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# INVESTIGATION OF TECHNOLOGICAL PARAMETERS OF PRODUCTION OF SOUR-MILK DRINK WITH PREBIOTIC PROPERTIES ON THE BASIS OF CAMEL MILK

Abstract. One of the priority directions of the public policy in the field of healthy nutrition is the creation of a technology of breakthrough food products designed not only for differentiating human needs in food substances and energy, but also contributing to the prevention of various diseases, strengthening the protective functions of the body and adequate adaptation of human to the environment. Accordingly, a technology has been developed for the production of sour-milk drink with prebiotic properties based on camel milk. The effect of a prebiotic on the physicochemical, microbiological and organoleptic parameters of the sour-milk product was considered. The optimum dose of fructose:isomaltulose:lactulose syrup and fermentation time are established.

Keywords: camel milk, sour milk drink, leaven, prebiotic, fructose:isomaltulose: lactulose syrup.

In the last decades, the problem of creating functional food products with prebiotics has received a large-scale evolvement due to the scientific interest and the set of concomitant scientifically grounded developments [1,2]. This actually allowed to create a wide range of modern products with high biological value, primarily on a dairy basis. An essential component of the technology is the sour-milk microflora, which is essential for the normal operation of the body. At the same time, to improve the effectiveness of the perception of fermented milk products of the body, it is recommended to enrich it with prebiotics. In this regard, the development of formulations of fermented milk products using fructose: isomaltulose: lactulose syrup as a prebiotic and a dulcifying agent is a timely and relevant task.

It should be noted that the use of prebiotics in the production of foodstuffs makes it possible to give the product not only functional properties, but also to improve the fabricating characteristics, the quality of the finished products, to improve flavor properties as well as to increase their terms of storage [2,3,4].

Combination of prebiotics and probiotics allows to achieve maximum physiological effect on the human body, promotes the improvement of intestinal microflora [5].

Probiotics are non-pathogenic, non-toxic microorganisms entering the human intestine and normalizing the composition and biological activity of the microflora of the digestive tract. The most studied probiotics are lactobacilli of the *Lactobacillus* genus (eg strains of species *L*.

acidophilus, L. casei, L. delbrueckii subsp. bulgaricus, L.helveticus, L.fermentum, L.lactis, L.rhamnosus, L.plantarum) and bifidobacteria (Bifidobacterium) – B. adolescentis, B. bifidum, B. breve, B. infantis, B. Longum [6,7,8,9].

Prebiotics strengthen the immune activity of beneficial intestinal microflora, stimulating the production of immunomodulating substances, and enhance cellular immunity. In the process of fermentation of prebiotics of carbohydrate nature, acids are formed - acetic, lactic, propionic and oleic, which reduce the pH value in the large intestine, that leads to the destruction of pathogenic microorganisms and the cessation of the formation of protein putrefaction products that exhibit toxic and carcinogenic effects. In the presence of prebiotics, the absorption of calcium and magnesium increases in the intestine due to the interaction of minerals with lactic acid produced by probiotics; The resulting calcium and magnesium lactates are better soluble and easier to digest. Some prebiotics normalize the level of cholesterol and glucose in the blood, and also bind and remove from the body some toxic substances coming with food [10,11].

The creation of sugar substitutes of a new generation, possessing not only pure sweet taste, safety and high technological characteristics, but also capable of exerting functional properties, having a positive regulatory effect on the organism as a whole or on its separate organs and systems, is one of the main tasks, facing scientists in the field of functional nutrition [12].

The subject of thorough study, after the discovery of their specific biological action, has become some sugar substitutes (not digestible) that have particular value for human health. It was found that they are prebiotics - substances that are not hydrolyzed and not absorbed in the upper part of the gastrointestinal tract, but enter its lower parts and promote the development of beneficial bacteria that live in the large intestine. Like all prebiotics, these substances regulate the intestinal microflora, induce beneficial effects both at the level of the gastrointestinal tract and the body as a whole, contributing to the maintenance of the human immune system [13,14].

Natural sweeteners are sweet-tasting substances, isolated from natural raw materials. They are certainly safer than artificial, but this does not mean that their use should be uncontrolled. They are necessary for diabetics, since they do not increase the level of blood sugar. As for caloric content, according to this indicator, they cannot cede to sugar, which means that with chronic consumption, the possibility of obesity persists.

Natural sweeteners can be found in many plants and fruits, berries and vegetables. The most popular ones are stevia, xylitol, fructose, sorbitol, sucralose, etc. Since dietary nutrition remains the main way to treat and prevent diabetes, the production of all sorts of sweets using fructose as a sweetener and sugar substitute has become especially relevant. Fructose is one of the most promising sugar substitutes that are used in the food industry, it is recommended for dietary nutrition, since it is very well absorbed and is not needed in the presence of insulin. Its glycemic index is 4.6 times lower than that of glucose, and 2.8 times that of sucrose [15,16].

Subsequently, a group of various sweeteners used in the food industry expanded significantly. In recent years, consumers are increasingly interested in sweeteners related to natural compounds. As one of the promising, isomaltulose can be considered, which also with good reason can claim a close relationship with the "a queen in her own right", i.e. sucrose. Isomaltulose does not cause caries of teeth, digestion of isomaltulose slightly affects the concentration of glucose and insulin in the blood. Isomaltulose is not metabolized by most bacteria and yeast, is stable in acidic solutions, does not have hygroscopic properties. Abroad isomaltulose is widely used commercially as a substitute for sucrose in foods, soft drinks and medicine [17].

Among the prebiotics, the most studied is lactulose. Lactulose is a carbohydrate belonging to the class of oligosaccharides and the subclass of disaccharides, its molecule consists of the

remains of galactose and fructose. Lactulose is a white crystalline substance that is odorless, highly soluble in water and sweet to taste. But the most important property of lactulose is its functional stability, that is, its ability to retain all its healing properties in the widest range of media and technological regimes. This opens up almost unlimited possibilities for using lactulose in the food industry in the production of functional foods [18]. To date, quite a lot of works have been devoted to the development of fermented milk products with lactulose [19,20], however, the joint use of fructose isomaltulose and lactulose is a relatively new direction of functional nutrition and is of practical interest.

It should be noted that most industrial technologies of fermented milk products with prebiotic are obtained on the basis of cow's milk. It is known that in Kazakhstan camel milk is quite common, it is reasonable to adapt a lot of traditional solutions taking into account the specific properties of raw materials.

In the protein of camel milk, immunoglobulin and lactoferrin predominate, possessing therapeutic antioxidant, immunostimulating properties. In addition, they have high antibacterial, antiviral and anti-inflammatory properties that protect the human body from pathogens and viruses [21,22].

In this regard, the aim of this research was to study the combined effect of fructose: isomaltulose: lactulose on the development of the starter population for drinking yogurt based on camel milk.

# Objects and methods of research

Objects of the research were camel milk, the production symbiotic starter of All-Russian Scientific Institute of Dairy Industry (ASIDI) (*Streptococcus salivarius subsp. termophilius and Lactobacillus delbruki subsp. Bulgaricus*), fructose:isomaltulose:lactulose syrup.

In carrying out the work, conventional, standard methods of investigation were used.

The titrated acidity was determined according to GOST 3624. The method is based on the neutralization of acids and their salts contained in the product with a solution of caustic alkali in the presence of a phenolphthalein indicator. Determination of active acidity in sour-milk drinks according to GOST 32892-2014. Fermented milk microorganisms were determined in accordance with GOST 33951- 2016. Evaluation of organoleptic parameters of fermented milk products was carried out on a scale using the ASIDI method. The following parameters were monitored: odor, taste, consistency, appearance, and color.

# Results and discussion

During the experiment, a sample of the sour milk drink based on camel milk with the addition of the syrup with prebiotic properties was used. As a control, the fermented milk product was used without the addition of the syrup. For mowing the samples, the production symbiotic starter of ASIDI (*Streptococcus salivarius subsp. termophilius and Lactobacillus delbruki subsp. Bulgaricus*).

The starter was added in the amount of 10% by weight of the mixture and the samples were ripened at a temperature of  $(40\pm2)$  °C until a dense clot formed. The end of the fermentation process was determined by the formation of a characteristic consistency of the clot, and also by the acidity, the value of which should be pH 4.7 $\pm$ 0.05. Then the finished product was poured and cooled in the refrigerating chamber at  $(4\pm2)$  °C, where within 4-6 hours, its further maturation takes place. In the finished samples, titrated acidity, clot pH change, microbiological indices were determined.

To further use the obtained results during the development of the technology, studies of organoleptic characteristics were carried out on full-scale product models with the addition of different amounts of syrup: 5; 7.5 and 10% (Table 1).

methodology

Indicator	Variant of the yogurt formulation					
mulcator	5%	7,5%	10%			
Taste and odor	Moderately sweet without foreign tastes and odors	Sweet without foreign tastes and odors	Unusual sweet without foreign tastes and odors			
Consistency	Homogeneous, normally viscous	Homogeneous, viscous	Homogeneous, viscous			
Colour	White with a weak cream shade	White with a cream shade	White with a cream shade			
Scores by the ASIDI	10	0	7			

Table 1 - Organoleptic estimation of models - product analogues

The calculated amount of syrup was added to the fermented milk and, after completion of the fermentation process, the organoleptic indicators were commissioned. As a result of the research, it was found that the most rational is the dosage of 5% syrup. For further investigations, this sample was taken.

It is known that the growth of beneficial microorganisms in milk is stimulated by substances of different nature: plant and microbial extracts, vitamins, trace elements, mono-, oligo- and polysaccharides, etc. [23]. We have studied the influence of fructose: isomaltulose: lactulose syrup on the physicochemical, microbiological and organoleptic parameters of the fermented milk product.

As a result of the studies, it was revealed that the organoleptic estimate of the experimental product was 14.5 points, of the control sample - 12.5 points (Table 2). The resulting composition is characterized by a low glycemic index, contains bifidofactors.

Culture medium	Parameter	Estimate, score
Control sample	The taste is sour-milk, without	12.5
	foreign tates and odors, the consistency	
	is uniform, the clot is loose, viscous	
Test sample	The taste is sour-milk, moderately	14.5
	sweet, without foreign tates and odors,	
	consistency is uniform, very dense clot	

Table 2 - Organoleptic indicators of fermented products

When adding fructose: isomaltulose: lactulose syrup, a titratable acidity increases slightly more intensively, which may be due to the stimulating effect of the syrup on the microflora of the starter, in particular on *Streptococcus thermophilus*, which is the most powerful acid former. Thus, the maximum indication of acidity was with a fermentation time of 6 hours and with the addition of syrup, it was 79.0 °T (Table 3).

Table 3 - Change in titratable acidity during fermentation,  ${}^{\circ}T$ 

Indicator	Time of fermentation process, h					
	1	1 2 3 4 5 6				6
Control sample	21.5	32.7	48.7	55.6	64	75
Test sample	32.3	44.8	61.5	70.8	74.2	79

As can be seen from the table, in the samples with the addition of syrup there is an increase in acidity in comparison with the control sample. The sample that is added to the syrup has a high acidity compared to the control sample.

In the control sample, the pH of the clot changes faster as the fermentation time increases (Table 4). In the samples with the addition of syrup, the pH change process is less intense than in the control sample.

Indicator		Time of fermentation process, h				
	1	2	3	4	5	6
Control sample	6.09	5.89	5.28	5.02	4.85	4.70
Test sample	5.60	5.52	5.16	4.92	4.72	4.65

Table 4 - pH change in the clot depending on the fermentation time

During the work, the influence of the addition of syrup on the development of fermented milk microorganisms was studied, rational technological parameters of the production of sour milk drink were determined. Analysis of the data given in Table 5 shows that with the addition of syrup in the product, a more intensive growth of lactic microflora is observed. Adding the syrup results in a significant increase in these microorganisms compared to the control sample.

