысына артып, күтіп келген сенімдеріне тамыз айында болған Корнилов бүлігі және қыркүйек айында Ташкентте болған саяси оқиғалар үлкен әсерін тигізді. Уақытша үкіметке деген сенімдеріне күдік ұялатып, өлкедегі саяси билік жүргізу мәселесі туралы өздерінің пікірлерін өзгерте бастауға себеп болды. Ал, қазан, қараша

айында бар билікті большевиктердің күштеп тартып алуы мен елде қалыптасқан ауыр жағдай өзін өзі билейтін мемлекет құру туралы олардың үміттерін үзді. Сонымен қатар билік жүргізудегі күштеу мен зорлау және оның жүйесінің белең ала бастауы елдегі саяси билікті қолына ала алатын мемлекеттік құрылым туралы мәселені күн тәртібіне ашық қойды.

Осы мәселелерді зерттеу еңбектерінде профессор М. Қойгелдиев пен профессор К. Нұрпейісов дұрыс атап көрсеткен. Мәселен, «...екінші жалпықазақ съезін шақыру жөніндегі ұйымдастыру комитеті құрамының мүшелері: "Бөкейханов, А. Байтұрсынов, М. Дулатов, С. Досжанов және Е. Омаров "Қазақ" газеті арқылы қарашаның 14-і, 26-сында аса маңызды екі үндеу жариялады. 1917 жылы қарашаның 14-інде жарық көрген үндеуде елде кең жайылған анархиядан құтылу үшін желтоқсан айында Орынборда жалпы қазақ съезін шақырып, онда қазақ халқы өзін-өзі қорғау үшін айырықша милиция" ұйымдастыру қажеттігі айтылса, қарашаның 26-сындағы екінші үндеу қазақ автономиясын және оның үкіметі болып табылатын "Ұлттық Кеңесін" сайлау мәселелері ашық көтерілді". Түркістан қазақтарымен сөйлесуге Алашорда Бақтыгерей Құлмановты, Мирякуб Дулатовты һәм Тұрағұл Құнанбаевты жібереді. Уақыт шұғыл, мәселе зор болғандықтан шақырылған өкілдер съезге айтылған күннен қалмай келулері керек,[6] делінді.

Осы съезде Алашорда – Халық Кеңесінің мүшесі болып сайланған М. Шоқай Сырдария қазақтарына арнаған үндеуінде: "Сырдария халқына өз тарапымнан айтарым, тегінде Алаш баласының басы қосылатын кезі осы, бүгін. Айырылсақ мұнан соң жұрттың басын қосуымыз қиын. Алаш ұранына шаппайтын қазақ баласы болмас. Сырдария қазағы кешіктірмей Алаш туының астына жиналар деген үміттеміз" [7] деп жазды.

1918 жылдың 6–9 қаңтарында Түркістан қаласында (Черняев уезі) болған Сырдария қазақтарының съезі мынадай мәселелерді талқылап, тиісті қаулылар қабылдады. Олар: "1) Қоқан һәм Орынборда болған съездер туралы доклад. 2) Сырдария қазақ-қырғыздарын "Алаш" автономиясына қосу туралы. 3) Ұлт милициясы. 4) Сырдария облысындағы қазақ-қырғыз атынан Түркістан автономиясының уақытша кеңесіне мүшелер сайлау. 5) Ұлт қазынасы. 6) Азық-түлік мәселесі. 7) Түрлі жақтан өкілдердің докладтары. 8) 3 январьда Түркістан аймағы крестьяндары съезіне кісі сайлап жіберу."

Съезде қаралған ең басты мәселе: "...Түркістан өлкесіне мекендеген Алаш автономиясына қосылу немесе қосылмау мәселесі талқыланды".[8] Бұл мәселе бойынша Түркістан автономиясы атынан келген делегаттар өз баяндамаларында "Сырдария қазақ-қырғыздардың қазіргі уақытта Түркістан автономиясынан бөлініп кетуі, оның күш қуатының кеміп, дұшпандарының күшейіп кетуіне септігін тигізеді"[9] делінген тұжырымдар айтты. Ал "Алашорда үкіметі" атынан М. Дулатов баяндама жасап, бұл мәселеге байланысты өз жобасын ұсынды. Съез екі жақтың делегаттарының жасаған баяндамалары тыңдалған соң, екі жақтың ұсынған жобасын қарайтын арнайы комиссия құрып, соңынан осы комиссияның жасаған жобасы съезде дауысқа қойып, съез мынадай қаулы қабылдады: 1) "Алаш" автономиясы жар қылғанша өзірше Сырдария облысы Түркістан автономиясында қалады, 2) Алашорда өз алдына автономия жар қылып, Түркістан автономиясымен союз (одақ) болса, Сырдария қазақ-қырғыздары Түркістан автономиясынан шығып, Алаш автономиясына кіруге қарар қылды. 3) Съездің осы қаулысы Сырдария облысынан Түркістан учредительное собраниесіне сайланып баратын депутаттарына наказ. 4) Сырдария облысының халқы Алаш автономиясына қосылған уақытта осы облыстан Түркістан учредительное собраниесіне сайланған депутаттары, Алаш автономиясының сайлау законіне мауфиқ болса, Алаш учредительное собраниесіне депутат болсын. 5) Алашорда да Түркістан шаһарында болсын"[10] делінді.

"Сырдария қазақтарының съезі қалыптасқан саяси жағдайға байланысты тура шешім қабылдағанымен, бірақ ол шешімнің іске асуы күн өткен сайын тарыла түсті"[11]

Сонымен, Сырдария қазақтарының съезінде Алаш автономиясына қосылу туралы шешім қабылданғанымен, іс жүзінде қосылуының мерзімі кейінгі қалдырылды. Ал бұдан кейінгі уақытта оқиғалар ағымының тез жүргендігі сондай, Алаш автономиясының ресми түрде жария ету жөнінде сөз қозғаудың өзі қиынға соқты. Империяның езілген ұлттары ұлттық автономиясын ресми түрде бекітіп береді деп үміттенген Бүкілресейлік Құрылтайды 1918 жылдың 5 қаңтарында большевиктердің күштеп тартып жіберуі Алаш автономиясын құру мүмкіншілігін мүлдем тарылта түсті.

Араға бір айдай уақыт салып, Құрылтайдың кебінін Қоқан автономиясы да киді. Қоқандағы үкіметті большевиктер қуып таратты. Қаланың өзі талан-таражқа түсті.[12] Сондай-ақ бұл оқиға жаңа билік үшін ұлт мәселесі белгілі дәрежеде өзінше дербес, жалпы демократиялық негізде шешілуге тиіс үлкен саяси мәселе емес, екінші кезектегі мәселе екендігін көрсетіп берді.

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Қоныстанушыларды қаруландыру саясаты

Политика вооружения поселенцев
The policy of arming the settlers

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Аннотация. Еңбекте Патша өкіметінің отар өңірлерде езгіні күшейту әдістері. Переселен қоныстарының қауіпсіздігін қамтамасыз етудің бір жолы, әрине, оларды қаруландыру еді. Переселен қоныстарды қаруландырудың мақсаты, мәні, әдістері зерттелген.

Аннотация. Методы усиления гнета царским правительством в колониальных регионах. Разумеется, одним из способов обеспечения безопасности скоропортящихся поселений было их вооружение. Целью, значимостью и методами финансирования были изучены перемещенные лица.

Abstract. Methods of strengthening tyranny by the royal government in the colonial regions. One of the ways to ensure the safety of perishable settlements, of course, was their armament. Purpose, significance, and methods of financing have been studied in displaced populations.

Түйін сөз: ХХ ғ. басы, Түркістан, Сырдария, Жетісу облыстары, отарлау, қаруландыру.

Ключевые слова: Начало ХХ в. Туркестан, Сырдарьинской и Семиречьенской областей, вопросы колонизации.

Keywords: Early XX century, Turkistan, Syrdarya and Semirechye regions, colonization questions.

Патша өкіметі өз переселендерін Түркістан жеріне әкеліп орналастырғанда олардың қауіпсіздік жағдайы мен үстемдік құра алу мүмкіндіктерін де ұмытқан жоқ-тын. Бұл саясатты нақты мынадай мақсатты әрекеттерден аңғаруға болады. Мәселен, Түркістан генерал-губернаторы фон К.Ф. Кауфман 1861-1881 жылдар аралығында өлкеде он төрт-ақ казак және переселен қоныстары пайда болғанын көрсетіп, Жетісу облысындағы орыс қоныстанушылардың жағдайына тоқталып, былай деп жазады: “...өлкеде орын теуіп жатқан орыс қоныстары өзара тығыз байланыса аларлықтай ыңғайлы қатынас жолдары бойына орналасқанда ғана өзіне тиесілі мәнге ие болып, материалдық және рухани күшке айналмақ. Осы ойды негізге ала отырып, облыста жаңа қоныстанып жатқан орыс келімісектерді бөлгенде оларды казак қоныстары мен қалаларына жалғастыра орналастырып, мүмкін болғанша негізгі қатынас жолдары бойына және аса құнарлы жерлерге тамыр жайғызу, тұтас орыс қоныстары тізбегін жасау дұрыс деп табылды” [1]. Оларды К.Ф.Каумфман айтқандай етіп орналастыру ісін алғашқыда жергілікті әскери бастықтар, кейін қоныстандыру мекемелер жүзеге асыруға кірісіп кетті [2].

Переселен қоныстарының қауіпсіздігін қамтамасыз етудің бір жолы, әрине, оларды қаруландыру еді. Бұл мәселе кеңес дәуірі тұсында зерттеушілер үшін жабық тақырып саналып, арнайы талдап көрсетуге тиым салынды. Соның айғағы, бұл тақырыпты арнайы зерттеу объектісі есебіңде монографиялық деңгейдегі еңбектің жарық көрмеуі. Әрине, бұл мәселе мүлдем назардан тыс қалып қойды десек, дұрыс айтпаған болар едік. Өйткені, кейбір зерттеушілер бұл мәселеге тоқталды [3], ал соңғы жылдары бұл мәселе қайта көтерілді [4]. Бірақ бұл кітапша мен кітаптардың авторлары өздерінің алдына қойған мақсаттары басқа болғандықтан, Ақпан революциясы қарсаңындағы аталған облыстардағы переселен қоныстанушыларды қаруландыру мәселесіне терең енбей, мәселені жан-жақты талдап көрсетуге бара қоймағандығы өзінен-өзі түсінікті.

Когда царские приказы приводили их на тюркоязычные земли, они не забывали о состоянии небезопасности и возможности господства. Такую политику можно объяснить следующими действиями, например, генерал-губернатора Туркестана фон К.Ф. Кауфмана в регионе с 1861 по 1881 год. указывая на положение русских поселенцев в Жетысуском районе, он писал: «... Российские поселения, которые расположены в регионе, станут материальной и духовной силой только тогда, когда будут расположены вдоль дорог взаимодружественных отношений. Исходя из этой идеи, при разделе вновь заселенных русских поселений в регионе, их дальнейшее размещение в городах и поселках гусей, было определено, что правильно было бы установить цепочку целых русских поселений вдоль основных путей сообщения и к наиболее плодородным землям» [1], сначала местные военачальники, а затем и переселенческие учреждения стали осуществлять их размещение так, как говорил К.Ф. Каумфман [2].

Конечно, этот вопрос считался закрытой темой для исследователей в советское время, и показывать его в специальном анализе было запрещено, поскольку, конечно, этот вопрос не освещался монографической работой в докладе специального исследовательского учреждения. и в последние годы этот вопрос вновь поднимается [4]. Но понятно, что авторы этих книг и книг, в силу своих разных целей, не пошли на всесторонний анализ вопроса перевооружения переселенцев в этих регионах Февральской революции.

Сондықтан 1916 жылғы ұлт-азаттық көтеріліс тұсындағы Сырдария және Жетісу облыстарында переселен қоныстанушыларды қаруландыру мәселесінен дұрыс түсінік алу үшін, біз Түркістанда патша үкіметінің қоныстанған орыс шаруалары мен христиан қоныстарын қаруландыру саясатын қысқаша баяндап өтуді жөн көрдік.

Патша үкіметінің Түркістанға переселен шаруаларды әкеліп, қоныстандыра бастауы Ресейдегі крепостниктік правоның жойылып, капиталистік қатынастардың жандана түсуімен тұспа-тұс келді. Бұл мәселеге қатысы бар билік орындары “переселен” мәселесінде бір пікірде болған жоқ. Помещиктердің қайсыбірі шаруалардың еркіндік алып, империяның шеткі аймақтарына, қоныс аударуына өршелене қарсылық көрсетсе, екіншілері Ресейлік Азияны отарлауда орыс шаруаларына жүктелген міндетті түсінушілікпен қолдады. Бұл мәселеге қатысты әр түрлі пікірлер болды, атап айтсақ, бірінші топтың мүддесі Ресей империясының сыртқы және ішкі саясатына қайшы келіп, империялық көлемде қолдау таппады.

Поэтому, чтобы получить точное представление о вопросе вооружения переселенцев в Сырдарьинской и Жетысуской областях во время национально-освободительного восстания 1916 года, мы решили кратко доложить о политике царского правительства в Туркестане по вооружению оседлых русских крестьян и христианских поселений.

Переход царского правительства к ввозу и переселению крестьян в Туркестан совпал с ликвидацией крепостей прав в России и возрождением капиталистических отношений. В

то время как другие выразили свое несогласие с переселением, другие выразили свое понимание задачи, поставленной перед русскими крестьянами по колонизации Восточной Азии. По этому вопросу высказывались разные мнения, в частности, что интересы первой группы не поддерживались в имперском масштабе, что противоречило внешней и внутренней политике Российской империи.

Ресей Түркістанды жаулап алғаннан кейін, өлкеде құрылған жергілікті билеу аппараттары бұл мәселеге қалай қарады. Өлкені басқару үшін құрылған Түркістан генерал-губернаторлығы өзінің билік құрылымы мен атқару функциясы жағынан әскери-отаршыл әкімшілік болып, өзіне қарасты облыстар көлемінде шексіз билікті иемденді. Әйтсе де өлке әкімшілігі өздерінің билігін бекіте түсу үшін қара шекпеңділерді қаруландыруды жақтады. Әрине, мұндай саяси пікір тек Түркістан генерал- губернаторлығы басқару аппаратындағы отаршыл әскери-әкімшілік чиновниктерінің ғана емес, орталықтағы жоғарғы билік басындағы чиновниктердің де ұстанған саясаты болатын. Мәселен, 1912 жылы Түркістан өлкесін аралап қайтқан Жерге орналастыру және Егіншілік бас басқармасының бастығы Кривошейн өзінің қорытынды жазбасында жерге орналастыру және қоныс аудару мекемелеріне былайша қатаң талап қойған: “Болашақ қоныстанушылар поселкесі туземдік қышлақтардан кедей болатын жөні жок, қалайда бай болуға тиіс... қалай десек те орыстың сыртта батырақ болып жүргенін көру көңілсіз де, сырттық қоныс аударушы орыс қожасының есігінде жалданып жүргенін көру күтілгендегідей жақсы құбылыс екендігін мойындамасақ болмайды” [5]. Ал, бұл мәселе туралы мемлекеттік басқару аппаратындағы чиновниктердің пікірін П.Г.Галузо дәл көрсетіп жазды: “Статский человек - губернатор во фраке — смотрит на переселенца через очки своего министерства - министерства внутренних дел. Для него русский поселок в завоеванном крае - это прежде всего - “социальная” опора, это - “крепкий” мужик... Для человека же военного - губернатора в эполетах, - подчиненного военному министерству, - прежде всего и на первом плане стоят соображения военного порядка. Русский поселок для него прежде всего рота или батальон. Конечно, мужик должен быть крепким, конечно, без этой крепости не получится даже взвода, а не только батальона, но грош цена, с точки зрения военного генерала, этому крепкому мужику, если он фактически не является реальной вооруженной силой там, где он сидит и хозяйничает. Гражданский аппарат власти ищет себе “социальной” опоры в “буржуазности” пределенных слоев населсния или классов. Военный аппарет ищет в русском поселке своего собственного продолжения. Что мужик богат, это хорошо, без этого не обойдешься, без этого не достигнешь цели; но этот же мужик должен быть также вооруженной ячейкой на месте, продолжением вниз а поселке, что называется, до самой земли тех ячеек, узлов и звеньев вооруженной военной силы, которая составляет единую систему аппарата господства над краем” [6].