Table 5 - Change in the number of fermented milk microorganisms during the fermentation of the sour milk product from camel milk, CFU/cm<sup>3</sup>

Indicator	Time of fermentation process, h					
	1	2	3	4	5	6
Control sample	$2*10^3$	4*10 <sup>4</sup>	3*10 <sup>5</sup>	8*10 <sup>5</sup>	5*10 <sup>6</sup>	2*10 <sup>7</sup>
Test sample	3*10 <sup>4</sup>	2*10 <sup>5</sup>	8*10 <sup>5</sup>	2*10 <sup>6</sup>	3*10 <sup>7</sup>	4*10 <sup>8</sup>

To provide a beneficial effect on the human body, a fermented milk product should contain at least 107 CFU/cm<sup>3</sup> of total fermented milk microorganisms throughout the shelf life.

The finished product samples were stored at a temperature of  $4\pm2$  °C. The total amount of lactic microflora was determined on the 1,3,5,7 day of storage. The results of the experiment are presented in Table 6.

Table 6 - Change in the number of lactic acid microorganisms during the storage of fermented milk products, CFU/cm<sup>3</sup>

Indicator	Time of storage of fermented milk microorganisms, days				
	1	3	5	7	
Control sample	5*10 <sup>7</sup>	$3*10^{7}$	2*10 <sup>7</sup>	8*10 <sup>6</sup>	
Test sample	4*10 <sup>9</sup>	2*10 <sup>8</sup>	8*10 <sup>7</sup>	5*10 <sup>7</sup>	

The data of Table 6 show that the samples with the addition of syrup during storage of the quantity of lactic acid microorganisms were maintained at the required level. In the control sample without the addition of syrup, already on the 7th day of storage, the amount of fermented milk microorganisms was below the required value.

Taking into account the obtained data, it can be concluded that the joint use of fructose, isomaltulose and lactulose has a positive effect on the technological process of obtaining a sour milk drink based on camel milk, which is of practical interest.

The developed sour-milk drink is intended for systematic consumption and is aimed at replenishing the deficiency of essential substances in the body.

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# ТҮЙЕ СҮТІ НЕГІЗІНДЕ ПРЕБИОТИКАЛЫҚ ҚАСИЕТТЕРІ БАР СҮТҚЫШҚЫЛДЫ СУСЫНДАРДЫ ӨНДІРУДІҢ ТЕХНОЛОГИЯЛЫҚ КӨРСЕТКІШТЕРІН ЗЕРТТЕУ

Аннотация. Салауатты тамақтану саласындағы мемлекеттік саясаттың басым бағыттарының бірі адамды тек азық-түлік заттарымен және энергиямен қажеттіліктерін қамтамасыз ету үшін ғана емес, әртүрлі аурулардың алдын алуға, дененің қорғаныш функцияларын күшейтуге және адамның қоршаған ортаға бейімделуіне бағытталған жаңа сапалы азық-түлік өнімдерінің технологиясын құру болып табылады. Түйе сүтіне негізінде периобиотикалық қасиеттері бар сүтқышқылды сусын өндірісі үшін технология әзірленді. Пребиотиктің сүтқышқылды сусынның физика-химиялық, микробиологиялық және органолептикалық көрсеткіштеріне әсері қарастырылды. Фруктоза:изомальтулоза:лактулоза шырынының оңтайлы дозасы анықталды.

**Түйін сөздер:** түйе сүті, сүтқышқылды сусын, ашытқы, пребиотик, фруктоза: изомальтолоза: лактулоза сироптары.

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# ИССЛЕДОВАНИЕ ТЕХНОЛОГИЧЕСКИХ ПАРАМЕТРОВ ПРОИЗВОДСТВА КИСЛОМОЛОЧНОГО НАПИТКА С ПРЕБИОТИЧЕСКИМИ СВОЙСТВАМИ НА ОСНОВЕ ВЕРБЛЮЖЬЕГО МОЛОКА

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Аннотация. Одним из приоритетных направлении государственной политики в области здорового питания является создание технологии качественно новых пищевых продуктов, предназначенных не только для дифференцированного обеспечения потребностеи человека в пищевых веществах и энергии, но и способствующих профилактике различных заболевании, укреплению защитных функции организма и адекватнои адаптации человека в окружающей среде. Соответственно разработана технология производства кисломолочного напитка с перебиотическими свойствами на основе верблюжьего молока. Рассмотрено влияние пребиотика на физико-химические, микробиологические и органолептические показатели кисломолочного продукта. Установлена оптимальная доза фруктозо:изомальтулозно:лактулозного сиропа а также время ферментации.

**Ключевые слова:** верблюжье молоко, кисломолочный напиток, закваска, пребиотик, фруктозо:изомальтулозно:лактулозный сироп.

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# EFFICIENCY OF NEW GENERATION SOLAR PHOTOELECTRIC BATTERIES

**Abstract:** a solar photo-voltaic battery with a very high efficiency is Developed by dispersing and focusing solar radiation along wavelengths and installing an appropriate solar cell at each wavelength.

This approach allows not only to increase efficiency, but also to increase battery life by eliminating infrared radiation on solar cells. In addition, the design allows cost-effective use of very expensive but highly efficient solar cells.

**Key words:** sun, photoelectric battery, holographic concentrator, photocell, dispersion and focusing.

At the WSEC-2017 World Congress of Scientists and Engineers "Energy of the Future: Innovative scenarios and methods for their implementation" in the framework of the international exhibition EXPO-2017 held on June 19-20 in Astana, was announced about the possible achievement of efficiency ratio the solar photovoltaic cells up to 25% in the next 2-3 years [1]. At the same time, world science is aimed at increasing the efficiency of solar batteries by increasing the efficiency of solar cells [2].

However, increasing the efficiency of solar batteries can be done in another way, namely, by dispersing (decomposing) solar radiation by wavelengths, focusing them separately (Figure 1 [3]) and installing an appropriate photocell for each wavelength [4]. The possibility of separating infrared radiation allows you to apply to each photocell corresponding radiation up to 1000 suns, in practice, you can limit yourself to several tens or hundreds. This allows you to repeatedly reduce the number of solar cells in solar batterries, thereby reducing their cost.

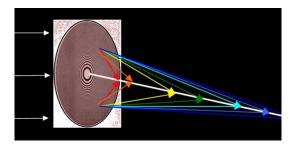
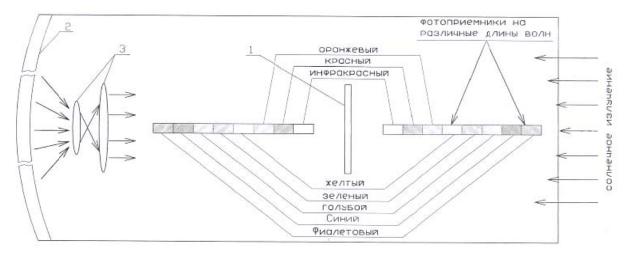


Figure 1 – Holographic concentrator

Figure 2 shows one of the variants of the solar batteries [4], demonstrating a significant increase in efficiency ratio when using industrial-grade photovoltaic cells.

As can be seen in Figure 2, part of the solar radiation directed to the battery hits the holographic concentrator 1. Of this part, about 60% is reflected, dispersed and focused along the main optical axis along wavelengths to the right of the concentrator 1. The remaining 40% penetrate, but also dispersed and focused symmetrically along the main optical axis along the wavelengths to the left of the concentrator 1. Reflected rays from the spherical mirror 2, passing through the collimator lenses 3, hit the holographic concentrator 1 with parallel rays, dispersed and focused similarly. Only the reflected rays are located on the left, and penetrating - to the right of the concentrator 1.



1 – holographic concentrator; 2 – spherical mirror; 3 – collimator lenses. Figure 2 - Diagram of a new generation solar battery

For each color, as noted above, one can install the appropriate photocell. In this case, the installation of photocells is performed symmetrically on both sides of the holographic concentrator 1.

In this case, the photocells work, practically, in ideal conditions, and the number of suns falling on these photocells is equal to the ratio of the cross-sectional area of solar radiation to the area of the photoelectric cells. Consequently, the need for photovoltaic cells is reduced by as many times as compared with traditional solar panels.

The exclusion of infrared radiation hitting the photocells multiplies their service life and contributes to the achievement of the highest possible efficiency ratio.

Determination of the efficiency ratio of such a solar battery is as follows. Figure 3 shows the scheme and parameters of the distribution of the wavelengths of solar radiation on the right side of the experimental holographic concentrator 1 according to Figure 2 when determining the areas occupied by different colors of solar radiation.

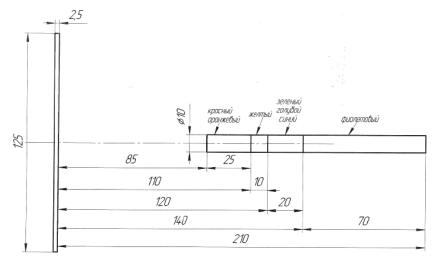
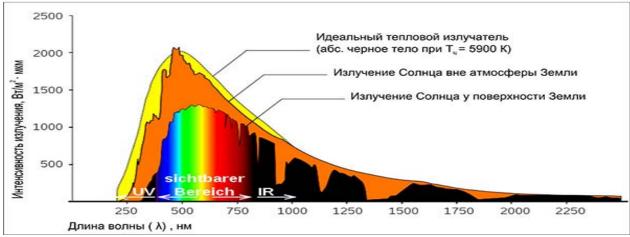


Figure 3 - The layout of the various waves of solar radiation, reflected from a holographic concentrator with a diameter of 12.5 cm

Previously, we found that the reflected rays from a holographic concentrator are about 60%, and penetrating 40%. Therefore, it can be considered as a full hit of rays of different colors on the corresponding photocells, since solar radiation is involved on both sides of the concentrator (here the insignificant absorption of radiation by the mirror and the concentrator at the entrance is not taken into account).

Different sources give different energy ratios by wavelength, as shown in Figures 4 [5], 5 [6] and 6 [7]. This shows that the power of the energy coming from the Sun for the same wavelength is different. This may be due to several factors, such as geographical location, state of the atmosphere, etc. Thus, Table 1 [8] presents the energy of the spectral regions depending on the position of the Sun relative to the horizon, and Figure 7 presents the radiation power of the visible spectrum depending on the state of the atmosphere [9]. In any case, the efficiency ratio of the considered solar battery, receiving energy from different wavelengths of solar radiation, is an integral value.



http://www.k-to.ru/News%20images/1295\_03.jpg

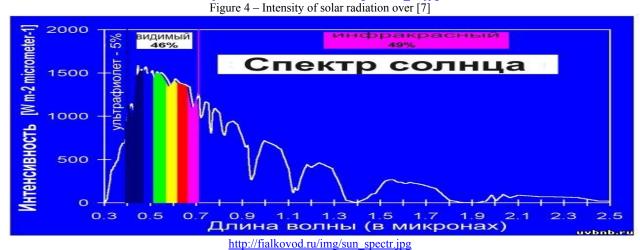
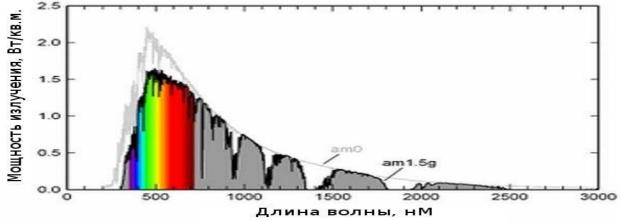


Figure 5 – Intensity of solar radiation over [8]



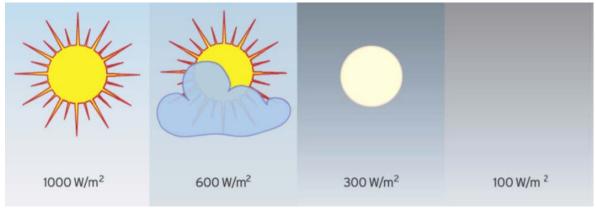
http://forum.solnechnye.ru/images/batareya/spectr AM1.5.jpg

Figure 6 – Intensity of solar radiation over [9]

	Энергия областей спектра, %				
Источник излучения	ультра- фиолетовая	видимая	инфракрасная		
Солнце у горизонта Солнце при высоте стояния 60°	0 3	28 44	72 53		
Солнце в зените 90° Голубое небо	4 10	46 65	50 25		

Table 1 – Energy variability from the standing position of the Sun

http://vmede.org/sait/content/Gigiena\_truda\_izmerov\_2010/26\_files/mb4.png



http://2energy.com.ua/images/articles/9.png

Figure 7 - intensity of visible radiation spectrum depending on the state of the atmosphere

The physical meaning of the integral efficiency value is as follows (Figures 4-6). For example, monocrystalline silicon converts the energy of red, orange and captures, say, a part of yellow. Photovoltaic cells based on gallium arsenide convert the energy of yellow, green, sky blue and partly blue, and amorphous silicon — purple, partly blue, and partly ultraviolet. The elimination of double metering of efficiency ratio in the part in which two photocells operate is produced by the fact that the efficiency value does not add up (not summed up), for example, the efficiency ratio of silicon and the efficiency ratio of gallium arsenide on the yellow color, etc.