После того, как Россия завоевала Туркестан, как местные власти в регионе рассматривали этот вопрос. Генерал-губернаторство Туркестана, созданное для контроля над регионом, стало военно-колониальной администрацией с точки зрения его структуры власти и исполнительных функций и получило неограниченную власть в регионе. В то же время областная администрация выступает за применение оружия массового уничтожения для укрепления своей власти. Конечно, такой политики придерживались не только военно-административные чиновники в администрации Туркестанского генерал-губернаторства, но и высшие должностные лица центрального правительства, например, начальник Главного управления землеустройства и земледелия Кривошеин, посетивший Туркестанскую область в 1912 году. Твой отец требовал: «Как может поселение будущих поселенцев быть богатым, а не бедным от туземных кислот... в любом случае, разочаровывающе видеть русских снаружи, и мы не можем признать, что это такое же хорошее явление, как и ожидалось,

когда внешний поселенец нанимается у дверей русского поселенца» [5]. В этой связи. Г. отметил мнение должностных лиц государственной администрации. Галусо писал: "Государственный деятель - губернатор фраке - взглянул на него через воздух своего министерства - Министерства внутренних дел. Для своей русской деревни в вихре – это прежде всего – «социальный» пейзаж, это «крепость» межик... Для человека или военного — правителя в эпулетах, — подчеркивали военные министерства страны, — прежде всего, первый план — впервые поддерживать военный порядок в русской деревне. Получается, что крепость должна быть, кстати, без этой крепости даже не будет взята, причем не только батальоном, но и ценой, так как с момента приезда военного генерала эта крепость является мостом. Если это на самом деле не настоящий солдат, то где он есть и хочет. Гражданский аппарат власти является причиной «социальной» оптометрии в «буржуазии» народа или классов. Служба будет в русской деревне и будет продолжать держаться самостоятельно. Потому что человек богат, это хорошо, без этого, не достигнув этой цели, но у этого парня тоже должна быть вооруженная ячейка на месте, продолженная внутри села, которое называется землей ячейки, стыком и вооруженными силами, что является единой системой государственного аппарата над регионом» [6].

Түркістан аймағына түпкілікті қоныстануға барған орыс адамдарын тиісті әскери қызметінен босағаннан кейін сол жерде тұрып қалған төменгі шендегілерді қаруландыру шаруашылық жағынан да (малды корғау, аң аулау, т.б.), саяси жағынан да (жергілікті халықтан сақтану және оларға сес көрсету) кажет екендігі туралы алғаш әскери мекемелерге пікір айтып, ұсыныс жасаған Бұрынғы Сырдария облысының әскери губернаторы, кейінгі Түркістан генерал-губернаторы Гродеков болды. Сырдария облысы губернаторының бұл ұсыныстары алғашқыда қабылданылмады. Гродековтың 1891 жылғы 15 қыркүйекте Түркістан генерал-губернаторына жазған баяндамасында Ресейдің сыртқы және ішкі стратегиялық мүддесі үшін “орыс қоныстарын” каруландырудың маңызы зор екендігін, сондай-ақ өлкеде әскерді ұстап түру тиімді болмаған жағдайда, Түркістанға қоныстануға келген орыс шаруаларын қаруландыру арқылы әскерлердің санын біртіндеп қысқартуға болатындығын айтады. Бұл ұсыныстың мәнін Сапабек Әсіп “Қазақ қасіреті” атты кітабында былайша түсіндіреді: “……Шындығында отаршыл әкімшілік әскердің санын кысқарту емес, ішкі Ресейден біреулері өкімет күшімен көшіп, енді біреулері өз бетімен қаңғырып келіп қоныстанған христиандарды қаруландыру арқылы байырғы әскери күштерді нығайтып, отаршылдық езгіні күшейте түсуді мақсат тұтқан” [7]. 1917 жылға дейін Түркістанды билеген отаршыл әкімшілік осы бағыттағы саясатынан еш тайған жоқ.

“Орыс қоныстарын қаруландыру” жобасы қабылданғанша отаршыл үкімет әкімшілік аппараттарындағы чиновниктердің арасында әр түрлі көзқарастар мен пікірсайыстар болды. Пікірсайыс мынадай екі мәселе төңірегінде жүрді. біріншіден, үкімет тарапынан таратып берген қаруды переселен шаруалар қалай пайдаланбақ Екіншісі, қаруланып алған шаруалар өкіметке қауіп төндірмей ме деген өзекті сұрақтар түрған еді. Бұл мәселе төңірегінде де империялық ойлау басым түсті, яғни Түркістандағы (Ресейлік Азияға қоныс тепкен) переселендерді қаруландыру туралы ұсыныс орталық үкімет тарапынан қолдау тапты. “Орыс қоныстарын қаруландыру” туралы жобаны патшаның өзі бекітіп, одан кейін 1891 жылы 29 қарашада Министрлер Кеңесінде қабылданып, бекітілді. Осы жоба бекітілген соң, таратылып берілген қаруды айырбастауға, сыйға тартуға және түземдіктерге сатуға қатаң тиым салған арнайы “Ереже” де қабылданды. Соңдықтан винтовка алған әрбір переселен қоныстанушы өкімет өкіліне “мен бұл мылтықты түземдіктерге сатпаймын. Жай да бермеймін” деп қолхат беруге тиіс болды [8].

Осы арада айта кетер бір жай, Ресей XIX ғасырдың аяғында экономикалық дағдарысты бастан өткізгендігі белгілі. Солай болса да империялық өкімет басы артық қаржының

жоқтығына қарамастан, Түркістанға қоныс аударған қоныстанушыларға таратылып берілген қаруды тегін үлестірген. Егер архивтік құжаттар мен деректерге сүйенсек, отаршыл өкімет Түркістанға келіп қоныстанушыларды қаруландыруда мынадай саяси мәні бар мақсаттарды алдарына қойған 1) жергілікті байырғы халықтардың отаршыл өкіметке қарсы бас көтеру кезінде үкімет тарапынан христиан қоныстарын қаруландыру мәселесі қатты қолға алынып, қажет болған жағдайда оларды байырғы әскерлерше пайдалануды көздеген, Мәселен, Түркістан генерал-губернаторы Гродековтың “винтовкалармен қаруланып, оны күтіп ұстауды, атуды, найзамен шаншуды үйренгеннен кейін Түркістаңдағы әрбір жеке орыс поселкесі, орыс әскерлерінің батальонына бара-бар” дегені қанатты сөзге айналып, өз уақытының ұраны болып кеткенін айтсақ та жеткілікті; 2) Ресей шығысты отарлаудағы стратегиялық саясатында шекаралық шептерге жақын орналасқан орыс қоныстарын әскери күш ретінде бағалап, “христиан қоныстарын” қаруландыруға ерекше мән беріп отырған; 3) отаршыл әкімшілік өлкеде көп әскер ұстап тұру тиымсыз болған жағдайда, әскерлердің санын біртіндеп қысқартудың ең тиімді жолы деп есептеген; 4) үкімет тарапынан байырғы жергілікті тұрғын халықтардың қолдарына таратылып берілген қарудың түспеу шараларын қатаң қадағалап отырған.

Түркістан генерал-губернаторлығы құрылып, өлкеде орыстық билік орнағаннан кейін, отарлық езгіге қарсы ірі-ірі екі көтеріліс жаппай аяусыз, қанды жазаланғаны мәлім. Олардың бірі - жоғарыда айтып өткен 1898 жылғы Әндіжанда болған көтеріліс те, екіншісі - 1916 жылы ұлт-азаттық көтеріліс. Әндіжан көтерілісінен кейін отаршыл өкімет үлкен тәжірибе алып, переселен шаруаларды қаруландыруға тыңғылықты дайындалды, одан нақты қорынындылар шығарды, сабақ алды.

1898 жылғы Әндіжан көтерілісі басылып, жаншылды. Міне, осы оқиғалардан соң, тек Сырдария облысында ғана емес, Түркістан өлкесіндегі орыс поселкелері жаппай қарулана бастады. Мәселен, сол жылы Сырдария облысына - 1134 винтовка, Жетісу облысына бөлінген үш мың винтовканың бір мыңы казактарға, екі мыңы орыс шаруаларына таратылып берілді.[9] Осыдан кейінгі жылдары, әсіресе, ел арасында үкіметке наразылықтар күшейген кезеңдерде және переселен шаруаларға таратылып берілген қаруды тексеру уақытында олар нұсқауға байланысты қаруды дұрыс пайдаланбайтынын әскери нұсқаушылар үкімет орындарына айтып, қаруды қайта жиыстырып алу мәселесін үкімет алдына қойғанымен үкімет тарапынан Ресейлік Азияға қоныстанған өз переселендерінен қаруды қайта жинап алу мәселесі колдау таппады. Оны мынадай әрекеттен байқауға болады. 1911-1912 жылдары Түркістандағы переселен қоныстардан қарудың барлық түрін жиып алып, оны арнайы қоймаларда сақтау мәселесі қойылады. Бірақ, орталық үкімет тарапынан бұл мәселеге байланысты мынадай нұсқау кабылданып, оны 1912 жылдың 8 шілдесінде Петроградтағы артиллериялық басқарма бастығы генерал-лейтенант Лехович Азиялық округтерде орналасқан әскери штаб бастықтарына өзінің №1708-ші құпия нұсқауын таратып берді. Онда (нұсқауда) былай делінді: “...1) Оружие, уже розданное на руки местному христианскому населенню и казакам азиатских военных округов обратно не отобрать, а равно и не требовать за него уплаты. Чтобы не возбуждать неудовольствия населения. 2) Дальнейшую бесплатную раздачу винтовок, предназначенных для вооружения местного христианского населения и хранящихся ныне в войсковых станичных и поселковых складах, прекратить, но вместе с тем разрешить продавать это оружие жителям по усмотрению командующих войсками в округах, которым предоставить право решить вопрос, (в зависимости от политической обстановки и по соглашению с соответствующими генерад-губернаторами (в какой части населения и каким лицам из состава его можно это оружия продавать). 4)... для содержания берданок в исправности, как в войсковых, так и в станичных поселковых складах вероятно потребуются дополнительные денежные средства... вопрос о вооружени в случае необходимости, местного христианского населения наших азиатских окраин слишком

важно... 5) Все вышеприведенное относится только до тех винтовок которые находятся в настоящее время в азиатских военных округах для вооружения исключительно населения, но отнюдь не касается того оружия которое хранится в этих округах".[10] Бұл нұсқаудан орталық үкімет тек Түркістанда ғана емес, Ресейлік Азияға әкеп орналастырған өз переселендерінің қауіпсіздігін қорғау мен үстемдік құра алу жөнінде алған жаңа бағытын айқын көрсетіп берді.

Осы нұсқау негізінде тек Сырдария және Жетісу облыстарында ғана емес, Ресейлік Азияда орналасқан барлық христиан қоныстары үшін жаңа қару-жарақ қоймалары ұйымдастырылып, ол қоймаларға артиллериялық басқарма қосымша қару-жарақ бөлді. Осы нұсқау негізінде 1913 жылы Жетісу облысында христиан қоныстары үшін жаңадан ұйымдастырылған қару-жарақ қоймаларында сақталған қару және оған қосымша оқ-дәрінің мөлшері төмендегідей көрсеткіштермен сипатталды [11]:

Кесте. 5 - 1913 жылы Жетісу облысында христиан қоныстары үшін жаңадан ұйымдастырылған қоймаларда сақталған қару-жарақ пен оқ-дәрі мөлшерінің сандық көрсеткіші

Уездер	Қару саны (4 атар)	Оқ-дәрі саны
Верный	2 600	140 000
Пішпек	2 600	140 000
Пржевальск	2 600	140 000
Лепсі	2 600	140 000
Қапал	1 300	70 000
Жаркент	1 300	70 000
Барлығы	13 000	5 540 000

Сырдария облысында христиан қоныстары үшін жаңа ұйымдастырылған қару-жарақ қоймаларында сақталған қару-жарақ пен оқ-дәрі мөлшерін кездестіре алмадық. Десек те Жетісу облысында қарулы казак әскерлері орналасқанын есте тұтсақ, Сырдария облысында христиан қоныстары үшін қоймада сақталған қарудың мөлшері Жетісу облысымен салыстырғанда, төмен деңгейде болмағанын аңғару қиын емес.

1915—1916 жылдары соғыс майданында қарудың жетіспеуіне байланысты кезінде Түркістан өлкесіндегі христиан қоныстарына таратылып берілген қаруды қайта жиып алу туралы мәселе қайта қойылды. Бұл мәселеге байланысты 1915 жылы 15 тамызда Мемлекеттік қорғаныс ісін ұйымдастыру жөнінде ерекше кеңес өз жұмысын бастаған еді. 16 тамызда өткен осы кеңесте қару-жарақ жөніндегі ерекше комиссияның баяндамасы тыңдалады. Онда империя тұрғындарынан қару жиып алу туралы былай қаулы қабылдады: "1) Қаруды жиып алу тек Ресейдің Европалық аудандарынан және Архангельск губерниясынан ғана жиып алынады... 3) Жиып алынатын қару соғыс майданына жарамды мемлекеттік үлгідегі қарулар болу керек және жапондық, австралиялық үлгідегі қарулар мен түркиялық үлгідегі маузер жиып алынады" [12]. Бұл қабылданған қаулының мәнін Паливанов әскери министр болып тағайындалғаннан кейін 1916 жылы 14 наурызда оның Министрлер Кеңесіне жолдаған түсіндірме ұсыныс хатында: "Таратылып берілген қару, империя көлемінде отар аудандарда бір түрлі сипатқа ие. Таратылып берілген барлық қарудың қайсыбір түрлері соғыс майдандарына аса қажет емес. Алайда Азиялық Ресейдің кейбір аудандары үшін саяси мәнге ие. Сондықтан да таратылып берілген қарудың барлығын жаппай жиыстырып алу қажеттілігі жоқ", — деп жазды. Министрлер Кеңесі жасалынған ұсыныспен танысып, бұл ұсынысқа толық келісімін берді [13]. 1915-1916 жылдары Түркістан өлкесіндегі "орыс қоныстарына" таратылып берілген қаруды қайта жиып алу мәселесі қойылған, бірақ оны жиып алу аяқсыз қалды. Оны мынадай екінші факті айғақтайды, осы

жылдары Түркістан өлкесіндегі “Орыс қоныстарына” таратылып берілген 18 мың қару қайта жиып алынбады [14]. Сонымен бірге осы жылдары патша үкіметі Түркістандағы өзінің “әлеуметтік тірегі” переселен мекемелері мен теміржол чиновниктерінің және станциядағы депо қызметкерлерінің қауіпсіздігін қорғауды ұмытқан жоқ-тын. Мәселен, жоғарыда аталған 1912 жылдың 8-шілдесіндегі Азиялық Ресейдегі переселен қоныстардағы қару туралы үкімет қабылдаған нұсқау негізінде Түркістан генерал- губернаторы рұқсаты бойынша переселен мекемелердің қызметкерлері қарулана бастады [15]. Ал 1915 жылдың 3-наурызында Түркістан генерал-губернаторы ұйғарымы негізінде Түркістандағы теміржол чиновниктері мен станциядағы депо қызметкерлері үшін оқ-дәрісімен қоса 182 револьвер және 1000 бердан мылтығы бөлінді [16].