In fact, in this example of a solar battery (Figure 2) monocrystalline silicon is set only to red and orange, yellow, green, sky blue and blue — a photocell based on gallium arsenide, and purple — amorphous silicon. Consequently, the integral value of the efficiency ratio would be 20 + 40 + 6 = 66%, and if we install a photocell based on gallium arsenide instead of monocrystalline silicon, then the efficiency would be 86%.

However, the power of different wavelengths of solar radiation is different, so it is necessary to take into account the contribution share of each wavelength. According to Figure 5, where the colors are more clearly separated, red and orange colors will be 1250 W/m2, yellow 1400, green 1450, sky blue and blue - 1500 and purple 1500 W/m2. The area of the colored portion of the visible spectrum corresponds to the power of the visible radiation spectrum, and the area of each color corresponds to the energy contribution of a given wavelength.

Table 2 [10] presents the wavelength range of various colors of solar radiation. In this case, the area bounded by the wavelength range and the radiation intensity according to Figure 5 for each wavelength will be:

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red 1250 \times (740-625) = 143750, orange 1250 \times (625-590) = 43750,
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yellow 1400 x (590-565) = 35,000, green 1450 x (565-500) = 94250, sky blue 1500 x (500-485) = 22500, blue 1500 x (485-440) = 67500, violet 1500 x (440-380) = 90000.

Цвет	Диапазон длин волн, нм	Диапазон частот, ТГц	Диапазон энергии фотонов, эВ
Фиолетовый	380 - 440	790 - 680	2,82 - 3,26
Синий	440 - 485	680 - 620	2,56 - 2,82
Голубой	485 - 500	620 - 600	2,48 - 2,56
Зелёный	500 - 565	600 - 530	2,19 - 2,48
Жёлтый	565 - 590	530 - 510	2,10 - 2,19
Оранжевый	590 - 625	510 - 480	1,98 - 2,10
Красный	625 - 740	480 - 400	1.68 - 1.9

Table 2 – Characteristics of visible light

The total area of 496750 is proportional to the power of the solar radiation of the visible spectrum, and the area of each color is proportional to the contribution of a given wavelength to the total power of the visible spectrum. The ratio of these individual areas to the total area shows the proportion of power that falls on a particular wavelength. Thus, the share of red will be 143750/496750 = 0.29; orange - 0.09; yellow - 0.07; green - 0.19; cyan - 0.05; blue - 0.14; purple - 0.19.

The efficiency ratio of a monocrystalline silicon solar cell is 22.5% [11], photovoltaic cells based on gallium arsenide 40% [14], amorphous silicon 6% [11].

Consider an option, for example, when monocrystalline silicon is set to red and orange. Yellow, green, sky blue and blue are photo cells based on gallium arsenide, and purple is amorphous silicon. In this case, the overall efficiency will be  $0.29 \cdot 0.225 + 0.09 \cdot 0.225 + 0.07 \cdot 0.4 + 0.19 \cdot 0.4 + 0.05 \cdot 0.4 + 0.14 \cdot 0.4 + 0.19 \cdot 0.06 = 0.277$ . If instead of monocrystalline silicon we put a photocell based on gallium arsenide and leave the rest unchanged, then the efficiency ratio = 0.34.

Since infrared radiation is not supplied to photovoltaic cells in the solar battery, moreover, the design allows to significantly increase the number of suns, you can use AlGaInP/ AlGaInAs/GaInAs/Ge with an efficiency of 57% [15].

The area of all photocells according to Figure 3 is 39.25 cm2, the total area on both sides of the concentrator will be 78.5 cm2. The projected area of a spherical mirror with a diameter of 60 cm is 2826 cm2. Consequently, 36 suns fall on solar cells, with a 80 cm mirror diameter there will be 64 suns, and with a diameter of 2 m - 400. Thus, it is possible to repeatedly and safely increase the number of suns falling on solar cells, thus the use of very expensive solar cells will be economically justified. This means that on the area of 31,400 cm2 (mirror diameter 2 m) only 78.5 cm2 of photocell will be involved. Consequently, to convert solar radiation into electrical energy from an area of 31,400 cm2, 400 times fewer expensive photovoltaic cells will be required.

Separately focused infrared radiation can be used in three directions: generation of thermal energy, conversion into electrical energy by means of a thermogenerator or photocell for infrared rays developed in Spain [12, 13]. Then the efficiency will increase, for example, if the efficiency ratio is 0.2 for infrared radiation, then  $0.2 \cdot 0.49 = 0.1$ , where 0.49 is the fraction of infrared radiation (Figure 5) [8], i.e. efficiency increase by 10%. Similarly, when using a thermogenerator, the efficiency of a solar battery will increase by at least 3%.

Conclusions: increasing the efficiency of solar cells is possible by not only increasing the efficiency of solar cells, but also by dispersing and focusing solar radiation along wavelengths and installing a corresponding solar cell at each wavelength.

The separation of infrared radiation not only increases the efficiency, but also increases the service life of solar photo-voltaic cells, since the degradation of solar cells due to thermal effects is eliminated.

The design of the solar battery allows utilizing infrared radiation in the form of electric or thermal energy.

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# ЖАҢА БУЫННЫҢ КҮН ФОТОЭЛЕКТРЛІК БАТАРЕЯЛАРЫНЫҢ ТИІМДІЛІГІ

Аннотация: Толқындардың толқын ұзындығы бойынша күн радиациясын диспергациялау мен фокусына және әрбір толқын ұзындығына тиісті фотоэлементтердің орнатылуына байланысты өте жоғары тиімділігі бар күн батареясы эзірленді.

Бұл тәсіл тиімділікті арттырып қана қоймай, сонымен бірге инфрақызыл сәулені фотоэлементке түсірмей батареяның қызмет ету мерзімі артады. Сонымен қатар бұл құрылым өте қымбат, тиімділігі жоғары фотоэлементтерді экономикалық тиімді пайдалануға мүмкіндік береді.

Түйін сөздер: күн, фотоэлектрлік батарея, голографиялық концентратор, фотоэлемент, диспергациялау және фокустау.

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## ЭФФЕКТИВНОСТЬ СОЛНЕЧНЫХ ФОТОЭЛЕКТРИЧЕСКИХ БАТАРЕЙ нового поколения

Аннотация: Разработана солнечная фотоэлектрическая батарея с весьма высоким коэффициентом полезного действия за счет диспергирования и фокусировки солнечного излучения по длинам волн и установки на каждую длину волны соответствующий фотоэлемент.

Данный подход позволяет не только повысить эффективность, но и увеличить срок службы батарей за счет исключения инфракрасного излучения на фотоэлементы. Кроме того конструкция позволяет экономически выгодно использовать весьма дорогие но высокоэффективные фотоэлементы.

Ключевые слова: солнце, фотоэлектрическая батарея, голографический концентратор, фотоэлемент, диспергирование и фокусировка.

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# THE DECOMPOSITION METHODS OF COMPLEX DATA PROCESSING SYSTEMS

**Abstract.** This work deals with the mathematical model and algorithm of complex data processing systems decomposition. The task is narrowed down to the discrete programming block-symmetric task. For its solution, taking into account peculiarity of the model, the efficient solution algorithm is suggested.

Key words: block-symmetric model, algorithm, component, decomposition, task.

**Introduction**. The basis of information systems is the data processing system. The latter has a complex structure and a large amount of tasks interacting with databases depending on information systems being developed. Therefore when designing data processing systems there arises the necessity for decomposing the systems into loosely-bound components with separate groups of developers. It enables more effective designing of a data processing system and reduces time required for its creation. In this regard the need arises for developing effective methods of decomposing data processing systems into components.

The task set-up. For mathematical set-up of the task we enter the following variables and notations.

Assume that there are set multiple data processing systems tasks  $A = \{a_i; i = \overline{1,I}\}$ , multiple databases  $B = \{b_j; j = \overline{1,J}\}$  for solving the tasks,  $W = \|\omega_{ij}\|$  – interconnection matrix of multiple tasks and data bases connected to it. It is needed to break down the set up data processing system into separate components that minimize the interlink between them with the aim of distributing them among the system developers.

We enter the following variables

$$x_{mi} = \begin{cases} 1, if \ the \ task \ i \ is \ included \ in \ group \ m; \\ 0, otherwise \end{cases}$$

$$y_{jn} = \begin{cases} 1, if \text{ the database } j \text{ is included in group } n; \\ 0, \text{ otherwise} \end{cases}$$

Then, we can define the task of breaking down the complex data processing system which minimizes connections between components, as follows

$$\sum_{m=1}^{\bar{M}} \sum_{i=1}^{\bar{I}} \sum_{j=1}^{\bar{J}} \sum_{n=1}^{\bar{N}} x_{mi} w_{ij} y_{jn \to} min$$

If there are constraints, into;

- number of tasks in group m

$$\sum_{i=1}^{I} \mathbf{x}_{mi} \leq S_{m,m} = 1, M,$$

Where *M*-number of groups of the data processing system;

- each task must be only in one group

$$\sum_{m=1}^{M} x_{mi} = 1, i = 1, I,$$

where I – number of tasks of the data processing system;

- number of data bases in group n

$$\sum_{j=1}^{J} y_{jn} \leq C_{n, n} = 1, N,$$

where N – number of data bases of the data processing system;

- each data base must be only in one group

$$\sum_{n=1}^{N} y_{jn} = 1, j = 1, J,$$

J – number of data bases of the data processing system.

By the component we shall understand the composition of tasks in m group, composition of data bases in n group and interlink between groups m and n. Having said that, each component is distributed among the data processing systems developers with the consideration of complexity of each component and developers' qualification.

The defined task is related to the block-symmetrical tasks of discrete programming. For its solution there is proposed an effective algorithm.

The task solution algorithm. The task solution algorithm consists of the following steps. It is to be noted that for solving the task, the basis is defined by the number of breakdown components of the data processing system.

STEP 1. Entering of the matrix W. Selecting the basis in the matrix W. Switch to step 2.

STEP 2. Calculation of  $d_{mi}$  values and the matrices of  $D = \|d_{mi'}\|$  forming solution search direction. Switch to *step 3*.

STEP 3. By searching the minimal element in D matrix by means of iteration, the solution  $X = ||x_{mi}||$  shall be defined. The condition of the intermediate matrix shall be recorded  $\Pi = ||\pi_{mj}||$ , switch to step 4.

STEP 4. Calculation of the matrix  $d_{jn}$  with respect to  $\pi$  and formation of the matrix  $D = ||d_{jn}||$ . Switch to *step 5*.

STEP 5. By searching the minimal element in D matrix by means of iteration, the solution  $Y = ||y_{jn}||$  shall be defined. Switch to *step 6*.