1916 жылғы ұлт-азаттық көтеріліс басталысымен, отаршыл өкімет қатты мазасыздана бастады. Сондықтан отаршыл үкімет алдына Түркістандағы христиан қоныстарына жаппай қару таратып беру мәселесі үлкен міндет саналып қайтадан қойылды. Бұл өзекті мәселеде де отаршыл өкімет өзінің өлкедегі “әлеуметтік тіректеріне” қиындықтарға қарамастан қамқорлық жасай білді. Оны мынадай әрекеттерден байқауға болады. 1916 жылдың 161 қарашасында орталықтағы әскери штаб бастығы Түркістан округтік әскери штаб бастығына жазған құпия қатынас хатында таратылып берілетін 15 мың бердан мылтығын және оған қосымша бір миллион оқ-дәрі Ташкентке жібергенін мәлімдеп, оны Түркістандағы орыс адамдарына таратып беру керек екендігі айтып өтініш жасайды [17]. Яғни 1916 жылғы ұлт-азаттық көтеріліс тұсында Түркістандағы переселен қоныстарын жаппай қаруландыру жөнінде орталықтан арнайы нұсқау берілді.

1916 жылғы Сырдария және Жетісу облыстарындағы, әсіресе, Жетісуде болған халық көтерілісін басып, қазақ пен қырғыздарға ойран салуда аса белсенділік көрсеткен переселен шаруалар болды. Олар қазақ және қырғыздарды жазалауда ешқандай адамдық қасиетке жатпайтын қатігездіктер танытты. Әрине, олар патша үкіметі тарапынан таратылып берілген қаруға ие болғаннан кейін ғана қазақ пен қырғыздарға жаулық әрекеттері өршеленіп кетіп еді. Егер де 1916 жылғы ұлт-азаттық көтеріліс тұсында Түркістандағы переселен қоныстарын қаруландыру жөніндегі орыс әкімшіліктерінің архивте сақталған іс-қағаздарына сүйене отырып айтсақ, Сырдария және Жетісу облыстарындағы переселен қоныстарды қаруландыру ісінде Түркістан генерал-губернаторының орынбасары міндетін атқарушы М.Р. Ерофеев, Түркістан генерал-губернаторы А. Н. Куропаткин, Сырдария облысының губернаторы Галкин, Жетісу облысының губернатторы Фольбаум және Жетісу облысындағы переселен мекемелері мен оның меңгерушісі Гончаровский “белсенді” әрекет танытқан. Мәселен, осы жылы переселен мекемелерінің орыс қоныстарын қаруландыру ісінен хабар беретін мына құжатқа назар аударайық. 1916 жылдың 9 тамызында Жетісу облыстық переселен мекемесінін меңгерушісі Гончаровскийге Верный уездік переселен мекемесінің меңгерушісі Сакалов былай деп жазды: “Соңғы уақытта қазақтар тарапынан орыс қоныстарына шабуыл жасау әрекеттері күшейе түсуде... менімше, бұл шабуылдар онша қауіпті емес... бірақ бұл шабуылдар орыс тұрғындары арасында үрей туғызуда, нәтижесінде орыс адамдары қоныстарын тастап кетіп жатыр... бұл құбылыс қазақтар арасында көтеріңкі көңіл тудырып, оларды шабыттандырып жатыр”, - деп көрсетіп ол, орыс қоныстарын қорғауды ұйымдастырудың өз жоспарын ұсынады: “...1) аз дегенде әрбір переселен қоныстарына 15-20 қарудан үлестіріп беру, 2) “халық жасақтары” дегенді ұйымдастырып, оларды бастан аяқ қаруландыру және оларды басқару үшін өздерінің ортасынан басшы тағайындауды” ұсынып, тез арада 25 винтовка - Сергеевка, 15 - Вильямовка, 15 - Пригорные, 15 - Қастек, 15 - Бургунь, 15 - Татьяновка, 15 - Самсоновка, 15 - Осташкино, 15-Александровка, 15 - Купластовка, 15-Евгеньевка, 15 - Анатольевка, 20-1 Сүгір (Викторьевка), 15- Куликова поселкелеріне-15” [18]таратып беруін өтініш жасады.

Сырдария және Жетісу облыстарындағы жергілікті халықтың көтеріліске шығуы алдымен переселен қоныстарын қатты мазасыздандырды. Ал переселен мекемелері әскери мекемелерге көтеріліс туралы дер кезінде жедел хабарлап, тиісті көмек те алып тұрды. Сондықтан билік мекемелерінен қару сұрап, өтініш жазушылар, әрине, әуелі, орталық биліктен алыс қоныстанған, шекаралық аудандарда орналасқан переселен қоныстары еді. Мәселен, 1916 жылдың 17 шілдесінде Жаркент уезінің Краснояр болыстығына қарасты бес переселен қоныс тұрғындары билік мекемелерінен қару сұрап жазған өтінішінде: қаладан алшақ орналасқандықтарын, Азиялық Ресейдің ең шалғай Қытаймен шекаралас жерде тұратындықтарын, сондай-ақ Ресей соғыс жағдайына байланысты өздерінің қауіпсіздігін қорғау ауыр күйде екендігін және көршілес отырған казақтар тарапынан қарсы пиғылдың өсіп отырғанын айтып, өздеріне оқ-дәрісімен қоса 99 мылтық үлестіріп беруін өтінген[19]. Көтеріліс тұсында Сырдария және Жетісу облыстарыңдағы переселен қоныстарын қаруландыру ісіңде осы облыстардағы әскери мекемелер бірден құлшына кірісіп, көптеген бұған қатысты іс-шараларды шын ниеттерімен жүзеге асырған екен. Бұған көз жеткізу үшін фактілерге жүгініп атап айтар болсақ: 1)Көтеріліс жасаған аудандардағы қазақ және кырғыздарды қарусыздандыру; 2) Түркістан генерал-губернаторы сөзімен айтсақ, “Жеті миллнон түземдітердің арасында отырған”[20] әрбір орыс адамдарын бір-бірлеп жіпке тізгендей етіп, тізімге алып, нешеуі қару ұстауға жарамды, олардың өздерінде қанша карулары бар; 3) Қайсы уезге неше қару таратылынып берілу керек; 4) Таратылынып берілетін қаруларды қай мекендерге ұйымдастырған ұтымды деген мәселелер айналасыңда "жігерлілікпен” жұмыстар қызу жүргізген. Мәселен, 1916 жылдың караша айына дейін Сырдария облысына қарасты Перовск, Черняев, Әулиеата және Ташкент уездеріндегі “орыс қоныстарыңда” қанша қару бар екендігі жөніндегі деректі осы уездердің әскери бастықтары Сырдария облыстық губернаторлығы басқарма бастығына бергенін мына есепте көруге болады [21]:

Кесте. 6-Перовск, Черняев, Әулиеата, Ташкент уездеріндегі орыс қоныстанушыларының түрлі жылдар арқылы иемденген қару санының көрсеткіші

Қоныстардың атаулары	Үй саны	Ерлер	Жан саны		Винтовкалар саны
			Әйелдер	Балалар	
Перовск	245	1043	835	217	29
Черняев	3402	10217	10146	3073	344
Әулиеата	5210	16836	16277	4974	522
Ташкент	1402	4405	4602	1803	143
Барлығы	10259	32508	31860	10067	1038

Кестеде Қазалы уезінің есебі жоқ. Себебі, теміржол бойыңда ғана бірер орыс қоныстары болмаса, болыстықта переселен қоныстанушылар аз тұрды. Көрсетілген кесте орыс қоныстанушылардын өздері, әр турлі жолдармен иемденіп алған қарулардың есебі болатын. Архивтік құжаттар мен деректерден 1916 жылғы көтеріліс тұсында Жетісу облысындағы переселен қоныстанушылдардың түрлі жолдар арқылы иемленіп алған қарудың есебін көрсететін әскери мекемелердің берген нақты мәліметін кездестіре алмадық. Дегенімен орыс тұрғындары жоғары деңгейде қоныстанған Жетісу облысы Сырдария облысына қарағанда есеп жағынан басым екендігі күмән тудыра қоймаса керек.

1916 жылғы ұлт-азаттық көтеріліс тұсында Сырдария және Жетісу облыстарындағы переселен қоныстанушыларға қаруды таратып беру жайы қалай болып еді. Енді, осы мәселе төңегінде қарастырып көрейік. 1916 жылғы көтеріліс тұсында Патша үкіметінің Түркістандағы христиан қоныстары мен орыс қоныстары қаруландырғанын айғақтайтын құжаттар мен деректер баршылық. Ол құжаттар мен деректердің мәліметі бойынша 1916 жылғы Түркістандағы көтерілісті басу үшін, Сырдария және Жетісу облыстарындағы переселен

христиан қоныстарына Түркістан генерал-губернаторының мақұлдауы негізінде көтеріліс басталған уақыттан 1917 жылы наурыз айының соңында Түркістан генерал- губернаторлығы таратылғанға шейін Ташкенттегі артиллериялық қоймадан 1770 винтовка Сырдария облысына, 6000 винтовка Жетісу облысының әкімшіліктерінің қарамағына бөлінген. Бұған қосымша 7777 винтовка Жетісу және Түркістандағы (Орта Азиядағы) теміржол қызметкерлерін қаруландыру үшін бөлінген [22].

Бұл бөлінген қару мәселен, Сырдария облысындағы христиан қоныстарына төмендегідей таратылып берілген. 1917 жылдың 18 ақпанында Түркістан генерал-губернаторының Түркістан өлкелік әскери артиллериялық қару-жарақ қоймасы басқармасы бастығына құпия түрде жазған №9 қатынас хатында 1917 жылдың 2 қаңтарына дейін Сырдария облысына қарасты уездерге таратылынып берілген қарудың есебіндегі мағлұмат бойынша: “Әулиеата уезіне - 500 винтовка, Черняев уезіне - 250 винтовка, Қазалы уезіне — 100 винговка, Перовск уезіне - 200 винтовка, Әмудария бөлімшесіне -150 винтовка. Барлығы оқ-дәрісімен қоса 1200 винтовка таратылып берілген” [23]. Осыған қосымша Түркістан генерал-губернаторының ұйғарымымен Ташкенттегі артиллериялық қару-жарақ қоймасынан Сырдария облысына тағы да оқ-дәрісімен қоса 1000 (мың) қару бөлінген [24]. Бөлінген қару Сырдария облысына қарасты уездерге былайша таратылынып бөлінуі тиіс еді: “...Әулиеата уезіне — 500 винтовка, Черняев уезіне - 250 винтовка, Перовск уезіне — 75 винтовка, Қазалы уезіне —75 винтовка, Әмудария бөлімшесіне — 100 винтовка” [25].

Жоғарыдағы аталған №9 құжатта Ташкент уезіндегі орыс қоныстарына қару таратып берудің қажеті жоқ делінген. Оның себебін 1917 жылдың 22 қаңтарында Ташкент уез бастығының Сырдария облыстық губернаторлығы басқарма бастығына құпия түрде жолдаған №22 қатынас хатынан білуге болады. Онда: “...Ташкент қаласына жақын орналасқан Ташкент уезіндегі “орыс қоныстарын” қаруландырудың қажеті жоқ. Онда “орыс қоныстарын” қаруландыру мақсатында арнайы қару-жарақ қоймалары ұйымдастырылған және де түземдік халықтар тарапынан жаппай көтеріліс шыға қалған жағдайда көтерілістің қандайын болса да өте тез жуастып тастайтын арнайы жасақталған бөлімдер мен бөлімшелер орналаскан” [26] — деп көрсетгі. Бөлінген қару уез әкімшіліктеріне енген соң, осы облыстардағы переселен мекемелерімен бірлесе отырып, христиан қоныстарына тез арада жедел таратылынып берілді. Мәселен, Әулиеата уезіне бөлінген қарудың: ...30 винговка Шаповаловка, 10 — Новоивановка, 20 — Гуляевка, 20 — Казанск 20- Галкинск20-Самсонов,20- Пстровск, 20 — Бурный, 20 — Камнев, 20 -Грозный, 20 — Александровка, 40 - Дмитриевка, 20 - Покровка, 40 — Ново-Троцк, 20 — Степное, 30 - таулы аудандардағы Шабыр, Талдыбұлақ, т.б., 40 —Қарабалта, 40 — Мерке, 10 — Луговой және 20 - Подгорный селоларына таратылынып берілген” [27]. Осы тұста орыс-казактардағы, “халық жасақтары” дегендердегі, демалысқа қайтқан әскери переселен қоныстанушылардағы және түрлі жолдар арқылы қаруға ие болған переселен қоныстанушылардағы қаруды есептемегенде “оқ-дәрісімсн қоса 1867 винтовка Жетісу облысындағы переселен қоныстанушыларына таратылып берілді” [28].

Отаршыл әкімшілік орыс переселеңдері қаруландырумен бір мезгілде жергілікті халықтарды қарусыздандыру саясатын жүргізіп отырды. Мәселен, “1891 жылы 27 қарашада Түркістан генерал-губернаторының №15 бұйрығы негізінде жергілікгі халықтарға оқпен атылатын қаруды өзінде ұстауға тиым салынып” [29], оны отаршыл әкімшшік жергілікті халықтардан жиьш алу ісіне кірісіп кеткен еді [30]. 1914 жылдың 20 желтоқсанында Түркістан генерал-губернаторы жергілікті халықтарды қарусыздандыру туралы дәл жоғарыдағыдай бұйрық шығарды [31]. Ал 1916 жылғы көтерілісті басуда отаршыл әкімшілік әуелі, жергілікті халықтады қарусыздаңдыру шараларын жүзеге асырған еді. Оны мына нұсқаудан байқауға болады. 1916 жылдың 25 шілдесіңде Түркістан генерал-губернаторының көмекшісі М.Р.Ерофеев, Жетісу облысының губернаторына жіберген жеделхатында: “...барлық жергілікті халықтардан жедел қарудың барлық түрі жиып алынсын”, — деп талап етті [32]. Көтеріліс тұсында отаршыл әкімшілік мекемелерінің Сырдария және Жетісу облыстарындағы қазақ пен қырғыздардан жиып алған қарудың есебін көрсететін іс-қағаз деректер жоқ, Дегенімен, кейде

отаршыл орыс әкімшшік мекемелерінің казақ пен қырғыздарды қарусыздаңдыру шаралары жайынан үзік-үзік кездесетін іс-қағаздары мен деректері кездесіп отырады. Мәселен, 1917 жылдың ақпан айына дейін бір ғана Әулиеата уезіңдегі қазақ пен қырғыздардан төменңдегідей қарудың түрлерін жиып алған [33]:

Кесте. 7 - 1917 жылдың ақпан айына дейін Әулиеата уезіндегі қазақ пен қырғыздардан жиып алған қару үлгілері мен сандық көрсеткіші және олардың жай - күйі

Қарулардың атауы	Саны	Ескертулер
Стволсыз қарулар	35	22 мылтықтың құндығы сынық
Бір стволды аңшы мылтық	35	6 мылтық ешқандай бөлшектерсіз
Екі стволды аңшы мылтық	5	7 мылтық ескі кейбір бөлшектерсіз
Сондай. Екі стволды	1	2 мылтық ескі
Венчестр 5 атар мылтық	1	3 мылтық ешқандай бөлшектерсіз
Білтелі мылтық	1	2 мылтық ескі, ешқандай бөлшектерсіз
Карабин	1	
Бердан мылтық	4	

Көтеріліс тұсында кестеде көрсетілгендей қазақ пен қырғыздардан жиылып алынған қарулардың сандық көрсеткіші, түрлері және қаруларының күй-жайы тек Әулиеата уезіне ғана тән емес, Сырдария мен Жетісу облыстарының барлық аудандарына тән құбылыс болатын.

Қазақ пен қырғыздардан қару жиыстыру ісінде мынадай жағдайлар да болған, яғни оқ- дәрімен атылатын қару болмаған жағдайда, тіпті кейбір сәттерде “салмағы ауыр темірден жасалған тұтыну заттары мен үшкір темірлерді де суық құрал ретінде жиыстырып алып отырған [34].

Сонымен, отаршыл өкімет Ресейден Түркістанға орыс шаруаларын қоныс аударту саясатын жүзеге асыра отырып, қазақ пен қырғыздардың иелігінде болып келген ең шұрайлы жерлерді Ресейден қоныс аударған шаруаларға әр түрлі әдіспен күштеп тартып алып берді. Әрине, переселен қоныстанушы шаруалар өздеріне өкіметтің жүктеген міндетін жақсы түсінді, үкіметтің өлкедегі сенімді “әлеуметтік тірегі” бола білді. 1916 жылғы ұлт- азаттық көтеріліс тұсында Сырдария және Жетісу облыстарыңдағы қазақ және қырғыздарға көрсеткен озбырлықтары соның нақты айғағы болып табылады.

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Мемлекет және саяси тәртіптер

Государственные и политические дисциплины
State and political disciplines

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Аннотация. Мақалада қазіргі заман мемлекеттердің құрылымдары мен қызметіне талдау жасалған. Мемлекет өз жерінде де, одан тыс жерлерде қоғамның атынан әрекет жасайды. Мемлекет экономикалық базистің қондырғысы, оның дамуына, бүтіндей қоғам көлемінде ықпал ете отырып, экономикалық бизнеспен өзара әрекетте болады.
Аннотация. В статье анализируются структуры и деятельность современных государств. Государство действует от имени общества как на его территории, так и за ее пределами. Государство взаимодействует с экономическим бизнесом, влияя на создание экономической базы, ее развитие, на уровне общества в целом.
Abstract. The article analyzes the structures and activities of modern states. The state acts on behalf of society both on its territory and beyond its borders. The state interacts with economic business, influencing the creation of the economic base, its development, at the level of society as a whole.
Кілт сөз. Мемлекет, мемлекеттік қызмет, мемлекеттік қызметтің ішкі, сыртқы бағыттары, саяси тәртіп, құқықты мемлекет құру жолдары.
Ключевые слова. Государство, государственная служба, внутреннее и внешнее направления государственной службы, политический строй, пути создания правового государства.
Keywords. State, public service, internal and external areas of public service, political system, ways of creating a legal state.

«Мемелекет» деген ұғым бір – біріне ұқсас екі түсінік береді:
Тар мағыналы түсінікке жүгінсек, ол басқарудың арнаулы аппараты, кең мағынада алсақ, ол – қоғамға парапар, белгілі бір шектердің /құқықтың/ көмегімен көпшілік алдында өкіметтік қатынастарды реттеп жүзеге асыратын саяси ұйым. Ол көлемі жағынан қоғамға тепе-тең түсетін белгілі бір территория шеңберінде қызмет етеді, өз жерінде де, онан тыс жерлерде қоғамның атынан әрекет жасайды. Мемлекет экономикалық базистің қондырғысы, оның дамуына, өмірдің жеке алғандағы және бүтіндей қоғам көлемінде негізгі салаларына ықпал ете отырып? экономикалық базиспен өзара әрекет үстінде болады.
Мемлекет қызметінің негізгі бағыттары жалпылай алғанда ішкі және сыртқы істер болып, екі түрге бөлінеді. Олардың біріншісі қоғамдық тәртіпті сақтау, мәдениет – тәрбие жұмыстары, шаруашылық ұйымдастыру жұмысы /экономикалық – шаруашылық мемлекеттік кәсіпорындар, экономика саласында реттеу мен басқару істері/ көрсетілген бағыттарда мемлекеттік құрылымдардың жұмыс атқаруына қатысты құқтар шығару жатады. Түрлі- түрлі жұмыстарды жүзеге асыру мақсатында қажетіне қарай мемлекеттің қолында бар ең ақыры күштеп орындатуға дейін баратын барлық шаралар қолданылады.

Көзге көрініп тұрған қауіпті мол шектен шығушылық атап айтқанда, мемлекеттік өкімет орнының реттеуші басшы орын ретінде мейлінше көп араласатынын атап көрсету керек. Бұл «этатизм» деген атау сөзді білдіретін қоғамдық өмірді мемлекет билеп төстеп алуына әкеп соғады. Бұл «қоғам-мемлекет» түсінігінің арасалмағында соңғысының ықпалы басым болған жағдайда болуы мүмкін. Ал шын мәнінде бұл керісінше, мемлекеттен қоғам жоғары тұруы керек. Қоғамның мемлекетке тәуелді болуы бостандық, зорлық-зомбылық, сенімсіздік, үрей тудырады. Мемлекет өзіне тән емес сипатқа еніп алып, билеп-төстеушілік рөлінде көрініс беріп, азаматтық қоғамның құрылымдарын күйретеді, адамдардың мүдделерін қорғауды аяққа басады, олардың табиғи құқтарын және азаматтығын бұзып, оған қол сұғады. Мемлекеттік басқарудың эстетикалық сипаты тіпті прицип бойынша маңызды мәселелерді былай қойғанның өзінде болмашы, екінші кезектегі мәселенің орталықтың қолына жинап беру деген сөз. Және де былай басқару – бәрінен бұрын бақылаудың түрі. Оның көмегімен орталық қоғамдық өмірдің, қоғамдық қимыл-әрекеттің барлық көрінісін көзден таса етпейді. Мұндай жағдайда мемлекеттік шешімдердің - даналығын шенеуліктердің зорлық-зомбылығын көрініс табатыны табиғи жағдай. Өйткені қоғамдағы жағдайды түгел қамту, қалыптасқан жағдайды қажетті икемділік мүмкіншілігіне қарай болуы керек. Тек мемлекеттің оң рөл атқарып, түбегейлі сипат көрсеткіштеріне ие болуына тек қана қоғамдық ынта мен мақсат-мұра қызмет ететінін айтуға болады. Былайша айтқанда, мемлекет пен қоғамның өзара байланыста парасатты әрекет жасауына мемлекеттік құрылымдар қызметінің демократиялық түрлері, саяси өкімет билігін жүргізудің демократиялық жолдары ғана қамтамасыз етеді.

Тағы да мынаны ескеру керек. Этатизациясыздандыру процесін мемлекеттің қызметін, оның қоғам өмірін бірқалыпты реттеп отыратын рөлін кемсітетін анархияға ұқсас деп түсінуге болмайды. Мемлекетсіз қоғам болуы мүмкін емес – бұл түсінікті және оны дәлелдеп жатудың қажеті жоқ. Қоғамдық өмірді демократиялық гуманистік тұрғыдан ұйымдастыру мемлекеттік өкімет билігін демократиялық, гуманистік жолмен жүргізуден яғни либералды-демократиялық саяси тәртіппен жүргізуден басталады деп түсіну керек. Бұған қосымша орталықтандыру идеясының өзіне күмәндануға болмайды: Мұндай орталықтанудың ол демократиялық нышандары жоққа шығатын болса, оның гипертрафикалық түрі жарамсыз деп есептеледі. Осыған сәйкес мемлекеттің қоғам өмірінің түрлі жақтарына басып кіруі /араласуы, вторжения/ мақсатты, айқын болуы керек. Мәселен, мемлекеттік құқтық жағынан реттеу болса еңбек қатынастарын кең көлемді, әділетті түрде ұйымдастыру мүмкін емес. Немесе отбасылық қарым-қатынасты алайық. Бірақ бұл жағдайда саясаттандыруға болмайды. Адам өмірінің бұл жағына мемлекеттік орындардың шектен тыс араласуы сыйымсыз.

Мемлекеттік қызметтің сыртқы саяси бағыттарына: қорғаныс, әскери құрылыс /қазіргі заманғы кейбір конституциялық, мемлекеттерде бұл қызметтерді жүзеге асырудың шектері белгіленеді/ басқа елдермен көршілес жатқан, сондай-ақ басқа да барлық мемлекеттермен бейбітшілік пен тату көршілікті сақтау мақсатында саяси экономикалық, ғылыми- техникалық гуманитарлық тағы басқа салалардағы қарым-қатынастар жатады[1].

Қазіргі заманғы мемлекеттің халықаралық қызметіндегі маңызды бағыттарының бірі деп оның әр елдің және барлық планетадағы, барлық халықтардың маңызды мүдделеріне қатысты көлемді проблемаларды шешуге қатысатынын атап көрсету керек. Мемлекет өзінің ішкі және сыртқы қызметтерін атқаруы үшін өкіметті мекемелердегі, көмекші бөліп тұру құрылымдары, бақылау, сот, мемлекеттік қауіпсіздік, қоғамдық тәртіпті қорғау орындарын қамтитын тиісті механизімін құрады.

Жоғарғы мемлекеттік өкімет билігін ұйымдастыру, оны құру, өкімет орындарының арақатынастарының шектері тұрғысынан алып қарағанда мемлекет манархиялық және республикалық болып бөлінеді.

Қазіргі заманғы мемлекеттің сипатына тағы мынадай мәселені қосу керек: Оның құрамына - әкімшілік-терреториялық бірлестігін ұйымдастыру жолы, құрамды бөліктерінің өзара әрекеттерінің ерекшеліктері, олардың әрқайсысының орталық өкімет орнымен байланысты тұрғысынан мемлекеттік құрылыс унитарлы немесе федералды болуы мүмкін.

Ең ақыры, мемлекеттің ең елеулі дерлік сипаты, мемлекеттің мәні деп саналатын саяси тәртіп. Бұл саяси өкімет билігін жүзеге асырудың құралдары мен әдістерінің жиынтығы, басқаша айтқанда, өкімет билігін жүргізудің жолы болып табылады. Осы айтылғаннан шығатыны, саяси тәртіп авторитаризм – бір адамның бір органның билігі, тоталитаризм – бәрін түсінетін, бәрі бағынатын, бәрін бағындыратын, либерализм – халық бұқарасын саяси басшылыққа қатыстыру болып бөлінеді[2]. Бұл былайша айтқанда, теория жүзінде жіктеу, ал іс жүзінде саяси тәртіпті « таза » күйінде кездестіре алмаймыз. Мемлекеттік өкімет билігін жүргізудің екі жолы бар: авторитарлық – тотаритарлық және либералдық – халықтық тәртіп. Әрине, билеудің осы екі түрінің шеңберінде ерекшеліктері болуы мүмкін және олар барлық жерде көрінеді. Олар туралы арнайы сөз етуге болады. Алайда бұл жердегі біздің міндетіміз өкімет билігін жүзеге асырудың әр түрлі жолдарын сипаттау. Бұл саяси тәртіптің қайсысының қандай екенін дәл анықтауға мүмкіндік береді. Сонымен, мемлекеттік өкімет билігін жүргізудің тоталитарлық жүйесі жоғарыда айтылғандай, бұл жүйенің басты сипаттамасы мемлекеттік құрылымдардың күшке сүйенетінінде, мемлекеттің қоғамдағы азаматтық құққа түгелдей енуінде, өмірдің саяси және саяси емес жақтарының бірдей араласуында, олардың арасында шек болмайды. Бұл тұста мемлекеттендіру, мемлекеттік қысым мықты да қатаң орталық өкімет арқылы жүзеге асырылады. Ол өкіметті авторитаризм деп атайды. Сондықтан мұндай саяси тәртіпті сипаттай отырып азаматтық тұрмыстық көріністерінің? барлық көріністерінің мемлекетке бағындыратын авторитарлық – тотаритарлық әдістері мен құралдары туралы айтуға тура келеді. Қоғамдағы саяси мәселелерден бастап отбасылық тұрмыстық жағдайға дейін барлық құбылыстарды, іс-әрекетті жинақтап қол қолға ұстау бүкіл әлеуметтік құрылымдарды жоғарыдан төменге дейін саясаттандырады. Тіпті еңбек ету саясаты ең тыныш жағының өзі координаттарының саяси жүйесіне жатқызылып, сол тұрғыдан бағаланады, яғни қоғамдық қатынастардың шаруашылық – экономикалық саласы ашықтан ашық саяси сипатқа ие болады. Осындай жағдайда мемлекеттік мәртебе алып, қоғамда билеп – төстеушілікке ие болған идеология басқаша ойлауға жол бермейді, өмір ағымын бейнелейді «мемлекеттік» идеология ресми құрылымдар қолданып отырған барлық әрекеттерді жалпы қоғамдық қолдануын талап етеді, жүргізіліп отырған саясатпен қызу келісіп, ашық қолдауын талап етеді. Мұндай тәртіп басқаша тәртіптің қалыптасуына жол бермейді, басқа өкімет құрылымдарының тіпті бүтіндей мемлекеттік машинаның қалыптасуына жол бермейді. Қалыптасқан тәртіп, төрешілдік шектеулер жаңа күштің енуіне жол бермейді, жаңадан пайда бола қалғанда бос орын алса? оны өз ортасынан толтыруға немесе әлеуметтік резервтермен толықтырады.

Авторитарлық тотаритарлық тәртіп белгілі бір топтардың, әлеуметтік күштердің диктатурасы түрінде қабылдануы мүмкін. Оның түрлері – хұнта, әскери диктатура. Сондай-ақ жеке адамға табынушылық түрінде де қабылданады. Бұл тәртіп үшін ортақ жай азаматтар мен ұйымдардың саясатқа өздігінше рұқсатсыз қатысуына тыйым салынады. Өзі игіліктің мақсатар мен ұрандар тастап, өзі халыққа қарсы, адамзатқа қарсы саясат жүргізу. Конституция мен Заңның бұрмалағанына да, азаматтардың мүдделері мен құқтарына қысым жасағанына қарамау бұл тәртіптің зымиандығын көрсететін елеулі белгісі болып табылады. Қоғам мен мемлекет арасындағы қатынас бұрмаланады, қоғам бүтіндей және бөлінбей мемлекетке бағынып қалады[3].