STEP 6. The outcome of the task solution: matrices X, Y and  $\pi$ . The value of the objective function  $w = ||\pi||$ 

Thus, on the basis of the block-symmetric models and methods many designing tasks of information systems can be solved.

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# ДЕРЕКТЕР ҚОРЫН ӨҢДЕІҢ КҮРДЕЛІ ЖҮЙЕСІНІҢ ЫДЫРАУ ӘДІСТЕРІ

**Аннотация.** Берілген жұмыста деректер қорын өңдеудің күрделі жүйесінің ыдырау әдістерінің математикалық моделі және оны шешудің алгоритмі қарастырылған. Алдыға қойылған мақсат блоктық-симметриялық дискретті бағдарламалау мәселесі арқылы шешіліп және оны шешудің ерекше әдісінің тиімді алгоритмі ұсынылады.

Түйін сөздер: блок-симметриялық модель, алгоритм, компонент, ыдырау әдістері (декомпозиция), есеп.

УДК 004.415

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## МЕТОДЫ ДЕКОМПОЗИЦИИ СЛОЖНЫХ СИСТЕМ ОБРАБОТКИ ДАННЫХ

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**Аннотация.** В работе рассматривается математическая модель и алгоритм декомпозиции сложных систем обработки данных. Задача сведена к блочно-симметричной задаче дискретного программирования. Для ее решения с учетом особенности модели предложен эффективный алгоритм решения.

Ключевые слова: блочно-симметричная модель, алгоритм, компонента, декомпозиция, задача

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# **CYBER SECURITY**

**Abstract.** Cybersecurity today is a serious aspect in the protection of not only personal information, but above all, the activities of banks, enterprises and individuals engaged in or holding funds in the cryptocurrency. The world community is concerned about the growing cyber threat, as information is a valuable asset of any organization, and therefore the creation of cyber security is necessary by creating groups of highly qualified specialists to strengthen national security from external and internal threats. Kazakhstan has also taken steps in the field of information security in the field of information, but the low level of competitiveness of the Republic of Kazakhstan in one of the most promising areas in the IT industry to develop solutions in the field of information security does not allow to counter these threats. Addressing the issue of national security in the field of cyber technologies, the authors see not only the adoption of the best practices of some countries, but also examine the issue of purchasing foreign software.

**Keywords:** Cybersecurity, national security, cyber technology, threats, cyber defense, information security.

# INTRODUCTION

Awareness of growing cyber threats, in both military and civilian areas, led to the decision to create a special group of nearly a hundred experts, who a year later presented recommendations for relative innovations at the national level to prepare for future cyber war threats.

On October 6, 2016, by the Decree of the President of the Republic of Kazakhstan, the Ministry of Defense and Aerospace Industry of the Republic of Kazakhstan was established. One of the main activities of this ministry is the implementation of state policy in the field of information security in the field of information and communications (cyber security). By the same Decree, the Government of the Republic of Kazakhstan is charged with ensuring the creation of the Committee on Information Security, which in fact will now serve as the authorized body (regulator) for the development of state policy in the field of national information security.

# **MAIN PART**

The innovations concerned not only the development of specific technologies, but also the creation of the necessary infrastructure, including the cooperation of industrial and academic circles with national security structures, educational programs within the school system of instruction, the creation of academic centers of excellence, critical national systems and many other projects. [2]

Organizations are actively developing their business relying on IT infrastructure as the foundation of business processes, but do not pay enough attention to IT security. In the first three months of 2017 alone, more than 500 Kazakhstani were hacked in Kazakhstan.

Sites, including government sites. There was a massive attack on the IT infrastructure of Kazakhstan's financial institutions, which led to the restriction of banks, including disabling Internet banking and email, for several weeks. Today, the most valuable asset of any organization is information, and the basis of all business processes is information and communication technologies. Under these conditions, competently constructed protection of company data is one of the key conditions for ensuring its competitiveness and development. Insufficient security of information can lead to significant consequences for a business, up to its complete stop.

The German government is creating a national cyber security agency. It will be called the Agency for Innovation and Cybersecurity. It is assumed that the agency will monitor the activities of companies engaged in developments in the field of cyber technologies, and, investing in them, get access to innovations before they reach the market.

According to the analysis of the German Defense Ministry, in order to ensure its own security, Germany should invest about 50 million euros in research in this area in the next two years.

In early March 2016, it became known about a major withdrawal of funds by hackers from the accounts of the Central Bank of Bangladesh. Hackers tried to withdraw \$ 951 million from correspondent accounts at the Federal Reserve Bank of New York. Most of the operations were blocked, but \$ 81 million was transferred to accounts in the Philippines. Later it was reported that the reason for the success of hackers could be a vulnerability in the international interbank system of information transfer SWIFT.

In April 2016, hackers acquired the personal data of about 50 million citizens of Turkey and put them in open access. The 6.6 GB file was posted online and contained personal information, including Turkish politicians.

Any resource on the territory of Kazakhstan is controllable: data on its owner, placed on the information resource and actions taken, will not be difficult to collect.

Worldwide, measures are being taken to combat cybercrime. The Netherlands has established a National Cyber Security Center as part of a public-private partnership to increase information sharing and cooperation in the country. Israel provides substantial tax breaks to companies that have their offices in the national cyber park in Beer Sheva as a mechanism to encourage research and development. Russia is developing a remedy in the event of a cyber-crisis. These are just a few examples of the growing maturity of states in specific areas of cyber security.

Russia's losses from cyber attacks in 2017 amounted to about 600 billion rubles., Prime Minister Dmitry Medvedev said this, speaking at the international forum "Open Innovations - 2018" in Moscow.

Based on the continuation and development of the spirit of the ancient Silk Road, "One Belt and One Road" calls for the development of new mechanisms for regional economic partnerships, stimulating the economic prosperity of the countries involved, strengthening cultural exchanges and ties in all areas between different civilizations, and promoting peace and sustainable development.

Along with the topics on the global challenges facing the SCO countries, the key issues of the digitization of the Silk Road of the 21st century and the new format of organizing international business cooperation, special attention will be paid to the protection of the capital of Kazakhstan, Astana, from cyber threats. Therefore, it was decided that the panel session "Challenges of the digital economy will be the longest. Cybersecurity".

In this regard, in the framework of the Fundamental Research Projects of the MES RK 1546 / GF2: "The legal framework for combating offenses in the global communication networks", we considered it necessary to consider the relationship between such concepts as "information security" and "cybersecurity", as well as "information security "And" cyber defense "in the legislation of the Republic of Kazakhstan.

On the territory of the former Soviet space, to understand cyber security ("cyber security"), as a rule, they use the broader concept of information security, which means the state of protection of the vital interests of an individual, society, state in the information sphere from external and internal threats, ensuring its formation, use and development.

At the same time, in Western democracies, the term "cybersecurity" is used to understand the reliability, stability and inviolability of computer networks, whatever information on them is distributed (with the exception of child pornography and similar criminal content).

Place on the list	A country	Share of attacked systems,%		
1.	Vietnam	66,1		
2.	Algeria	65,7		
3.	Morocco	60,4		
4.	Tunisia	60,2		
5.	Indonesia	55,7		
6.	Bangladesh	54,2		
7.	Kazakhstan	54,1		
8.	Iran	53,9		
9.	China	53,3		
10.	Peru	53,1		
Source "Kaspersky Lab"				

Table 1 - 10 Top-countries by share of attacked industrial systems

In general terms, Cybershield quite fully covers cybersecurity issues at the state level; now it is up to practical implementation of the concept. Thus, in general, while positively assessing the emergence of

such a document, some of the experts surveyed expressed concerns about domestic software development and their advantage for government orders. The general meaning of what was said was reduced to "it is good if such protectionist policies give impetus to the development of domestic software, and it is bad if the Kazakhstani product is simply pushed through at tenders, despite its low quality".

The national legislation of Kazakhstan lacks the concepts of "cyber security" and "cyber defense", in which we enter the Top - 10 countries subject to cyber-attack, that is, 7th place with an indicator of 54.1%, for example, in the current legislation only the concepts "information security" and "information security".

The Law of the Republic of Kazakhstan "On Informatization" does not contain as such a definition of the term "information security", but paragraph 11 of Article 1 of this Law refers to the national operator in the field of informatization, which is a "legal entity created by the decision of the Government of the Republic of Kazakhstan, to which the owner, in the person of the state, is entrusted with the task of integrating and ensuring the security of state information systems and state electronic information resources."

True domestic developers, who need time and money to develop domestic means of protecting information and other software and hardware products, are at a disadvantage, since it is not possible to provide finished products within the prescribed period under the law on public procurement. Therefore, it is necessary to take certain measures, including legislative, to stimulate domestic start-up companies for the production of products in the field of information protection.

Thus, by keeping the ratio of the studied terms in the legislation of the Republic of Kazakhstan, we can focus only on the terms "information security" and "information protection" that are in the legislation of Kazakhstan, and the terms "cybersecurity" and "cyber defense.

The lack of conditions for the development of production (development, implementation) of domestic software and hardware information security. The low level of competitiveness of the Republic of Kazakhstan in one of the most promising areas in the IT industry to develop solutions in the field of information security.

However, how to implement a strategic program of import substitution in the absence of the necessary qualified national personnel? In Kazakhstan, there is no concentrated critical mass of scientists in the field of information security, that is, a scientific school in the field of information security is poorly developed. And, as a result, there is a passive training of specialists who become uncompetitive in the field of information security. This leads to another acute problem for Kazakhstan - the lack of a national standard for encryption and, in general, national (civil) cryptography in general.

Training specialists in the field of information security in foreign universities to provide state bodies with qualified personnel is costly and carries a heavy burden for the country's budget. Therefore, the training of national personnel in this field should be carried out through the qualitative improvement of educational programs in national universities of the Republic of Kazakhstan and the development of a number of incentive measures for domestic scientists and faculty members. It is also necessary to consider the possibility of allocating a certain number of quotas in the framework of the Bolashak program for training personnel on the programs of magistracy, doctoral studies and scientific internships in the field of information security.

### CONCLUSION

It is necessary to take into account the current trends in the field of information security - it is quantum cryptography. I note that quantum cryptography is a new trend in the field of information security. Recently, on August 1, China launched the world's first quantum communications satellite, not susceptible to hacking. That is, it would seem that the distant future in the field of information security has in fact already come.

Thus, information security can be expressed in two ways, firstly, it is an organizational element of the public administration system, and secondly, it is an indicator of the effective functioning of public administration. This is due to the fact that the realization of threats indicates the inefficiency of the functioning of the public administration system. In order to support domestic manufacturers, it is necessary to study the issue of legislative regulation of the procurement of foreign software in the field of information security.

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#### **КИБЕРБЕЗОПАСНОСТЬ**

Аннотация. Кибербезопасность на сегодняшний день является серьезным аспектом в деле защиты не только личной информации, но и прежде всего, деятельности банков, предприятий и лиц занимающихся или держащие средства в криптовалюта. Мировая общественность обеспокоина растущей кибернетической угрозой, так как ценным активом любой организации является информация, в связи с чем создание кибербезопасности необходимо путем создания групп высококвалифицированных специалистов с целью укрепления национальной безопасности от внешних и внутренних угроз. Казахстан так же предпринял шаги в области информационной безопасности в сфере информатизации, однако низкий уровень конкуренто-способности Республики Казахстан в одном из самых перспективных направлений в ИТ-отрасли по разра-ботке решений в сфере информационной безопасности не позволяет противопоставить данным угрозам. Решение вопроса национальной безопасности в области кибертехнологий, авторы видят не только перенятия передового опыта некоторых стран, но и изучить вопрос закупа иностранного программного обеспечения.

**Ключевые слова:** Кибербезопасность, национальная безопасность, кибертехнологии, угрозы, киберза-щита, информационная безопасность.