Либералды демократиялық тәртіп мемлекеттік өкімет билігін ұйымдастыру мен іске жүзеге асыру өзгеше принциптерге негізделген. Оның үстіне, егер либералды саяси тәртіптің сипатындағы басты азаматтардың, қоғамның тіпті жеке адамның өмірін айтпағанда, өмірдің

жалпы шешуші салаларындағы бостандығы болса, демократиялық тәртіптегі ең елеулісі халықты, азаматтардың саяси өкімет билігін жүзеге асыруға қатысуы арқылы оларды тікелей саяси өмірге тарту. Мұндай жағдайда алдағы тәртіпке қарағанда саяси қатынастар, мемлекеттік өкімет билігі, мемлекеттік саясатқа қоғамның ықпалы соңғы тәртіп тұсында сапалы жаңа дәрежеде екені туралы сөз болып отыр. Әрине, осыған сәйкес мемлекет өз жұмысында тіпті басқаша құралдар мен әдістерді пайдаланады. Демократиялық мемлекетке тән ашық әрекет пен жариялық өкімет орындарын жаңартуға да мемлекеттің адам мен қоғамның мүдделеріне сай ішкі және сыртқы саясатын жасауға да тіптен басқаша мүмкіндіктер алады[4]. Қорыта келіп мынаны айту керек. Құқтық мемлекет құру жолында мемлекеттік өкімет билігін демократияландыру жалықпай іске асыру қажет.

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Қазақстандағы әлеуметтік-экономикалық жағдай-тәуелсіздік үшін күрестің алғышарттары

Социально-экономическая ситуация в Казахстане - предпосылки борьбы за независимость
Socio-economic situation in Kazakhstan - prerequisites for the struggle for independence

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Түйін сөз: ғалам, отарлау саясаты, Ресей империясы, Сібір теміржол құрылысы, аграрлық саясат

Ключевое слово: вселенная, колониальная политика, Российская империя, сибирское железнодорожное строительство, аграрная политика

Keyword: Allen, Colonial Politics, Russian Empire, Siberian Railway Structures, Agrarian Politics

Аннотация: Жерді алу нәтижесінде дәстүрлі қазақстандық экономикадағы өзгерістерді анықтау. Орыс халықтары мен басқа халықтардың қоныстануы нәтижесінде халықтың көп ұлтты құрамы өзгергенін көрсетіңіз.

Аннотация: Определение изменения традиционной казахстанской экономики в результате отвода земель. Показать, что полиэтнический состав населения изменился в результате расселения русских народов и других народов.

Abstract: Appearance of traditionally kazakhstani economics resulted in a sudden fall. It should be noted that the polyethnic composition of the population has resulted in the disintegration of the Russians and other peoples.

Қазақ өлкесіне орыс шаруалары қоныстанға дейін казактардың және еркін қоныстанушылардың қоныстану үрдісі жүрді. XVIII ғасырда қазақ өлкесінде салынған бекініс, форпост және құрылған шептерге казактар қоныстандырылды. XIX ғасырдың басында Орал қаласында - 17 мың казак, төменгі шепте - 6 мың казак, жоғары шепте - 7 мың казак болған. 1845 жылы Ырғыз өзенінің бойында салынған Орал бекінісіне 200 казак, Торғай өзенінің бойындағы Орынбор бекінісіне 200 казак, 1847 жылы Райым бекінісі 200 казак әскері қоныстандырылды. XIX ғасырдың орта кезеңінде Ертістен Жетісуге дейін аймақта казактардың 35 станицасы, 135 әртүрлі поселкесі мен 1 пикеті құрылды. 1847-1867 жылдар аралығында Жетісу облысына 15 мың казак қоныстанып, 14 казак станицасы құрылған.

Сонымен бірге XVIII-XIX ғасырдың алғашқы жартысында орыс шаруаларының ерікті, еріксіз түрдегі қоныстануы жүрді. 1760 жылы өкіметтің шешімімен Ертістің жоғары ағысына Тобылдан орыс шаруалары қоныстандырылды. Шаруалардың негізгі бөлігі айдаудағылар болатын. 1765 жылы Өскемен бекінісіндегі олардың саны 1 048 адамға жеткен.

1854 жылы бұрынғы Сібірге жер аударылғандар мен салық төлемейтіндерді Жетісу аймағына қоныстандырды. 1861 жылы да Воронеж губерниясынан Жетісу облысына көшіп келген орыс қоныстанушылары қаладағы мещандар құрамына енгізіліп оларға жер телімдері берілді. 1849-1850 жылы Орынбор, Саратов губернияларынан Көкшетау жеріне 3 582 адам қоныстандырылып оларға ең құнарлы жерлер берілген. 1866 жылы Ақмола жеріне Тобыл, Пермнен шыққан ерікті қоныстанушылардың 50 отбасы Саумал көл маңына қоныстанды.

Қазақстан тарихнамасында қазақ өлкесіне орыс шаруаларының жаппай қоныстандырылуын 3 кезеңмен бөліп көрсететеді. Бірінші кезең XIX ғ. 70 жылдарынан-1889 жылғы 13 шілдедегі «Село тұрғындары мен мещандардың қазыналық жерлерге өз еркімен қоныстануы туралы» Ереже қабылдағанға дейінгі, 2 кезең XIX ғасырдың 90 жылдарынан - 1905 жылдарға дейінгі, ал 3 кезең 1906 жылдан 1916 жылға дейінгі уақыт.

Ресей империясы 1861 жылғы реформадан кейін, орыс шаруасын басыбайлықтан босата отырып, оларды шеткері аймақтарға қоныстандыру арқылы, ең оңай жолмен жер мәселесін шешіп алғысы келді. 1868-1880 жылдары Жетісу облысына 3324 отбасы көшіп келді. Ресейде егін шықпаған 1891-1892 жылдары облыс аумағына 1765 отбасы көшіп келген. 1868 жылдан 1883 жылға дейін кезеңде Жетісу облысындағы орыс селоларының саны 33-ке жетті. 1891жылы екі жылға және 1895 жылы Жетісу облысы орыс шаруалары үшін қоныстануға жабық болғанына қарамастан, рұқсатсыз өз еріктерімен келген қоныстанушылардың саны толамастады. Олар бұрынғы қоныстанған шаруалардың және қазақтардың жерлерін заңсыз түрде тартып алып отырды.

Жетісу облысына орыс шаруаларынан бөлек дүнген, ұйғырлар да қоныстандырылды. 1877 жылы Қашғарды қытайлықтар алғаннан кейін, Жақыпбекті жақтаушылар мен дүнгендердің бір бөлігі Ыстықкөл маңы мен Ферғана облысына қоныстанады. Алғашқы кезде Ташкентке қоныстанған дүнгендердің 107 отбасы кейін Әулиеата уезіне қоныстандырылды. Уезде дүнгендердің Жалпақ төбе, Саңлақ поселкелері құрылды. Оларға 1440 десятина жер телімі, жәрдемақы беріліп және алым-салықтардан босатылды.

1881 жылы Петербург келісімінен кейін, Қашғардан 1882-1883 жылдары Жетісу облысына 52 мың ұйғыр мен дүнген қоныстандырылып нәтиежесінде 60 елді мекен құрылды. Оларға 237. 678 дес. жер берілді. 1907 жылы да Жетісу облысына 6672 ұйғыр отбасы, 2522 дүнген, 6830 өзбек отбасы, 1560 татар отбасы қоныстандырылды.

1889 жылы 13 шілдедегі «Село тұрғындары мен мещандарының қазыналық жерлерге өз еркімен қоныстануы туралы және аталған сословиелердің адамдарын бұрын қоныстанғандарға жатқызу тәртібі» туралы қабылданған Ережеге сәйкес қоныс аударуға Ішкі істер мен Мемлекеттік меншік министрлігінен рұқсат алғандар қоныстандырылуы тиіс болатын.

1892 жылы құрылған Сібір темір жол комитеті жолдың құрылысына байланысты қоныстандыру ісімен айналысты. 1896 жылы Сібір темір жол комитеті құрамынан қоныстандыру ісімен айналысатын Қоныстандыру басқармасы құрылды.1889 жылдан кейін қазақ өлкесіне қоныстанушылардың саны өсті. 1889 жылы Ақмола облысы аумағында 24 село құрылып, қоныстанушылардың саны 13.784 адамға жетті.1890 жылдың күзінде Ресейдің 32 губерниясынан 15 мың отбасы көшіп келген. 1898 жылы Ақмола облысында қоныстанушылардың 138 селосы құрылып, қоныстанғандардың саны 122.311 адамға жетті. Қоныстанушылардың негізгі бөлігі 1891-1892 жылғы аштықтан кейінгі Самара губерниясынан өз еріктерімен қоныстанғандар болатын.

Сырдария облысындағы орыстардың ең көп тұрақтанған жерлері Әулиеата, Шымкент уездері болды. 1895 жылы Әулиеата уезінде 19 орыс селосында 1219 отбасы, 5 меннонит селосында 127 отбасы, Шымкент уезіндегі 16 орыс селосында 985 отбасы тұрды. 1891-1892

жылы Ресейдегі астық шықпаған жылдары келген қоныстанушылардың есебінен Сырдария облысында 22 село құрылды.

Орыс шаруаларының Орал облысына жаппай қоныстануы 1884-1891 жылдарға сәйкес келді. Ресейдің орталық губернияларынан облыс аумағына 2299 отбасы көшірілді. 1880 жылы орыс шаруаларына Торғай облысының Қостанай уезіне қоныстануға мүмкіндік берілді.1885 жылы Қостанайға қоныстанғандардың саны 8000 адам жетті. Оларға егін егу үшін 10 мың дес. жер берілді. 1897 жылы Торғай облысының шолуларына жүгінсек, Торғай облысындағы орыстардың негізгі шоғырланған аймақтары Қостанай мен Ақтөбе уезі болған. Қостанай уезінде 13 орыс поселкісі, 70 хутор мен зәйімке, Ақтөбе уезінде 1 поселке мен орташа 6 хутор, 10 кіші хуторлар құрылды.

Қазақ даласын отарлауда Қоныстандыру Басқармасының ролі зор болды. Басқарма қазақ өлкесін отарлауды ұйымдастыру мақсатында экономикалық-статистикалық, ботаникалық-топырақтық, агрономиялық зерттеулер жүргізді. Басқарма қоныстандыру қорын анықтау мақсатында белгілі статистердің басқаруымен арнайы экспедициялар ұйымдастырып отырды. 1905 жылға дейін Қоныстандыру басқармасы қоныстандырудың бүкіл функциясына атқарды.1905 жылы Сібір Темір жол комитеті тарқатылғаннан кейін, Қоныстандыру басқармасы да жойылып енді қоныстандыру ісі Егін шаруашылығы мен жер құрылымы Бас басқармасына бағынды. Қазақтардағы артық жерлерді алу Қоныстандыру басқармасының ұйымдастырған экспедицияларының негізінде жүзеге асты. 1896-1903 жылдары Ф.А.Щербина басқарған экспедиция Ақмола, Семей, Торғай облыстарының 12 уезінде, 1906-1913 жылы П.Скрыплев басқарған экспедиция Сырдария облысында, 1904-1913 жылы П.П.Хворстанскийдің экспедициясы Орал, Торғай облыстарында, 1909-1910 жылы П.П.Румянцевтің экспедициясы Жетісу облысында зерттеулер жүргізді. Бұл экспедициялардың мақсаты қазақтардағы артық жерлерді орыс қоныстанушылары үшін алып және отырықшылыққа өткен қазақтарға жер телімдерін дайындау ісін жүргізді. 1911 жылы П.П.Румянцевтің экспедициясы Жетісу облысында 9951 орыс қоныстанушылары үшін аумағы 103.954 дес. жер мен 77 бөлім, 1912 жылы 37502 адамға аумағы 806.600 дес. жер мен 664 бөлім дайындаған. 1914 жылы отырықшылыққа өткен қазақтарға 165 бөлім және 64 хуторлық бөлім құрған.

Орыс шаруаларының жаппай қоныстануы үрдісі 1905 жылдардан кейін күшейе түсті және кейбір қоныстанушылардың рұқсат қағазы да болмады. 1906-1909 жылдары Ақмола облысына 392.414 адам қоныстанды. Ақмола облысының Петропавл уезіне қоныстанған 67923 отбасының рұқсаты болса, 35059 отбасының рұқсаты да болмаған. 1916 жылы Ақмола облысына қоныстанғандардың саны 744.918 адамға жетті, оның 425.747 орыс, 443.113 украин, 5709 белорус, 17203 поляк, 2703 мордва, 30.513 неміс, 25649 татар және т.б. ұлт өкілдері болған.1915 жылы облыс аумағына қоныстанушылармен бірге босқын шаруалар да қоныстана бастады. Қоныстаушы босқындардың ұлттары эстон, поляк, литва, латыш, еврейлер болды.

1911-1913 жылдар аралығында Сырдария облысының Әулиеата уезіне 1585 отбасы, Черняев (бұрынғы Шымкент) уезіне 1499 отбасы, Перовск уезіне 30 отбасы қоныстанды.Қоныстанушылардың 2557 отбасы малоросстар (украин), 528 отбасы великоросстар (орыс), 25 отбасы мордва, чуваштар болған.

Орыс шаруаларының қоныстануы және қазақтардың қауымдық жерін экпроприциялаудың құқықтық жүйесінің негізін Ресейдің реформалары заңдастырып берді. 1867 жылы қазандағы «Уақытша Ереженің» 210 бабына сәйкес Ақмола, Семей, Торғай, Орал облыстарындағы қазақ жерлері Ресейдің мемлекет жері деп жарияланып, қазақтар жерді мерзімі белгіленбеген уақытқа қоғамдық пайдалануға құқы болды. Сырдария облысында жердің мемлекет меншігі деп жариялануы 1886 жылғы Ереженің 270 бабымен заңдастырылды. Далалық облыстағы қазақтар қыстауды да мал саны мен шаруашылығының

көлеміне байланысты пайдаланды. 1883 жылы Жетісу облысы Батыс Сібір генерал-губернаторлығының құрамына берілгеннен кейін, 210 бабқа сәйкес жер мемлекет меншігі болып жарияланды.

1891 жылы 25 наурыздағы «Ақмола, Семей, Жетісу, Орал және Торғай облыстарын басқару туралы Ереженің» 119-бабына сәйкес көшпелілердің жері де орманы да мемлекет меншігі деп жарияланды. Ереженің 120-бабына сәйкес көшпелілердің қоныстары да мерзімсіз қоғамдық пайдалануға берілді деп көрсетіліп, ал осы бапқа қосылған қосымша ескертуде көшпелілердегі барлық артық жерлер Жер және мемлекеттік Мүлік Министрлігінің ықпалына өтеді деп көрсетілді. Бұл заң баптары Ресей империясына Ақмола, Семей, Орал, Торғай, Жетісу, Сырдария облыстарындағы үлкен жер көлемдерін алуға заңды түрде мүмкіндіктер берді.

Орыс шаруалары үшін алынған жерден бөлек қазақ өлкесіндегі жердің үлкен бөлігі казактардың қолында болды. Орынбор казактарында 7,4 млн. дес, Орал казактарында 6,4 млн. дес, Сібір казактарында 5 млн. дес, Жетісу казактарында 610.519 дес. жер болды. 1835-1841 жылы Жаңа шептің салынуына байланысты арғын, жағалбайлы, қыпшақ руларының Тобыл мен Ой арасындағы 1 млн. десятина жері Орынбор казактарына өтті.

Казак әскері қазақ өлкесін жаулауда патша өкіметінің негізгі тірегі болғандықтан, оларға артықшылықтар мен жеңілдіктер көрсетілді. Әрбір казак ер адамына 30-80 дес., обер-офицерге 200- 600 дес., штаб-офицеріне 400-1000 десятинаға дейін жер телімдері берілді.

Қоныстанған орыс шаруаларына жер мәңгілікке, мұрагерлік жолмен пайдалануға берілгендіктен сатуға құқы болмаса, казак шенеуліктерінің, офицерлердің жерді сатуға құқы, ал жай казактың жалға беруге құқы болды. Казактар өз жерінің бір бөлігін қазақ, орыс шаруаларына, немістерге жалға беріп отырды. Қыстауға қоныстанғаны үшін әрбір қазақ шаруашылығы 2-4 рубль, жаңа қыстау салғаны үшін 3-5 рубль, мал жайғаны үшін 7-20 рубль, шөп орғаны үшін десятинасына 50 тиыннан казактарға төлеп отырды. Казак әскерінің территориясынан мал айдап өткені үшін де қазақтар ақша төледі. Қазақтар казак жеріндегі қыстау үшін әрбір жылқыға 30 тиынан, ірі қараға 12 тиынан, қойға 3 тиыннан төлеген.

Қазақтың қауымдық жерінің казактарға өтуі, өлкеге орыс шаруаларының қоныстануы, патша өкіметінің бекініс, қала, хуторлар, орыс қоныстанушыларының поселкелеріне және орман саяжайларына және т.б. әр түрлі мақсатта жерді алуы көшпелі мал шаруашылығының дағдарысына алып келді. Жерден айырылған қазақтар көшпелі мал шаруашылығын жүргізе алмағандықтан, еріксіз түрде отырықшылыққа көше бастады. 1897 жылғы санақ бойынша Ақмола облысында көшпелілер 67,8%, Семей облысында 80%, Торғай облысында 89% құраған.

Бұрын қазақтарда көшпелі мал шаруашылығында жерді пайдалану жүйесінің қауымдық формасы болса, енді қауымдық жер пайдалану жүйесі бірте-бірте жойыла бастады. Қазақтардың көшпелі мал шаруашылығын жүргізу мүмкіндігінің шектелуі және мал санының кему де, қазақтарды егіншілікпен айналысуға мәжбүрледі. Қазақтардың арасында егіншілікпен айналысуы орыс шаруалары қоныстандырылған аймақтарда жүрді. Мысалы Торғай облысының Ақтөбе, Қостанай, Семей облысының Өскемен, Ақмола облысының Ақмола уездерінде болды.

Суармалы егістік жерлерде жер иеленудің қауымдық, мұрагерлік, аулалық, аралас, реттелмеген түрлері қалыптаса бастады. Егіншілікпен айналысатын жерсіз қазақтар жерді казактардан жалға алды. Мысалы Жетісу облысының Верный уезіндегі қазақтарда жалпы егістік жердің көлемі 165.042,9 десятин болса, оның ішіндегі 4 528,31 десятина жерді жалға алған. Қазақтар бидай, тары, арпа егумен бірге жоңышқа да еге бастады.

Қазақтардың отырықшылыққа көшуі жаңа әлеуметтік санаттар, яғни жатақтар тобын қалыптастырды. Жатақтар құрамы жерсіз қалған және малынан айрылған қазақтар ішінен

қалыптасты.1901 жылғы дерек бойынша жатақтардың үлес салмағы Көкшетау уезінде-4,6%, Атбасар уезінің солтүстігінде-5,3%, оңтүстігінде-7,9% құраған.

1905-1907 жылғы революция орыс шаруасының мәселесін түпкілікті шешіп беру қажеттігін көрсетті, яғни шаруаны селолық қауым құрамынан шығарып, дара шаруа қожалығын жүргізуге мүмкіндік беру. Жеке дара шаруашылық жүргізуге бағытталған мақсаттар П.А. Столыпиннің жүргізген аграрлық саясатында және оның тікелей басшылығымен жасалған үш Заңда көрініс тапты.1906 жылы 9 қарашадағы «Шаруалардың жер иеленуі жайлы кейбір қаулылыларға өзгертулер мен толықтырулар туралы» Заң, 1910 жылғы 14 маусымдағы «Шаруалардың жер иеленуі жайлы кейбір қаулыларға өзгертулер мен толықтырулар туралы» Заң, 1911 жылғы 29 мамырдағы «Жерге орналастыру туралы» заңда әзірленді. Қауымда жер телімі бар шаруаның қауымнан шығуына мүмкіндік берумен бірге, оның жеке меншігіндегі жерді заңдастырып берді. Фермерлік шаруашылықтың құрылуына жол ашты. Жер телімін жекешелендірген шаруаның оны сатып, басқа жерлерге қоныстануына мүмкіндік туғызды. 1910 жылы 14 маусымдағы Заң қоныстанушыларды жаңа қоныстанған аумақтарына түпкілікті тіркеп, кері қайтып оралу мүмкіндігін шектеді.

Қазақтарға ең ауыр тиген 1909 жылы 9 маусымда Министрлер Кеңесі бекіткен Ақмола, Семей, Торғай және Орал облыстарындағы мемлекеттік жер қорын анықтау туралы нұсқау мен Түркістан өлкесін басқару туралы ереженің 270-ші бабына енгізілген қосымша болды. Қоныстандыру басқармасы қазақтарды 15 десятина жер теліміне байлап қойып, оларды отырықшылыққа көшіре бастады.

XX ғасырдың басында орыс шаруалары үшін алынған жердің көлемі 21.206.118 десятинаға жетті. Шаруаларға алынған жерден бөлек патша өкіметі казак әскерлеріне, орман саяжайларына, қазыналық қажеттіліктер үшін және тағы да басқа мақсаттарда қазақтардың қауымдық жерлерін алды. Қорытындысында қазақтан алынған жердің көлемі 45 мил. десятина жерге жетті.

Қазақ жеріне орыс шаруалары мен басқа ұлттардың қоныстандырылуы аймақтағы халықтың полиэтникалық құрамын өзгертті. 1914 жылғы Қоныстандыру басқармасының облыстар бойынша шолуларына сәйкес Ақмола облысында қазақтар- 36, 6%, орыстар-56,7 %, немістер-2, %, мордва-1,6 %, татарлар-1,6 %, Семей облысында қазақтар -73%, орыстар-24%, татарлар -1,9 %, Жетісу облысында қазақтар- 60,5%, орыстар-23,5 %, ұйғырлар -5,7 %, өзбектер-1,7 %, дүнгендер -1,6 % болды.

Сырдария облысында қазақтар - 62,3%, орыстар-6,2%, өзбектер-23,9 %, Торғай облысында қазақтар-58,7%, орыстар- 37,5%, татарлар 1,2 %, немістер - 1 %, Орал облысында қазақтар-56,9 %, орыстар-40,8% , татарлар-2,2 %, болса, бұдан бөлек поляк, парсы, еврей және т..б ұлт өкілдері болды.1897 жылғы халық санағы мен 1914 жылғы санақтардан орыс және басқа халықтардың санының өскенін көреміз. Орыстардың саны Орал, Ақмола облыстарында басымырақ болса, керісінше оңтүстік аймқтарда қазақтардың саны салыстырмалы алғанда жоғарырақ болды.

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Philological Sciences

USAGE SPHERE OF HYPOPHORA

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Abstract: The article elaborates the sphere of usage of hypohora. It has been noted that hypophora is a rhetorical device where the speaker asks a question and then replies it. It differs from rhetorical question in one aspect. The speaker or writer asks a question and anticipates an answer from the listener or reader while the author himself answers the asked question in hypophora. Hypophoras are found in literature and in the speeches of famous people during the elections. These celebrities can be presidents, prime ministers, TV reporters, journalists, singers and politicians. Ordinary people may also use hypophora in everyday speech. Generally, hypophoras are encountered both in prose and poetry.
Key words: hypophora, rhetorical question, prose, speech, celebrities, figure of speech

SPHÈRE D'UTILISATION DE L'HYPOPHORE
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Résumé : L'article élabore la sphère d'utilisation de l'hypohore. Il a été noté que l'hypophore est un dispositif rhétorique où le locuteur pose une question puis y répond. Elle diffère de la question rhétorique sur un aspect. L'orateur ou l'écrivain pose une question et anticipe une réponse de l'auditeur ou du lecteur tandis que l'auteur lui-même répond à la question posée par hypophore. Les hypophores se retrouvent dans la littérature et dans les discours des personnalités lors des élections. Ces célébrités peuvent être des présidents, des premiers ministres, des reporters de télévision, des journalistes, des chanteurs et des politiciens. Les gens ordinaires peuvent également utiliser l'hypophore dans le discours de tous les jours. Généralement, les hypophores se rencontrent à la fois en prose et en poésie.
Mots clés : hypophore, question rhétorique, prose, discours, célébrités, figure de style

Hypophora is a figure of speech in which the speaker poses a question and then answers the question [7]. It is also referred to as anthypophora or antipophora. Hypophora might be composed of a single question and an answer or several questions and relevant answers to them. The answers to the multiple questions can be found in subsequent paragraphs accordingly. The word anthypophora existed in Ancient Greek [8]. The word is mentioned in the book Institution Oratoria by Roman orator Quintilian. He explains the term anthypophora as a rhetoric device used to confirm the truth about something and does not mention raising a hypothetical question or objection [6]. Briefly saying, it is a question with an immediate response. Hypophora differs from rhetoric questions. In a rhetorical question the response is not given by the writer or speaker. In rhetorical question the speaker or writer poses the question and expects the interlocutor to answer it. There are syntactical and morphological relationships between the posed questions and given answers in hypophora. The parts of speech in asked and answered samples are usually homogenous in hypophora. It means that they are usually from the same speech. Syntactical

relationship is usually observed between sentences while morphological relationship occurs between words. Both main parts of speech and auxiliary parts of speech create any stylistic device including hypophora. Babayev Javid underlines this in his article: "From morphological point of view, auxiliary parts of speech do not have the ability to create a stylistic device in isolation. They combine with some main parts of speech to create a stylistic device" [1, p.126].

Hypophoras are met both in poetry and prose, as well as in the speeches of well-known orators or politicians. Other names of hypophora are ratiocinatio, rogation, apocrisis or subjection. As we mentioned above, hypophoras are found in poems as well. Hypophora can affect to capture the interest of the audience. For instance, if you anticipate the questions people wonder and answer them in a speech, it captivates them. In general, the purpose of hypophora is to raise people's curiosity while a politician is making a speech.

William Shakespeare employs hypophora in his play called Henry IV in the first part. It covers the Act V and scene 1. Here Falstaff asks some questions encompassing the frustration about violence and honour:

What is honour? A word. What is that word honour? What is that honour? Air
A trim reckoning! Who hath it? he that died o' Wednesday.
Doth he feel it? No. Doth he hear it? No.
'Tis insensible then. Yea, to the dead. But will it not live with the living? No.
Why? Detraction will not suffer it. Therefore I'll none of it.
Honour is a mere scutcheon: and so ends my catechism.

As we noted before, hypophoras are also extensively used in famous people's speeches. We will take some examples for speeches made by some celebrities. Martin Luther King uses hypophora while making a speech about the Black Americans. He raised his voice against racial discrimination. He brought the necessity of equality into notice expressing his objection against racial segregation: "There are those who are asking the devotees of civil rights, " When will you be satisfied?" We can never be satisfied as long as the Negro is the victim of the unspeakable horrors of police brutality".

John Kennedy, ex-president of the USA has a famous speech with the title " We choose to go to the moon". The great politician poses a number of questions and then answers all following up them in a paragraph. For example,

Questions: But why, some say, the moon? Why choose this as our goal? And they may well ask why climb the highest mountain? Why, 35 years ago, fly the Atlantic? Why does Rice play Texas?
Answers: "We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard".

The speech of ex-president of the United States of America, Donald Trump's speech was rich in rhetoric devices including hypophopa. For example:

"A very simple mission, remember? Make America great again"
"Does anybody want to make that deal? I don't think so"
'You know why? Because I said, " That will be a story too" [4, p.32].

We can take numerous examples for hypophora in famous speeches made by presidents and other political figures.

First of all, hypophora can be seen in mass media such as television, radio and newspaper. Hypophoras are also found in poetry and songs. Besides, they can be found in novels, plays, memory books, etc. American journalist Clare Boothe Luce's speech was also rich in hypophoras. She says: " Who better to let journalists know this than a fellow journalist? You asked for it!"

An example for a hypophora is found in an autobiographical work written by Kurt Vonnegut and Palm Sunday : "What should young people do with their lives today? Many things, obviously. But the most daring thing is to create stable communities in which the terrible disease of loneliness can be cured"[3].

Similar example has been taken in E.B.White's book: "After all, what's life, anyway? We are born, we live a little while, we die [2].

Ogden Nash writes in his work: How are we to survive? Solemnity is not the answer, any more than witless and irresponsible frivolity. I think our best chance lies in humor, which in this case means a wry acceptance of our predicament. We don't have to like it but we can at least recognize its ridiculous aspects, one of which is ourselves" [5].

Another example for hypophora in prose is in "Waiting for Godot" by Samuel Becklett: This one is enough for you? It is not nice of you, Didi. Who am I to tell my private nightmares to if I can't tell them to you…".

As we mentioned before, hypophoras can also be used in in memorial details written by someone. A Christmas memory by Truman Capote can be the best example for hypophora: "Thirsty one cakes, dampened with whiskey, bask on window sills and shelves.

Who are they for?

Friends. Not necessarily neighbor friends: indeed, the larger share is intended for persons we've met may be once, perhaps not at all. People who have struck our fancy. Like President Roosevelt".

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Journalism

POLITICAL LEADER: MEDIA IMAGE AND PUBLIC OPINION

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ABSTRACT

This article presents a social survey's findings to investigate the perception and evaluation of a political leader's media image in the Russian-speaking Kazakhstan media. The study explores the impact of media portrayal on public opinion formation and highlights the significance of understanding the relationship between political leaders and the media in shaping public perception.

The survey methodology involved administering a series of targeted questions to respondents, focusing on their reception of the media image of a specific political leader. The questions were designed to gauge respondents' attitudes, opinions, and overall impressions of the leader as portrayed in the media. The study aimed to uncover how the media's portrayal influences public opinion and whether there are significant differences in perception based on demographic factors such as age, gender, and education.

Through the analysis of survey responses, this study sheds light on the public's perceptions of the political leader, including positive and negative associations, credibility, trustworthiness, and overall favorability. The findings provide valuable insights into the extent to which the media plays a role in shaping public opinion and the potential impact of media image on the leader's popularity and effectiveness.