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### **КИБЕРҚАУІПСІЗДІГІ**

Аннотация. Киберқауіпсіздік бүгінгі күні жеке ақпаратты ғана емес, банктердің, жеке тұлғалардың және криптовалюттағы ақшаны ұстап жүрген кәсіпорындардың қызметін де қорғаудың маңызды аспектісі болып табылады. Әлемдік қауымдастық киберқауіпсіздіктің өсуіне аландайды, өйткені ақпарат кез-келген ұйымның құндылығы болып табылады, сондықтан киберқауіпсіздікті құру сыртқы және ішкі қауіптерден ұлттық қауіпсіздікті нығайту үшін жоғары білікті мамандар тобын құру арқылы қажет. Қазақстан ақпарат саласындағы ақпараттық қауіпсіздікті саласындағы кадамдар жасады, бірақ ақпараттық қауіпсіздікті қамтама-сыз ету саласындағы шешімдерді әзірлеу үшін АТ-индустриясының перспективалы бағыттарының бірі Қазақстан Республикасының бәсекеге қабілеттілігінің төмен деңгейі осы қауіп-қатерлерге қарсы тұруға мүмкіндік бермейді. Киберқуандық технологиялар саласындағы ұлттық қауіпсіздікті қамтамасыз ету мәселе-сін шешуде авторлар кейбір елдердің озық тәжірибесін қабылдауды ғана емес, сонымен қатар шетелдік бағдарламалық қамтамасыз етуді сатып алу мәселесін де қарастырады.

**Түйін сөздер:** Киберқауіпсіздік, ұлттық қауіпсіздік, кибертехнология, қауіп-қатерлер, киберқауіпсіздік, ақпараттық қауіпсіздік.

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# ROLE OF MICRORNA AND POLYMORPHISMS OF FOXP3 AND ADRB2 GENES IN PATHOGENESIS OF PULMONARY DISEASES

Abstract. The study of the key mechanisms of the development of bronchopulmonary diseases as asthma and chronic obstructive pulmonary disease (COPD) and asthma and chronic obstructive pulmonary disease overlap syndrome (ACOS) are the current directions of molecular medicine. Genetic predisposition as well as influence of environmental factors play an important role in the development of asthma and COPD which are multifactorial diseases. Epigenetic mechanisms also affect regulation of gene expression during asthma, COPD and ACOS. The epigenetic regulation includes methylation of DNA, microRNA, histone modifications and they are all induced by influence of environmental factors. Higher levels of methylation of FOXP3 and ADRB2 DNA are at a higher risk of asthma development. However, there is not enough evidence on the level of methylation of the FOXP3 and ADRB2 genes and microRNA in patients with COPD and ACOS. It should be noted that the epigenetic labels established during the study of cancer and autoimmune disorders have shown their value as biomarkers of diagnosis. In this case, the study of genetic and epigenetic mechanisms of asthma, COPD and ACOS is a relevant objective of biomedicine because it helps to explain the interaction between genes and environmental factors in order to develop diagnosis and personalized treatment for the patients with bronchopulmonary diseases.

Keywords: microRNA, FOXP3 gene, ADRB2 gene, asthma, COPD, ACOS.

Asthma and chronic obstructive pulmonary disease (COPD) are the most frequent chronic lung diseases worldwide. It is estimated that 300 million individuals suffer from asthma worldwide, with increased prevalence in both adults and children [1]. COPD affects an estimates 10% of the world's population, and is the fourth leading cause of death worldwide [2]. Both asthma and COPD are characterized by chronic airway inflammation and airflow obstruction [3,4]. In recent years, a separate condition has been identified - the Asthma and COPD Overlap Syndrome (ACOS) [5]. COPD and asthma have clear differences, but some patients may present with a symptoms of both diseases. Differential diagnosis of ACOS from asthma and COPD is increasingly important, since ACOS has a poor prognosis and different treatment guidelines [6].

Asthma and COPD are related to multifactorial diseases, in the development of which an important role is played by both genetic predisposition and the influence of environmental factors. A variety of genes associated with asthma and COPD have been found [7]. There are genes specific to each disease, as well as genes involved in both diseases [8]. It has been shown that genetic polymorphism gives only a low or moderate level of predisposition to pulmonary diseases, which does not allow explaining the increase in the prevalence of IgE-mediated allergic syndromes. In addition, the mechanism of interaction between genetic and environmental factors in asthma, COPD and ACOS is not clear. In this regard, often genetic and epigenetic analyzes are carried out together. In the study of epigenetic effects, the potential impact of genetic variability is often taken into account [9,10]. Epigenetic regulation includes DNA methylation,

histone modifications and non-coding RNAs (microRNAs), all of which are induced by environmental factors, nutrition, diseases and processes associated with aging [11]. In recent years, there is increasing evidence that epigenetic mechanisms affect the regulation of gene expression in chronic lung diseases such as asthma and COPD. Violation of DNA methylation, modification of histone, specific expression of microRNA and other changes in chromatin organization contribute to reprogramming the immune response of T-cells in early childhood, disrupting the functioning of dendritic cells and activating macrophages. Similar regulation of asthma and COPD occurs in the adult state [12].

There is increasing evidence that regulatory T-cells (Treg-cells) plays an important role in suppressing allergic sensitization and production of immunoglobulin E in the upper respiratory tract in response to the allergen effect. One of the factors that play an important role in the development and functioning of Treg cells is the transcription factor FOXP3 ( Forkhead box transcription factor 3). Methylation of the transcriptional regulatory regions of the FOXP3 gene suppresses the expression of Foxp3 and, ultimately, the function of Treg-cells [13]. Thus, it is likely that, under the influence of environmental factors, there is an increase in methylation at the FOXP3 locus and this can lead to a decrease in the level of expression of FOXP3 and a decrease in the functioning of Treg-cells.

It has been shown that an increase in DNA methylation levels in the 5'-region of the FOXP3 gene is associated with the level of air pollution by particulate exhaust emissions from diesel engines. In addition, it has been demonstrated that children with higher levels of methylation of FOXP3 DNA are at a higher risk of developing asthma [14]. In carrying out oral specific immunotherapy with food and pollen allergens, it was shown that children resistant to treatment had a low level of methylation of FOXP3, while in children who lost sensitivity to significant allergens, methylation of FOXP3 increased [15]. Similarly, the status of methylation of FOXP3 varies depending on the concentration of immunoglobulin E in serum [16]. However, data on the level of methylation of the FOXP3 gene in patients with COPD and ACOS are absent and its role in the pathogenesis of the above diseases needs more detailed study.

The FOXP3 gene is located on the X chromosome (Xp11.23), has a size of 1296 bp and contains 11 coding and 3 non-coding exons. The FOXP3 gene belongs to a family of molecular complexes that includes histone deacetylases and acetyltransferases, as well as other transcription factors [13]. Figure 1 shows a diagram of the structure of the FOXP3 gene.

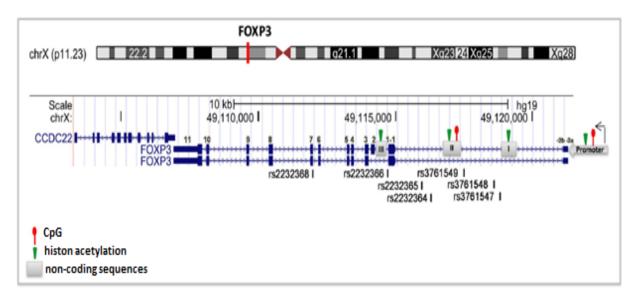


Figure 1 - Schematic view of the FOXP3 gene. The figure shows two isoforms of the gene [13]

The FOXP3 gene has more than one hundred single nucleotide polymorphisms (SNP), many of which are associated with various diseases, including cancer [17]. However, there is very little information about the association of SNP in the FOXP3 gene and allergic atopy, including asthma. Table 1 provides information on all known SNPs in the FOXP3 gene associated with allergic atopy.

Table 1 - SNPs in the FOXP3 gene associated with allergic atopy

SNP	Alleles	Type of disease	Literary source
rs2232368	A / G	Allergic rhinitis	[18] Zhang et al., 2009.
rs6609857	C / T	Bronhial asthma	[19,20] Bottema et al., 2010 a, b
rs3761548	A / C	Allergic rhinitis, bronchial asthma	[18-21] Fodor et al., 2011; Bottema et al., 2010 a, b; Zhang et al., 2009.
rs2232365	A / G	Allergic rhinitis	[22] Hassannia et al., 2011.
rs56066773	C / T	Allergic and autoimmune diseases	[23] Pacheco-Gonzalez et al., 2016.
Continuation of	of table 1		
rs2232368	A / G	Allergic rhinitis	[18] Zhang et al., 2009.
rs6609857	C / T	Bronchial asthma	[19,20] Bottema et al., 2010 a, b;
rs3761548	A / C	Allergic rhinitis, bronchial asthma	[18-21] Fodor et al, 2011. Bottema et al., 2010 a, b; Zhang et al., 2009.
rs2232365	A / G	Allergic rhinitis	[22] Hassannia et al., 2011.
rs56066773	C / T	Allergic and autoimmune diseases	[23] Pacheco-Gonzalez et al., 2016.

Chu and colleagues [24] showed that from the four SNPs in the FOXP3 gene: rs2280883, rs3761548, rs3761549 and rs5902434, only the last of these SNPs (rs5902434) is associated as with the FOXP3 mRNA level and as well with the reduced risk of COPD.

Another gene with an established effect on asthma is the Adrenoceptor beta 2 (ADRB2) gene. The ADRB2 gene has clinically significant associated polymorphisms with various phenotypes of asthma. So polymorphism Arg16Gly is associated with increased repression of gene transcription and a decrease in the number of receptors on the cell surface. The Gln27Glu variant is associated with a severe course of asthma [25]. It is known that single nucleotide polymorphisms have a pronounced ethnic and population specificity. It has been shown that the 5'-untranslated region of the ADRB2 gene has a large number of CpG sequences [26]. In addition, several researchers have found that a high level of methylation of this region of the ADRB2 gene is associated with the development of severe asthma in children [27]. From this point of view will be very interesting to study the contribution of methylation of the ADRB2 gene to the pathogenesis of COPD and ACOS. Another aspect of close attention in the treatment of asthma are Multi-Drug Resistance Genes (MDR), which plays a critical role in the development of drug resistance in both prokaryotes and eukaryotes [28]. MDR-1 gene products, such as MRP1 (Multidrug Resistance Protein 1), P-glycoprotein (P-gp) and LRP (Low Density lipoprotein receptor-related protein1), have been shown to act as antioxidants and protect lung tissue from oxidative stress. MDR-1 gene polymorphism can be a major genetic risk factor for developing asthma through increasing in oxidative stress [29]. Studies conducted on the Chinese population showed a correlation between the genetic polymorphisms MDR1-C3435T and G2677T/A with the status of methylation of the MDR1 promoter region [30]. Another level of epigenetic regulation of genome activity in response to effect of environmental factors, in addition to methylation, is a change in the expression of microRNAs.

MicroRNAs (microRNA) are becoming increasingly important in research as new regulators of gene expression, which play a central role in various pathophysiological processes. It has been shown that these classes of non-coding regulatory RNA are involved in several aspects of inflammation, which is the defining sign of many lung diseases such as asthma, COPD, ACOS and lung cancer [31,32]. In addition, in the context of reactive reactions, microRNAs play a central role in the regulation of expression of key proteins that control the type and the immune response of the body. MicroRNAs are important modifiers of the immune system and regulate human defense mechanisms. The function of microRNAs in lung development and the role of these molecules in many pulmonary pathologies have been studied [33]. In lung tissue, there is a unique and conservative profile of microRNA expression [31].