The implications of this research contribute to a deeper understanding of the complex interplay between political leaders, media representation, and public sentiment. The study highlights the need for political leaders to be aware of the power and influence of media portrayals and underscores the importance of strategic media management to shape a positive public image.

By examining the Russian-speaking Kazakhstan media, this article presents a unique perspective on the relationship between media representation, political leadership, and public opinion formation. The results of this study have implications for political leaders, media professionals, and scholars interested in political communication, media studies, and public opinion research.

KEYWORDS

Political leader, media image, public opinion, social survey, perception, media portrayal, Russian-speaking Kazakhstan media.

INTRODUCTION

In a contemporary information society, the media play an essential role in shaping public opinion and representing politicians. In addition to the press, the public plays a crucial role in shaping the media image of a politician. Understanding how the public perceives and interprets the media image of a political leader is an essential aspect of studying his/her political image strategy.

This paper presents and analyzes the results of a social survey conducted to identify their perception and evaluate the media image of a political leader based in the Russian-speaking

Kazakhstan media. The survey is based on providing respondents with a certain number of questions related to their reception of the media image of a political leader.

METHODS

The idea of a media image is in the process of active formation, which leads to different and contradictory definitions of these terminological units in scientific works. The term ***media image*** can have different meanings due to varying interpretations of its internal form, the concepts of ***media,*** and ***image***. It is possible to perceive this term as an image in the media and as an image broadcast through the media. The term ***media image*** was defined based on scientific literature to develop a methodology for conducting a survey and analyzing its results.

The survey was conducted after analyzing several Kazakhstani media publications for a more productive analysis. This helped to reveal the correlation between the source of information, which is the primary source for the respondents, and their answers.

Online resources were used as a source of publications: the Internet version of the Kazakhstanskaya Pravda newspaper, the Tengrinews portal, the website of the Kazakh service of the international media company Radio Free Europe/Radio Liberty Radio Azattyk, and the Internet newspaper Zona.kz. The choice of these online resources is also due to their accessibility to a broader range of readers compared to the printed press. Online resources provide the opportunity to receive information in real time and without geographical restrictions. Readers can receive news and analytical materials directly on their mobile devices or computers whenever convenient.

Moreover, online resources can be interactive and interact with the audience. Readers can leave comments, express their opinions, and share articles on social networks, contributing to public dialogue and the exchange of views. This creates a more democratic environment for the expression of different points of view and public participation in shaping the media image of a political figure.

Thus, choosing online resources as sources of publications provides comprehensive audience coverage and active interaction with readers. Online platforms provide an opportunity for a more dynamic and multifaceted analysis of the media image of a political leader in the Russian-speaking Kazakhstan media, given the diversity of opinions and the availability of information to the general public.

The questionnaire method was used to collect data as one of the most effective and standard methods in social research. The survey was conducted online and through personal interviews to consider the respondents' preferences and capabilities.

The survey results are subjected to statistical analysis and interpretation to identify general trends and patterns in the public's perception of the media image of a political leader.

DISCUSSION

Since the term ***media image*** can have different meanings due to varying interpretations of its internal form, the concepts of ***media*** and ***image***, it is possible to perceive this term as an image in the media and as an image broadcast through the media.

In the first case, the actual production of the image with the help of the means available to the media is at the forefront: language, photos, and symbols. In the second case, the main thing is not the process of creating a picture but its reception.

The researcher A. V. Marushchak, defining the media image, uses its first interpretation: «The media image is defined as a set of emotional and rational ideas based on information received from the media»[1]. The second interpretation is adhered to by T. N. Galinskaya, who writes: «A media image is an image of reality constructed in all texts created in the media space by

professional journalists, bloggers, Internet users![2]. The image thus becomes similar to what it reflects from a subjective point of view.

The model of information deployment in mass communication proposed by T. N. Dobrosklonskaya takes the following components into account: the selection of facts, their coverage or interpretation, the creation of stable images with a possible evaluative part, the formation of stereotypes through the saturation of the information space with images, as well as the influence of stereotypes on the cultural and cultural ideological context of the country.

In this model, the media image's first meaning corresponds to the coding stage where a media text is created as a product of media speech, containing a fragment of secondary reality with axiological determinants. The media text is the result of the functioning of the media image and serves as a source for the formation of the media image in the mind of the recipient (that is, in the second meaning). This process can be represented by the formula media image ***(1) - media text - media image (2)***[3]. Media text is defined as a combination of sign units of the verbal and media levels, updated in a particular media format and united by an ordinary meaning.

A media image in a person's mind arises at the stage of decoding and stereotyping, representing a set of collective ideas about a fragment of reality, determined by the content and evaluation laid down in the media image presented in the media text at the coding stage.

Thus, the author suggests the following definition: The media image is a set of emotional and rational ideas based on information received from the media. It can be viewed as a work of media, where the critical aspects are creating an image using available media tools, such as language, images, and symbols. Also, the media image can be considered an image of reality, constructed in all texts created in the media space by professional journalists, bloggers, and Internet users.

A political leader is an individual who holds a position of power and influence within a political system and is responsible for making decisions that shape the direction of a country or region. They often possess strong leadership skills, charisma, and the ability to inspire and mobilize others toward a common goal. Political leaders play a crucial role in shaping policies, representing their constituents, and addressing the needs and concerns of the population they serve. They are expected to make informed decisions, navigate complex political landscapes, and promote the welfare and progress of their nation [1].

Kazakhstan's political leaders are responsible for managing the diverse interests of its multi-ethnic society and promoting economic development, social cohesion, and political stability. They work towards achieving national goals, fostering international partnerships, and ensuring the well-being of their citizens. Kazakhstan's political system is based on a presidential republic, where the President is both the head of state and the head of government. The political leadership in Kazakhstan is tasked with implementing policies that support the country's strategic objectives, while also addressing the aspirations and needs of its population. It involves making important decisions in areas such as economic development, foreign relations, social welfare, and promoting democratic values within the framework of the country's unique cultural and political context.

RESULTS AND FINDINGS

Analyzing the media, we can distinguish several components of the image that are formed about political leaders:

1. A leader as a reformer: The media focuses on the reform initiatives taken by a leader. They emphasize his/her desire for the modernization and development of the country, focusing on implementing economic and social reforms. This creates the image of a progressive politician focused on improving citizens' lives and Kazakhstan's development.

2. Leader as a diplomat: The media note the foreign policy activity of leaders and their role in strengthening the international relations of Kazakhstan. This includes visits to various countries

and participation in international forums and negotiations. The media focus on the importance of a leader's foreign policy ties, which creates the image of a diplomat and a global leader.

3. Leaders outside of their political activities: In addition to political duties, the media also pay attention to the personal life and interests of leaders. This may include their hobbies, participation in cultural events, or socializing with citizens. Such materials contribute to creating an image of a close and accessible leader.

Pro-government media, such as Kazakhstanskaya Pravda and Tengrinews, express a similar position on the presented image fragments. They consistently create a positive media image, highlighting the reform efforts of political leaders of various levels, their role in foreign policy, and his/her active life outside the political activity. This indicates a unified approach to forming the media image and the desire to present leaders in a positive light.

The online newspaper Zona.kz adheres to a neutral position. The publication needs to pay attention to the first and third components of the image derived earlier. Still, it updates the second, often reporting on reforms and critical remarks on the executive branch.

Radio Azattyk, in turn, allows itself to criticize political leaders and creates a negative media image of them, emphasizing the sham of the reforms being carried out by heads of parties, cities, etc.

In general, pro-government media create a positive image of political leaders, highlighting his/her accomplishments and leadership qualities, while opposition or independent media may take a neutral or critical stance. This leads to the conclusion that it is necessary to consider the plurality of sources of information and apply a critical approach when analyzing the media image of a political figure.

As a result of this analysis, conclusions were obtained on how the public perceives and interprets the media image of a political leader. This allows you to understand better the media's influence on the formation of public opinion about a political figure and evaluate the effectiveness of his/her communication strategy.

The first question included in the survey was devoted to the sources from which the respondents most often receive information about the political situation in the country. It turned out that 65.8% of respondents prefer the Tengrinews portal. The rest of the sources received a roughly equal number of votes (5% or less). It is noteworthy that another frequent way to receive news is through telegram channels of various kinds. This makes it possible to further expand the study by analyzing the media image of a political leader presented in the sources indicated by the respondents.

Most of the respondents also expressed an upbeat assessment of the image of a political leader. The frequency of such answers is linked to the respondents' idea of political leaders based on their image broadcast in the pro-government media.

Remarkable were the responses containing definitions with a negative connotation: «corrupted, thief, lack of will», «Games»; «Utopian dream». These answers belonged to the respondents, whose primary source of information about the head of state is the opposition media, including Radio Azattyk.

CONCLUSION

The survey showed a direct correlation between the media preferred by the respondents and the image that is formed in their minds.

Most respondents positively assessed the political leader's image, noting his/her diplomatic qualities, reformist activity, and people's orientation. This indicates that the respondents' idea about a political leader is primarily based on the media image formed in the pro-government media.

However, it is worth noting that some respondents receiving information from the opposition media expressed negative assessments. This indicates that the choice of the source of information may influence the formation of a negative image of political leaders among a specific part of the audience.

In general, the study's results confirm the importance of the media in creating the image of political figures. They also point to the need for a conscious and critical approach to choosing sources of information to obtain an objective view of politics and politicians.

This study has limitations, such as limited sample size and focus on specific media. Further research may include expanding the sample and analyzing the media image of politicians in other countries and regions.

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Physical and Mathematical Sciences

The effect of a semiconductor filler on the properties of low-density polyethylene

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Abstract

In the presented work, by thermal pressing of low-density polyethylene and Bi0.5Sb1.5Te3, in a powdered state with nano-crystallite sizes of 80 nm, composite materials with different contents of semiconductor filler were obtained. The obtained composites were subjected to X-ray phase analysis, X-ray images were obtained on a Bruker D 2 PHASER X-ray diffractometer, the microrelief of the surface of composites with semiconductor fillers was studied by atomic force microscopy methods depending on the volume content of the semiconductor material Bi0.5Sb1.5Te3. Raman scattering spectra of LDPE+ Bi0.5Sb1.5Te3 composites with an excitation wavelength of 532nm were studied on a three-dimensional confocal Romanov micro-spectrometer NANOFINDER. The radius of the cross section of the laser beam incident on the composite was equal to 4mkm. The radiation receiver was a cooled SSD camera (-700C) operating in the photon counting mode. It is shown that the thermal expansion of the crystal causes a linear shift of the Romanov peak caused by a change in temperature. Similarly, the mechanism that changes the frequency of phonons causing mixing of the raman peak is an anharmonic interaction that changes the phonon frequency in the opposite direction to thermal expansion. It is revealed that peak shifts in the studied composites are associated with changes in mechanical stresses at the matrix–filler interface. Frequency shifts of raman scattering peaks and a change in the peak responsible for vibrations across the crystal layers, with an increase in the filler concentration, may indicate an increase in the matrix pressure on the filler microsurfaces and an increase in the anharmonicity of vibrations.

Introduction

As is known, Bi2Te3 compounds and solid solutions based on them have found practical application as thermoelectric materials. For wider use, it is necessary to increase the thermoelectric efficiency, which is usually achieved

by alloying these compounds or selecting certain compositions of solid solutions. Theoretical calculations [1] indicate that a significant increase in thermoelectric efficiency can be achieved by using low-dimensional structures (thin films,

nanowires, nanocrystals, etc.) based on these compounds.

It follows from the results of theoretical [3] and experimental [4,5] studies that a significant increase in this parameter can be achieved in low–dimensional structures obtained from these materials by various methods: for example, in superlattices of Bi2Te3-Sb2Te3 solid solutions [3,4], in ultrathin Bi2Te3 and Bi2Se3 films grown on GaAs substrates by molecular beam epitaxy [6], in Bi2Se3 films on silicon substrates obtained by thermal deposition from a chemical solution (polyol method) [7], as well as in ultrathin layered Bi2Te3 flakes [8], obtained from a bulk single crystal by mechanical exfoliation is similar to the production of graphene from graphite.

In addition, recently interest in the above materials has increased due to the fact that the compounds of the AVBVI group are classified as topological insulators. This is a relatively recently (in 2008) discovered new class of materials exhibiting dielectric properties in volume, in which, however, charge carriers can move freely at the surface [9-12].

Taking into account the above, our goal was to obtain composite materials based on HDPE modified with a solid solution of Bi0.5Sb1.5Te3, to study raman scattering of light in these composites.

Experimental Methodology

To obtain a polymer composite in accordance with stoichiometry, the polymer powder (LDPE) is mixed with the powder of the semiconductor material Bi0.5Sb1.5Te3. Then, films with a thickness of 100 microns are pressed from the mixture at the melting temperature of the polymer matrix and a pressure of 10-15 MPa between the aluminum foil. The made samples with foil are quickly cooled in water and the foil is removed.

X-ray diffrometric studies were carried out on a Bruker D 2 PHASER X-ray diffractometer (CuKa radiation, λ=1.54178Å)

Raman scattering (Raman) of light was studied using a three-dimensional confocal Raman microspectrometer Nanofinder 30 (Tokyo Instr.), excitation wavelength λ = 532 nm. The radius of the cross section incident on the nanocomposite of the laser beam was equal to 4 microns. The research was carried out in the geometry of backscattering. The radiation receiver was a cooled CCD camera (-70°C) operating in the photon counting mode. All measurements were made at an exposure time of 20s and an exciting radiation power of 10 MW. The accuracy of determining the position of the spectral line was no worse than 0.5 cm−1.

The structural states of the surface of the composites were studied with an atomic force microscope at 2D and 3D scales. The working part of the probes has dimensions of about 10 nm. The characteristic distance between the probe and the sample surface in probe microscopes is 0.1-10 nm in order of magnitude. During the scanning process, it touched all points of the surface and at each moment the probe touched only one point of the surface.

Results and their discussion

The results of the study of the microrelief of the surface of composites in 2D and 3D scales are shown in Fig.1. As follows from the figure, with an increase in the volume content of the semiconductor filler, the surface of the composites is smoothed.