MicroRNAs in the lungs can be organized into three groups depending on the biological functions performed. The first group is microRNA, which is important for lung development, homeostasis and

physiological functions. Here, the level of microRNA expression varies at different stages of lung development, from the embryonic stage to the postnatal period. To this group belongs such microRNAs as miR-200c, miR-195, miR-26a, let-7, miR-29, miR15/miR-16, miR-223 [34], miR-200c and miR-195 are highly specific for lung tissue. miR-26a targets the transcription factor SMAD-1, which is involved in the process of lung development. The cluster miR17-29 is most pronounced in early embryogenesis of the lungs and decreases significantly throughout the development. Significant expression of miR17-92 is found in lung cancer [35]. The second group of microRNAs is represented by molecules that participate in inflammatory processes occurring in the lung. This group includes miR-146a and miR-146b, which play a central role in the activity of IL-1B at the onset of inflammation. Overexpression of these microRNAs results in a decrease in the regulation of TNF-a and other pro-inflammatory cytokines [36]. The third group of microRNA is directly involved in lung functions associated with the pathophysiology of pulmonary diseases. One of the first studies in this field showed that approximately 50% of mice with miR-155 deficiency had spontaneously developed asthma-like states, characterized by an increase of Th2type cytokines and a large number of lymphocytes and macrophages, but with a similar number of eosinophils as compared to wild-type mice [37]. In other studies it was found that the expression of several miRNAs, including miR-155, is disregulated in the airways and/or in lymphocytes of patients with asthma [38], miR-126 expression has been shown to increase in the respiratory tract of mice exposed to house dust mite allergens, and inhibition of miR-126 by using intranasal administration of the miR-126 antagonist decreases the allergic response and blood eosinophil levels in model animals [39]. Some studies have shown that miR-21 expression increased in the mouse model of asthma and it was associated with the Th2 response and the level of IL-12 expression [40]. Moreover, the absence of miR-21 in CD4 + T cells resulted in reduction in IL-4 levels and an increase in γ-interferon levels [41]. Examination of the profile of microRNA expression in the blood of patients diagnosed with asthma and COPD, unlike the animal model, is not numerous [42,43]. Wang and colleagues identified a change in the expression level of miR-145-5p, miR-636, miR-338-3p, miR-4485, miR-1229-3p, miR-4707-3p and miR-3620-3p in the serum of patients with asthma, compared with patients with COPD [44]. Roff and colleagues [45] demonstrated a decrease in the level of miR-570-3p in the serum of the patients with asthma.

Our bioinformatic search for microRNAs, the target of which are the key genes involved in the pathogenesis of pulmonary diseases (asthma, COPD, ACOS) by using TargetScan 7.1 programs (www.TargetScan.org), microRna (www.microrna.org), miRanda and miRTarAsthmase, showed that FOXP3 can be targeted for hsa-miR-34a-5p, hsa-miR-34c-5p, hsa-miR-449b-5p and hsa-miR-125a-3p, ADRB2 mRNA has a binding site in the 3'UTR region with hsa-miR-34b-3p, MDR-1 may be the target for the hsa-miR-4262 microRNA, hsa-miR-181d-5p, hsa-miR-181a-5p, hsa-miR-181b-5p, hsa-miR-181c-5p. In the literature there is no data on the association of the above-mentioned microRNAs with asthma, COPD, and ACOS (http://mirandola.iit.cnr.it/adsearch.php).

Previous observations have shown that microRNAs can be in a free state in the form of oligonucleotides in plasma and serum, sputum, and other body fluids such as saliva and cerebrospinal fluid. Moreover, free circulating microRNAs in the blood plasma are quite stable, which makes them promising for the development of a biomarker system for the diagnosis of lung diseases [32]. We have already developed a system of markers for the lung cancer diagnosis, by estimating the level of three free plasma circulating microRNAs: hsa-miR-19b-3p, hsa-miR-125b and hsa-miR-155-5p [46, 47]. There is few data in the literature about the microRNAs expression level in the plasma of patients with asthma and COPD. There are no studies about the role of free circulating microRNAs in pathogenesis of ACOS [48]. It seems very relevant to analyze the role of microRNAs in the pathogenesis of major obstructive diseases such as asthma and COPD and to develop the biomarker system for ACOS based on the analysis of the free plasma circulating microRNAs.

To date, more attention is paid to personalized medicine, which implies the appointment of a specific drugs to patients on the base of pharmacokinetic and pharmacogenomic informations. Existing asthma management and treatment methods are aimed at controlling symptoms and mainly include fast-acting beta2-adrenoceptor agonists and corticosteroids for long-term monitoring, but these therapies are non-effective in the control of severe asthma. Therefore, one of the important issues of asthma research is how microRNAs affect the development of corticosteroid resistance in the asthma treatment. There are the results that the microRNAs expression level in the human bronchial epithelial cell line (BEAS-2B) is

changed in response to treatment with an antileukotriene drug - Montelukast (MNT), which widely used for the treatment of asthma [49]. Another study showed that miR-146a expression decreased in CD8+ and CD4+ T-cells in atopic dermatitis patients with oral corticosteroid treatment [50]. It was shown that expression of miR-126 and miR-21 in epithelial cells of the respiratory tract in patients taking inhaled corticosteroids was significantly reduced [51]. Thus, it can be concluded that microRNAs can be used not only for diagnostic purposes, but also serve as molecular biomarkers for testing pulmonary diseases. The study of genetic and epigenetic mechanisms assist to understand the interaction between genes and environmental factors to develop new diagnosis and personalized treatment of the patients.

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### микроРНҚ ЖӘНЕ FOXP3, ADRB2 ГЕНДЕРІ ПОЛИМОРФИЗМІНІҢ ӨКПЕ АУРУЛАРЫНДАҒЫ РӨЛІ

Аннотация. Демікпе, өкпенің созылмалы обструктивті аурулары (ӨСОА) және өкпенің созылмалы обструктивті ауруы және бронх демікпесі айқас синдромы (ӨБДАС) секілді бронх-өкпе ауруларының даму механизмдерін зерттеу молекулалық медицинаның өзекті бағыты болып табылады. ӨСОА дамуларында генетикалық бейімділік пен қоршаған орта факторларыны әсері маңызды рөл атқаратын мультифакториалды аурулар қатарына жатады. Эпигенетикалық механизмдер демікпе, ӨСОА, ӨБДАС кезінде гендер экспрессиясының реттелуіне әсер етеді. Эпигенетикалық реттелуге микроРНҚ, ДНҚ метилденуі, гистондардың модификациясы жатады, сонымен қатар олар қоршаған орта факторларының әсерімен индуцирленеді. FОХР3, ADRB2 гендерінің метилдену деңгейінің жоғарылауына байланысты демікпе ауруының даму қаупі басым болып келеді. Алайда, ӨСОА мен ӨБДАС бар науқастарда FОХР3, ADRB2 гендерінің метилдену деңгейі туралы мәліметтер аз. Айта кететін жағдай, қатерлі ісік аурулары мен аутоиммундық ауытқуларды зерттеуде анықталған эпигенетикалық таңбалау диагностика үшін сапалы биомаркер екендігін көрсетті. Осыған байланысты Демікпе, ӨСОА және ӨБДАС эпигенетикалық және генетикалық механизмдерді зерттеу биомедицинаның өзекті міндеті болып табылады, себебі, гендер мен қоршаған орта факторларының арасында өзара байланыстарды түсінуге көмектесе отырып, жаңа диагностикалық және өкпе-бронх ауруларымен ауыратын науқастарға жеке емдеу тәсілдерін қолдануға мүмкіндік береді.

Түйін сөздер: микроРНҚ, FOXP3 гені, ADRB2 гені, демікпе, ӨСОА, ӨБДАС.

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# РОЛЬ МИКРОРНК И ПОЛИМОРФИЗМА FOXP3 И ADRB2 ГЕНОВ В ПАТОГЕНЕЗЕ БРОНХОЛЕГОЧНЫХ ЗАБОЛЕВАНИЙ

Аннотация. Изучение ключевых механизмов развития бронхолегочных заболеваний, таких как астма, хроническая обструктивная болезнь легких (ХОБЛ) и синдром перекрытия бронхиальной астмы и ХОБЛ (СПБАХ) является актуальным направлением молекулярной медицины. Астма и ХОБЛ относятся к мультифакториальным заболеваниям, в развитии которых важную роль играет как генетическая предрасположенность, так и воздействие факторов окружающей среды. Эпигенетические механизмы также влияют на регуляцию экспрессии генов при астме, ХОБЛ и СПБАХ. Эпигенетическое регулирование включает метилирование ДНК, микроРНК, гистоновые модификации, причем все они индуцированы воздействием факторов окружающей среды. Более высокие уровни метилирования ДНК FОХРЗ и ADRB2 подвержены более высокому риску развития астмы. Однако мало известно о роли метилирования генов FОХРЗ и ADRB2 и микроРНК у пациентов с ХОБЛ и СПБАХ. Следует отметить, что эпигенетические метки, установленные при изучении раковых заболеваний и аутоиммунных расстройств показали свою ценность в качестве биомаркеров диагностики. В этой связи изучение генетических и эпигенетических механизмов БА, ХОБЛ и СПБАХ является актуальной задачей биомедицины, поскольку помогает объяснить взаимодействие между генами и факторами окружающей среды для разработки диагностики и персонализированного лечения пациентов с бронхолегочными заболеваниями.

**Ключевые слова:** микроРНК, FOXP3 гены, ADRB2 гены, астма, XOБЛ, СПБАХ.

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# ANALYSIS OF THE EFFECTIVENESS OF THE DEVELOPED METHODOLOGY FOR SETTING THE TYPE AND THE VOLUME OF GUARANTEES TO WORKERS FOR WORKING CONDITIONS

Abstract. The features of the current system for establishing guarantees for workers engaged in heavy work, work with harmful and (or) dangerous working conditions in the Republic of Kazakhstan are highlighted in the article. The necessity of providing guarantees to workers engaged in heavy work, work with harmful and (or) dangerous working conditions, not only taking into account the state of working conditions, but also the state of their health is grounded. In this regard, it is proposed to introduce the Methodology for establishing the type and scope of guarantees to workers engaged in heavy work, work with harmful and dangerous working conditions, depending on the degree of occupational risk. In this article, calculations are made to provide the type and scope of guarantees to employees employed in the enterprise for the production of soft roofing and waterproofing materials, depending on the degree of occupational risk in the new developed methodology. The analysis of the effectiveness of the implementation of the proposed methodology in comparison with the current mechanism and the list approach in providing guarantees to employees was carried out. The application of the proposed methodology has a positive effect on the regulation of labor relations between employers and employees and is recommended for use in domestic enterprises.

**Keywords:** workers employed in heavy work, work with harmful and dangerous working conditions, provision of guarantees to employees, additional annual paid leave, increased wage, reduced working hours, professional risk assessment, degree of occupational risk.

# **INTRODUCTION**

Studying and solving problems related to the provision of healthy and safe working conditions, measures to prevent accidents at work are a priority of the life and health of employees in relation to the results of production activities at enterprises.

According to official statistics, in 2016, 2034 employees suffered at the enterprises of the Republic of Kazakhstan, which confirms an increase in the number of accidents by 15.3%, comparing with the previous year. Of the total number of casualties, 225 fatal accidents were registered [1].

At present, in the Republic of Kazakhstan, 368.8 thousand people out of 1677.0 thousand employees of the enterprises surveyed, in conditions that do not meet sanitary and hygienic requirements (norms) are employed, it is almost one of five workers[2].

The adoption of active measures to create a safe and healthy working environment is one of the international requirements specified in the International Labor Organization Convention No. 187 "On the Basics of Promotion of Occupational Safety and Health", ratified by the Law of the Republic of Kazakhstan No. 243-V of October 20, 2014 [3].

In the case of failure by officials in complying all requirements, ensuring safe working conditions, the legislation of the Republic of Kazakhstan applies a penalty in the form of a fine [4].

According to the strategic plan of the Ministry of Healthcare and Social Development of the Republic of Kazakhstan, safe workplaces and harmonious labor relations are the basis for effective employment. The basis of this work will be the strengthening the demand from organizations, conducting a special

assessment of working conditions at production facilities and the full implementation by 2020 of mechanisms for managing occupational risks in daily production practice [5].

For this category of employees at the state level, there is a mechanism for establishing various types of guarantees: an increased wage, an additional annual paid leave of at least six calendar days and no more than 36 calendar days, a reduced working time of not more than 36 hours per week, etc. [6].

Employees engaged in hard work, work with harmful and (or) dangerous working conditions are provided with guarantees in the form of additional paid annual leave and reduced working hours according to the list of industries, shops, professions and positions, the list of heavy work, work with harmful and (or) hazardous working conditions, the work in which entitles to reduced hours of work, additional paid annual leave and higher wages, and to rules of their provision, approved by the authorized body on labor (hereinafter - the List)[7, 8]. At the same time, the presence of harmful labor conditions must be confirmed by the results of attestation of production facilities according to working conditions [6].

However, based on the results of research carried out in terms of providing guarantees, it was found that these requirements are violated by employers [9].

In process of creating an effective mechanism for economic incentives for enterprises to improve labor conditions and safety, it is necessary to designate the priority of preserving the health of the working person, and in case of loss of health at work, a worthy guaranteed compensation. The entire system of social protection, as an element of the OSH management system from the adverse consequences of professional activity, should be oriented towards the solution of these problems [10].

The instructions of the Head of State to create safe working conditions at the third stage of modernization are aimed at transiting to the implementation of an occupational risk management system. The new system is aimed at preventing occupational risks, increasing employers' responsibility for creating safe working conditions, reducing occupational injuries and occupational diseases [11].

The current mechanism for establishing guarantees on the basis of the list does not correspond to the world practice in the management of labor protection and has no connection with the results of certification of workplaces on working conditions. There is no differentiation of guarantees and compensations depending on working conditions.

To establish the connection between the results of attestation of production facilities by labor conditions by the volume of the provision of the guarantees above within the framework of scientific research, dedicated to implement the occupational risk management system in the Republic of Kazakhstan, a Methodology was developed for establishing the type and scope of guarantees for workers engaged in heavy work, work with harmful and dangerous working conditions depending on the degree of occupational risk (hereinafter - Methodology)[12].

The methodology proposes to determine the scope of guarantees depending on the degree of occupational risk, which is a complex numerical characteristic of the hazards and hazards of the working environment and the work process, the risk of morbidity, the safety of production equipment and the provision of personal protective equipment. The degree of occupational risk is calculated according to the methodology of calculating the individual indicator of the degree of occupational risk [13, 14].

The methods above were developed by the Institute and passed the state registration of intellectual property rights in the form of a scientific works (№2258 and №2259 of 03.10.2017).

The proposed approaches to establishing guarantees in the form of increased wages, additional paid annual leave and reduced working hours, and the determination of their volume were tested in 2017 using the example of six enterprises [15].

This article presents the results of approbation of the methodology and appropriate work by the example of one of the enterprises, the main activity of which is the production of soft roofing and waterproofing materials ("23993" by the general classifier of economic activity).

### **MAIN PART**

According to statistics for 2016 (report 1-T), enterprises for the production of soft roofing and waterproofing materials employ 97 people, of whom 37 workers are involved in harmful and (or) dangerous working conditions, including 4 women.

According to the staff list, the vocational qualification structure of the enterprise consists of 47 professions, 14 of them are administrative and managerial personnel (14 people), 8 professions of production personnel (25 people) and 25 auxiliary personnel professions (58 people).

The technological process of the enterprise, manufacturing bitumen and waterproofing materials includes: firstly, the delivery of oil bitumen; secondly, the production of modified bitumen, which goes either to further processing for the production of waterproofing materials (including bitumen primer, bitumen mastic, roofing materials), or for sale in the form of bitumen blocks, packing bitumen into a sack; thirdly, the packaging of finished waterproofing materials in metal drums, cloak-takers and their stock for storage and realization.

The main occupations of industrial nature are: the operator of the technological line for bottling bitumen  $N \ge 1$ , 2; the operator on impregnating aggregates of a line on manufacturing of a soft roof; operator of the technological line for the production of soft roofing; operator of the technological line of bitumen farming.

In order to determine the effectiveness of the implementation of the developed methodology, a comparative analysis of the provision of a guarantee was made in the context of the unit according to the operating mechanism, according to the list and the proposed methodology from three positions:

- a) in accordance with the requirements of the current legislation of the Republic of Kazakhstan, i.e. on the basis of the results of attestation of production facilities in accordance with the list;
  - b) according to the approach applied at the enterprise;
  - c) on the basis of the results of occupational risk assessment.

Employees of 14 professions are employed in the administrative-management division. Comparison of the current guarantee mechanism with the List showed that the professions of this department do not provide guarantees in the form of additional leave and reduced working hours.

According to the current system, employees of the administrative and management unit have not had any kinds of guarantees for working conditions.

To provide a justified guarantee on the developed methodology, it was determined that employees of 14 professions are entitled to no less than 6 calendar days of additional paid annual leave and an increased wage of at least 4%, since they are related to the second risk degree (low risk).

It should be noted that, according to the developed methodology, workers, whose profession and (or) professional group refers to the 1-, 2- and 3-degree of occupational risk, are not provided by reduced working hours [12].

Employees of 8 professions are employed in the main production divisions at the enterprise. According to the List, employees of 4 professions have the right to additional paid annual work leave up to 6 calendar days. The reduced duration of working hours for employees of the main unit is not provided.

In 2016, the company established and provided guarantees in the form of 6 calendar days of additional leave to 6 professions, an increased wage in the amount of at least 4% of employees in 2 professions and at least 8% of employees in 2 professions.

According to the developed method of establishing guarantees for special working conditions for employees of the five professions of the main unit, at least 6 calendar days of additional paid annual leave and a high wage of at least 4% are required. Employees of 3 professions (the chief of production, the chief technologist, the master of the shift) have at least 12 calendar days of additional paid annual leave and an increased wage of at least 8%.

In the auxiliary units, employees of 25 professions are employed, of which according to the Schedule, an additional paid annual leave is granted up to 6 calendar days for workers of 4 professions, up to 12 calendar days for employees of 1 profession of the auxiliary unit. The reduced duration of working time is no more than 36 hours, it is assigned to an employee of 1 profession (gas electric welder).

At least 6 calendar days of additional leave are provided to 22 professions, not less than 12 calendar days for employees of 2 professions of an auxiliary division. According to the current mechanism, a 4% wage is paid to employees of 8 professions, 8% to employees of 4 professions and 16% to employees of 1 profession (gas electric welder).

In accordance with the method of establishing guarantees for working conditions, employees of 8 professions do not rely on any type of guarantees. Employees of the 16 profession are guaranteed in the form of current current of additional leave and a higher pay at least 4%. An employee of 1 profession (boiler house operator) who is exposed to an average occupational risk is entitled to an additional leave of at least 12 calendar days and an increased wage of at least 8%.

A comparative analysis of the provision of additional annual paid leave for employees in accordance with the operating mechanism / according to the List / according to the proposed methodology / in the context of the three divisions is shown in Figure 1.

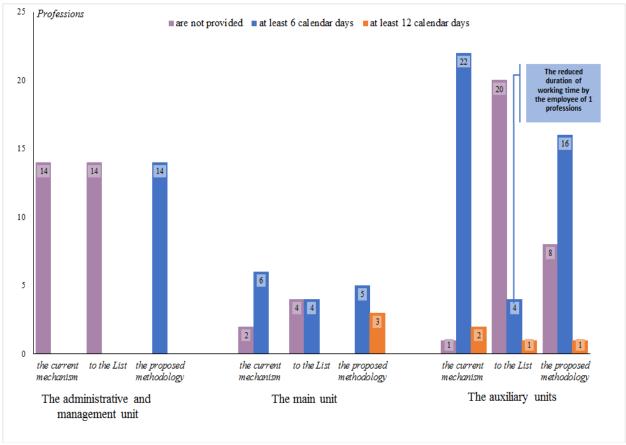


Figure 1 - Comparative analysis of the provision of additional annual paid leave for employees

A comparative analysis of the granting of an increased wage to employees at the current mechanism / according to the List / according to the proposed methodology / in the context of the three divisions is shown in Figure 2.

According to the list and the current system, no guarantees are established to the professions of the administrative and management unit. The new methodology offers an additional leave of at least 6 calendar days to all professions in the administrative and management unit (14 professions, 100%).

If according to the list of professions of the main department, only half of the 8 professions (50%) are eligible for additional leave of no more than 6 calendar days, 6 professions (75%) according to the current system of 6 calendar days, then the procedure suggests an additional leave of at least 6 and 12 calendar days to all professions of this unit (100%).

In accordance with the list, only 20% of the professions of workers in the auxiliary units are entitled to an additional leave of no more than 6 and 12 calendar days. The current system establishes an additional leave of 6 and 12 calendar days for 24 professions (96%), while the developed methodology proposes to establish an additional leave of at least 6 and 12 calendar days for 17 professions of auxiliary units (68%).

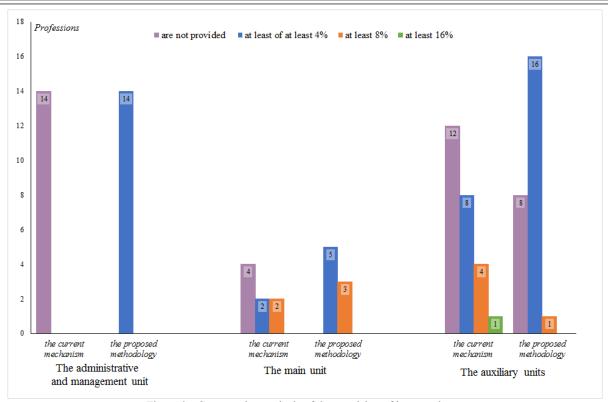


Figure 2 - Comparative analysis of the provision of increased pay

On a comparative analysis of the provision of a high wage for the provision of a high wage, it can be seen that the current system does not establish a higher wage for the professions of the administrative and managerial unit, while the methodology offers a 4% higher salary for all professions in this unit (100 %).

Under the current system, a 4% and 8% increase in the amount of remuneration is set in half of the professions of the main unit (50%). The proposed methodology establishes an increased wage at least 4% and 8% for all professions in this unit (100%).

The current system of guarantees for working conditions increased the amount of labor compensation in the amount of 4%, 8% and 16% to half of the professions of this unit (52%). According to the developed methodology, an increased wage in the amount of 4%, 8% is proposed to establish 17 professions of the support unit (68%).

Thus, the data on the assessment of occupational risks for 2016 were analyzed and according to the methodology:

- for 8 professions (17%), no type of guarantee is applied (1 the degree of occupational risk);
- guarantees for 35 professional jobs (74.5%) in the form of an additional annual paid leave for at least 6 calendar days and a high wage at least 4% (2 the degree of occupational risk);
- 4 professions (8.5%) are entitled to guarantees in the form of an additional annual paid leave for at least 12 calendar days and a high wage not less than 8% (3-degree of occupational risk).

Thus, according to the analysis of the effectiveness of the proposed methodology, it was revealed that in the explored enterprise, workers who are engaged in the production of soft roofing and waterproofing materials are not provided with full guarantee. The current mechanism for providing additional vacations to the administrative and managerial and substantive divisions corresponds with the approved list. In the auxiliary units, in fact, it is provided much more than required from the list. The provision of guarantees to professions according to the proposed mechanism (83% of the profession) increased, in comparison with the list (19% of the profession) and the operating mechanism (64% of the profession). This is due to the fact that in the workplace were identified risks in some professions, during the evaluation.

#### **CONCLUSION**

In general, the use of the entire system of occupational risk assessment and methods of providing guarantees are an integrated measure in the OSH management system in the enterprise. The assessment allows to identify the main risks in the workplace, as well as the method of guarantee, which can be guaranteed individually by profession, regardless to whether there is a data list of the profession in the List.