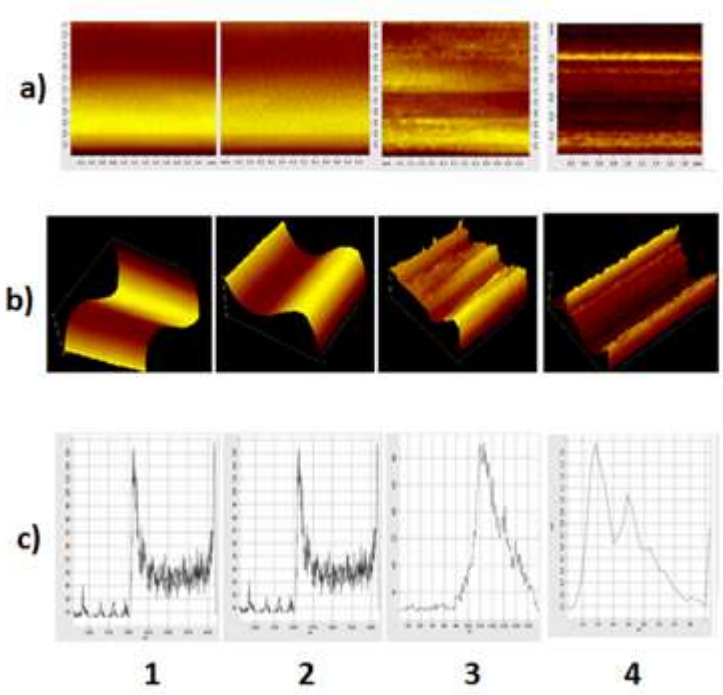
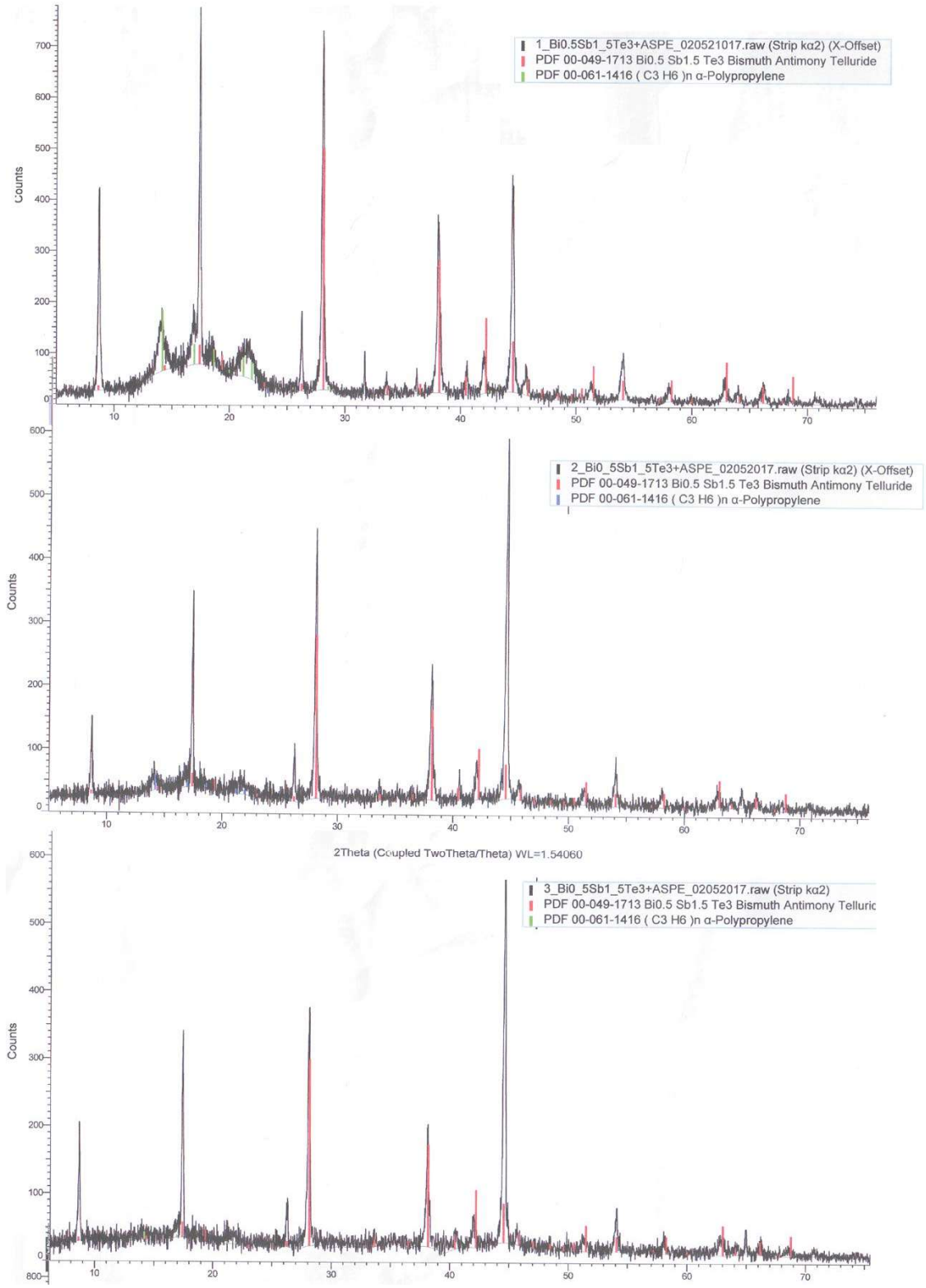


Fig.1. Microrelief of the surface of LDPE composites+x by% Bi0.5Sb1.5Te3, in 2D (a) and 3D (b) scales and their histogram (c). Where x=1-3, x=2-5, x=3-7 x=4-,10



In Fig.2. Diffractograms of LDPE+ Bi0.5Sb1.5Te3 composites of various concentrations are presented. As follows from the experimental data, with an increase in the concentration of the semiconductor filler, the intensity of reflexes on radiographs increases.

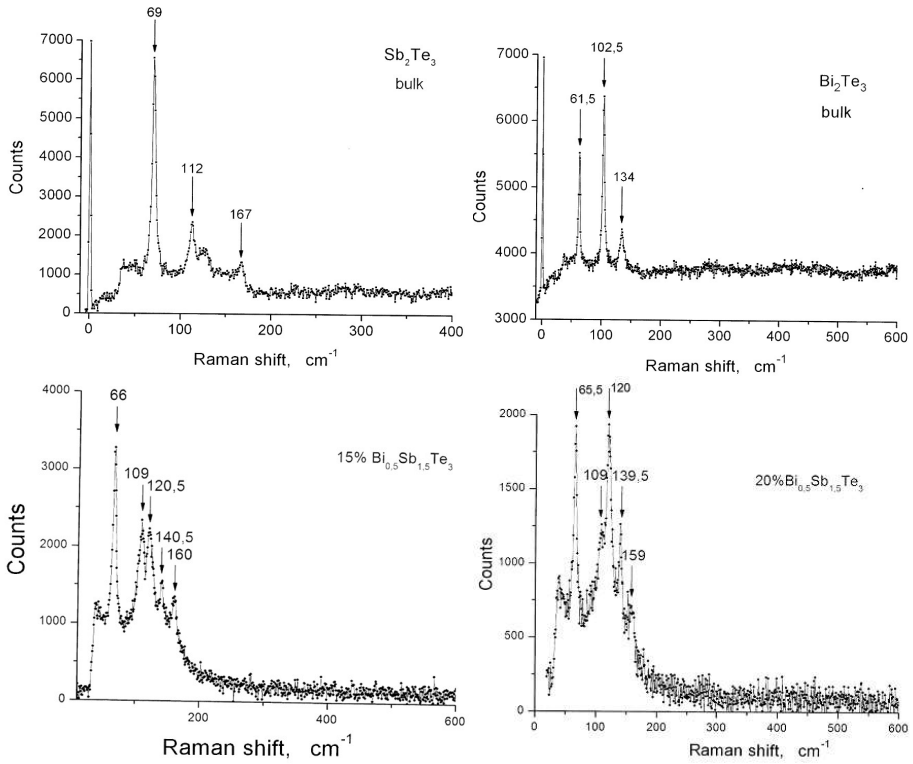


Fig.3 Raman scattering spectra in Sb2Te3, Bi2Te3 and composites LDPE+ x about% Bi0.5Sb1.5Te3

The results of the investigation of the raman scattering spectra of nano-composites are shown in Fig. 3. Three pronounced maxima of three modes are observed in the Sb2Te3 Raman spectra, and at frequencies 69 cm-1, 112 cm-1 and 167 cm-1. In Bi2Te3, three RAMAN–active modes were observed at frequencies of 61.1 cm-1 ( ), 102.5 cm-1 ( ) and at a frequency of 134cm-1 ( ). In the RAMAN spectrum of a composite with fillers of 15 vol% Bi0.5 Sb1.5Te3, five maxima were observed at frequencies of 66 cm-1, 109 cm-1,120.5 cm-1, 140.5cm-1 and 160 cm-1. In the RAMAN spectrum of a biocomposite with a filler of 20 vol% Bi0.5 Sb1.5Te3, five maxima also appeared, at frequencies of 65.5 cm-1, 109 cm-1, 120 cm-1, 139.5cm-1 and 159 cm-1. With an increase in the concentration of the filler Bi0.5Sb1.5Te3, the intensity of the peak decreases, which may be due to an increase in mechanical stress in the direction of the C3 axis due to an increase in the density of the filler distribution. Figure 3 shows the Raman spectra of a composite with fillers of 15 vol% Bi0,5Sb1,5Te3. They have a number of features, this is the doublet character (109 cm-1 and 120 cm-1) of the peak bands, the peak wavelength for Bi0,5Sb1,5Te3 is 120 cm–1. There is also an increase in the scattering intensity associated with the divergence of the lattice constants of the solid solution crystal Bi0.5Sb1.5Te3. With an increase in the percentage of filler to 20 vol% Bi0.5Sb1.5Te3, the bands in the RAMAN spectrum slightly shift to the low-frequency side, this shift may be due to increased mechanical stresses around the filler islands. This voltage change can be determined by an increase in the mismatch of the lattice constants due to an increase in the anharmonicity of the oscillations. As our AFM studies have shown, the nanostructures formed during the distribution of the filler have the form of clusters.

A probable factor influencing the strengthening of elastic stresses in the islands is an increase in the filler content in them and an increase in the density of their distribution in the composite.

Here we can present a semi-quantitative model to describe the shift of the peak Raman according to the one described in [1].

Figure 4 shows a sketch of the oscillation mode and an equivalent one-dimensional spring model along the y axis. In Fig. 6 (a) and (b), A, B and C respectively represent Te(2), Bi (or Sb) and Te(1) atoms in the crystal lattice. Atom C does not move in vibration mode . We present two dynamic equations:

$$m_T \frac{d^2 x_T}{dt^2} = -k_1 x_T + k_2 (x_B - x_T) \quad (1)$$

and

$$m_B \frac{d^2 x_B}{dt^2} = -k_3 x_B - k_2 (x_B - x_T), \quad (2)$$

where xT and xB are the displacement from the equilibrium position for atoms A and B, respectively; k1, k2 and k3 represent the bond strength between two neighboring atoms, and mT and mB are the masses of Te and Bi (or Sb) atoms, respectively. Two assumptions are made: (i) k1 is due to the Van der Waals force and is much smaller than k2 and k3, so it can be ignored; (ii) k2 and k3 represent the bond strength between the Te atom and the Bi atom (or Sb), so they are assumed to be equal. Combining equations (1) and (2) outputs the equation. (3) only with respect to xT:

$$m_B m_T \frac{d^4 x_T}{dt^4} + (m_B k_2 + 2 m_T k_2) \frac{d^2 x_T}{dt^2} + k_2 k_2 x_T = 0. \quad (3)$$

For the spring model, xT can be expressed as xT = Acos(ωt), where ω is the angular frequency and A is the amplitude of the oscillations. Substituting the expression xT into the equation. (3) you can get:

$$\omega^2 = \frac{m_B + 2m_T + \sqrt{m_B^2 + 4m_T^2}}{2 m_B m_T} k_2 . \quad (4)$$

Thus, the effective mass m of the vibrational mode:

$$m = \frac{2 m_B m_T}{m_B + 2m_T + \sqrt{m_B^2 + 4m_T^2}}, \quad (5)$$

m is 52.98 (molecular weight) for Bi0.5Sb1.5Te3. Thus, the dependence of the peak position Eg (2) on the temperature T is equal to

$$\frac{d\omega}{dT} = \frac{d\left(\sqrt{k_2/m}\right)}{dT} = \frac{1}{2\sqrt{k_2 m}} \frac{dk_2}{dT} . \quad (6)$$

the potential energy of atoms when x is displaced from the equilibrium position is $U(x) = ex^2 - gx^3 - fx^4$, where e, g and f are all positive, and the thermal expansion is

$$\frac{dx}{dT} = \frac{3g}{4e^2} k_B , \quad (7)$$

where kB is the Boltzmann constant. Let's make an approximation of harmonic oscillations, so k2 is equal to d2U / dx2, and then dω / dT can be expressed as

$$\frac{d\omega}{dT} = \frac{1}{2\sqrt{k_2 m}} \frac{dk_2}{dx} \frac{dx}{dT} \approx \frac{1}{2\sqrt{k_2 m}} \times \left.\frac{d^3U}{dx^3}\right|_{x\to 0} \times \frac{dx}{dT}$$
$$= \frac{1}{2\sqrt{k_2 m}} \times (-6g) \times \frac{3g}{4e^2} k_B = -\frac{\omega^3 m}{k_B} \left(\frac{dx}{dT}\right)^2 . \quad (8)$$

Since raman spectroscopy measures the wave number q, which is equal to ω/(2πc), where c denotes the speed of light, it is possible to obtain

$$\frac{dq}{dT} = -\frac{4\pi^2 q^3 c^2 m}{k_B} \left(\frac{dx}{dT}\right)^2 . \quad (9)$$

q measured as 122.5 cm-1 for Bi0.5Sb1.5Te3 . The effective mass m for Bi0.5Sb1.5Te3 is 8,797 × 10-26 kg. The coefficient of linear thermal expansion α is 14.72 × 10-6 / °C [2]. The atomic distance between A and B, d1, or the atomic distance between B and C, d2, is ~ 3.1 Å [3]. The thermal expansion dx / dT is equal to (d1 cosθ1 + d2 cosθ2) × α, where θ1 and θ2 are angles, as shown in Fig. 6. Thus, dq / dT is calculated by the formula (9) and is –0.0168 cm– 1/°C for Bi0.5Sb1.5Te3, which is in good agreement with the measurement data:-0.0156 cm–1/°C. From the above analytical model, it is clear that the thermal expansion of the crystal causes a linear shift of the Raman peak caused by a change in temperature. Similarly, the mechanism that changes the frequency of phonons, causing a shift in the peak of raman scattering, is the anharmonic interaction, which changes the phonon frequency in the direction opposite to thermal expansion. In this composite, peak shifts are associated with changes in mechanical stresses at the matrix-filler interface.

Thus, frequency shifts of the Raman peaks, as well as a decrease in the intensity of the peak responsible for vibrations across the crystal layers, with an increase in the filler concentration, may indicate an increase in the matrix pressure

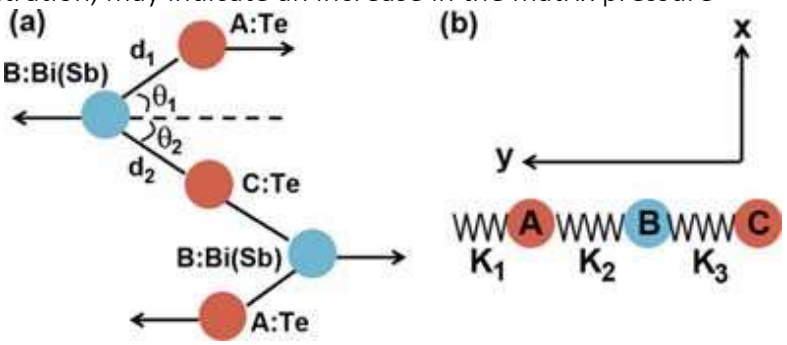


Fig. 4. The vibrational mode Bi2Te3 or Bi0,5Sb1,5Te3 (a) and the model of the equivalent spring along the y axis (b). According to [1].

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