Considering the harmful and dangerous production factors of the type of economic activity that the selected enterprise deals with and the calculation of the assessment of occupational risks, the enterprise generally refers to low risk(2-risk).

In order to eliminate risks in the production or reduce this indicator (in case of impossibility to eliminate risks, to reduce the risk to the possible minimum), it is necessary to develop an action plan for each profession individually.

Specially developed measures to eliminate risks, taking into account harmful and dangerous production resources to enterprises producing soft roofing and waterproofing materials that are engaged in the selected enterprise, allow to significantly increase material costs for enterprises and lead to education. Material resources, saved as a result of the risk reduction measure, can be sent to the company for repair, supply of workplaces with upgraded equipment and automation of the labor process, etc.

Advantages of the proposed approach are to use a more complete basis for differentiating of guarantees to workers, not only taking into account the state of working conditions, but also the health status of employees. The methodology determines the relationship between the guarantee to workers and the assessment of occupational risks.

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# АНАЛИЗ ЭФФЕКТИВНОСТИ ПРИМЕНЕНИЯ МЕТОДИКИ УСТАНОВЛЕНИЯ ВИДА И ОБЪЕМА ГАРАНТИЙ РАБОТНИКАМ, ЗАНЯТЫМ НА ТЯЖЕЛЫХ РАБОТАХ, РАБОТАХ С ВРЕДНЫМИ И ОПАСНЫМИ УСЛОВИЯМИ ТРУДА В ЗАВИСИМОСТИ ОТ СТЕПЕНИ ПРОФЕССИОНАЛЬНОГО РИСКА НА ПРИМЕРЕ ПРЕДПРИЯТИЯ ПО ПРОИЗВОДСТВУ МЯГКИХ КРОВЕЛЬНЫХ И ГИДРОИЗОЛЯЦИОННЫХ МАТЕРИАЛОВ

Аннотация. В статье отмечены особенности действующей системы установления гарантий работникам, занятым на тяжелых работах, работах с вредными и (или) опасными условиями труда в Республике Казахстан. Обоснована необходимость предоставления гарантий работникам, занятым на тяжелых работах, работах с вредными и (или) опасными условиями труда не только с учетом состояния условий труда, но и состояния их здоровья. В этой связи, предлагается внедрить Методику установления вида и объема гарантий работникам, занятым на тяжелых работах, работах с вредными и опасными условиями труда в зависимости от степени профессионального риска. В данной статье приведены расчеты по предоставлению вида и объема гарантий работникам, занятым на предприятии по производству мягких кровельных и гидроизоляционных материалов в зависимости от степени профессионального риска по новой разработанной методике. Проведен анализ эффективности внедрения предлагаемой методики в сравнении с действующим механизмом и списочным подходом в предоставлении гарантий работникам. Применение предлагаемой методики имеет положительный эффект в регулировании трудовых отношений между работодателями и работников и рекомендуется к использованию на отечественных предприятиях.

**Ключевые слова:** работники, занятые на тяжелых работах, работах с вредными и опасными условиями труда, предоставление гарантии работникам, дополнительный ежегодный оплачиваемый отпуск, повышенный размер оплаты труда, сокращенная продолжительность рабочего времени, оценка профессионального риска, степень профессионального риска.

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#### ЖҰМСАҚ ЖАБЫН ЖӘНЕ ГИДРООҚШАУЛАҒЫШ МАТЕРИАЛДАР ӨНДІРІСІ БОЙЫНША КӘСІПОРЫН МЫСАЛЫНДА ЕҢБЕК ТӘУЕКЕЛІ ДӘРЕЖЕСІНЕ БАЙЛАНЫСТЫ ЗИЯНДЫ ЖӘНЕ ҚАУІПТІ ЕҢБЕК ЖАҒДАЙЛАРЫНДА, АУЫР ЖҰМЫСТАРДА АЙНАЛЫСАТЫН ЖҰМЫСКЕРЛЕРГЕ КЕПІЛДІКТЕР ТҮРІ МЕН КӨЛЕМІН БЕКІТУ ӘДІСІН ҚОЛДАНУДЫҢ ТИІМДІЛІГІН ТАЛДАУ

**Аннотация.** Мақалада Қазақстан Республикасында зиянды және (немесе) қауіпті еңбек жағдайларында жұмыс істейтін жұмыскерлерге кепілдіктерді тағайындаудың қолданыстағы жүйесінің ерекшеліктері атап көрсетілген. Зиянды және (немесе) қауіпті еңбек жағдайларында жұмыс істейтін жұмыскерлерге кепілдіктерді тағайындауда тек қана еңбек жағдайларына байланысты емес, сондай-ақ, жұмыскерлердің

денсаулық жағдайларын есепке алу керек екендігі негізделген. Сол себепті, зиянды және (немесе) қауіпті еңбек жағдайларында жұмыс істейтін жұмыскерлерге кепілдіктердің түрлері мен мөлшерін кәсіби тәуекелге байланысты тағайындау Әдістемесін ендіру ұсынылады. Осы мақалада жұмсақ шатыр және гидрооқшаулағыш материалдарды өндіретін кәсіпорындағы зиянды және (немесе) қауіпті еңбек жағдайларында жұмыс істейтін жұмыскерлерге кепілдіктердің түрлері мен мөлшерін кәсіби тәуекелге байланысты тағайындау жаңа Әдістеме бойынша есептеулері берілген. Жұмыскерлерге кепілдіктерді қолданыстағы механизм тізімдік тәсілмен тағайындау және ұсынылып отырған әдістемені іске асырудың тиімділігін салыстырмалы түрде талдауы көрсетілген.

**Түйін сөздер:** ауыр, зиянды және қауіпті еңбек жағдайларында істейтін жұмыскерлер, жұмыскерлерге кепілдіктер беру, жыл сайынға ақы төленетін қосымша еңбек демалысы, еңбектің жоғарылатылған мөлшерде ақы төлеу, еңбек уақытының қысқартылған ұзақтығы, кәсіби тәуекелді бағалау, кәсіби тәуекелдің дәрежесі.

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#### ADRENERGIC INNERVATION OF LYMPHATIC NODES FROM VARIOUS BODY REGIONS IN YOUNG AND MATURE ANIMALS

**Annotation.** Adrenergic innervation in the tissues of cervical, mesenteric and popliteal lymph nodes in rats of different age groups (2-45 days and 10-11 months) was studied using the specific fluorescencemicroscopic method of visualization of catecholamines. Adrenergic innervation in lymph nodes of rats is present from the first days of life and in the process of postnatal ontogenesis it tends to develop and gradually become more complex and is fully formed by the 20<sup>th</sup>-30<sup>th</sup> day from birth.

**Keywords**: lymph nodes, adrenergic nervous apparatus.

The lymphatic system takes an active part in maintaining homeostasis at the cellular, tissue and organism levels, carrying out the barrier function in the interaction of the organism with the external and internal environment [1, 2]. The most important component of the lymphatic system is the lymph nodes. Lymph nodes have a complex structure; lymphoid tissue takes up to 80% of the volume of the node. Under the capsule, there is a subcapsular sinus, and the lymphoid tissue is permeated with numerous cerebral sinuses, whose width is 20-60 micrometers. Endothelial cells lining the sinuses have many appendages and, together with the reticular cells, form a complex three-dimensional network in the lumen of the sinuses through which lymph flows. The capsule covering the lymph nodes consists mainly of connective tissue elements, between which there are bundles of smooth muscle cells oriented for different directions [3]. It is established that the myocytes of the capsule of the lymph nodes rhythmically synchronously contract, leading to an increase in the intra-node pressure and the displacement of lymph from the node into the enduring lymphatic vessels [4].

The age-related changes in the morphofunctional state of lymphatic vessels and nodes are discussed in a number of scientific works [5, 6, 7]. In adulthood, lymph nodes, performing immune-drainagedetoxification functions in the body, undergo some structural changes [6, 8].

We have shown the formation of the morphophysiological function of the lymphatic system in postnatal ontogenesis [9, 10, 11]. A sharp decrease in the transport function of the lymph nodes in conditions of its denervation has been shown [12]. The current research is devoted to the study of adrenergic innervation apparatus of the lymph nodes at different stages of postnatal ontogenesis, that is, from the first day of life of the rats and up to the adult period.

In the available literature, there is no information about the adrenergic innervation apparatus in the structure of the lymph nodes in different age periods of life.

The aim of the study was to study the adrenergic innervation of the lymph nodes of different topographic and anatomical localization in young and mature animals.

Materials and methods. The experiment was performed on white rats with allocation to groups aged 2-45 days and 10-11 months. In each group there were 15 animals (n-30), which were given free access to water and food. All experiments with animals were carried out in strict accordance with the rules developed and approved by the local ethical commission of Kazakh National Medical University named after S.D. Asfendiyarov, as well as in accordance with the rules and requirements stipulated by the 1986 directive of European Parliament and set out in the "Guidelines for the care and use of laboratory

animals". For the study, mesenteric, cervical, popliteal lymph nodes were taken. To study the adrenergic nervous apparatus of the lymph nodes, a specific histochemical fluorescence-microscopic method for the detection of catecholamines in tissues using the glyoxalic acid was used which was initially developed by Falk and later modified by V. A. Govyrin [13]. Total vascular sections and cryostatic sections of lymph nodes 20 micrometers thick were prepared. The preparations were incubated in a 2% solution of glyoxalic acid prepared on phosphate buffer with pH of 7.2. Then the sections were dried under a warm air stream and thermostated at 100° C, followed by clarification and fixation with a 5% solution of polystyrene dissolved in xylene. Lymph node preparations were studied using a Vision 300 (Australia) fluorescence microscope with a camera.

**Results and discussion.** Both in young and mature rats, lymph node preparations were studied, prepared from the concave side, where the lymph node gate is located, through which the incoming arteries and nerves pass, and veins and vascular lymphatic vessels exit. Our study showed that in rats aged 2-7 days in lymph nodes single nerve fibers with weak fluorescence were observed, which shows a low content of catecholamines in them. At the end of these single growing neural fibers fluorescent varicose thickenings are more clearly detected. In rats aged 7-15 days, along with the presence of single nerve fibers, the appearance and formation of nerve plexuses occurs, but already from 12-15 days in the tissues of the lymph node there is a further development of the adrenergic apparatus, an increase in the number of nerve fibers, the formation of multiple plexuses between them and the appearance of varicose thickenings along the entire length. The density of adrenergic innervation in the lymph nodes, a characteristic of adult animals, appears already from 25-30 days from birth (Figures. 1a, 2a, 3a).

Adrenergic nerve plexuses are formed in the wall of arterial vessels entering the cervical lymph node (Figures 1a, b). The figures show that in the wall of the blood vessel of the cervical lymph node the large-plexed nerve plexuses consisting of thick nerve bundles branch into several thin single nerve fibers. Along the length of single nerve fibers, the distribution of varicose extensioncanbe observed, which give a more intense glow, characteristic for catecholamines. The area of the lymph node gates has the highest adrenergic innervation.

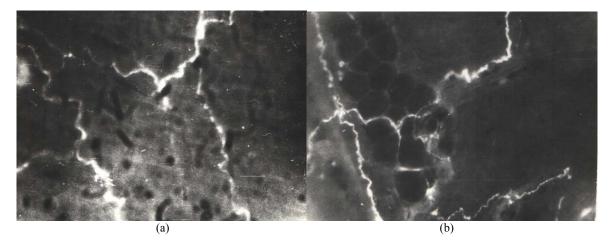


Figure 1 (a) -Total preparation. Adrenergic nerve fibers in the artery wall in the area of the cervical lymph node gates in rats aged 3-4 months. (b). Total preparation. Adrenergic nerve fibers in the artery wall in the area of the cervical lymph node gates in rats aged 11 months.

Lens 30, Oc. 6,3x

Figures 2a, b show a cryostatic section of the blood vessel feeding the mesenteric lymph node (Figures 2a, b). It was noted that the brightly fluorescent catecholamine-containing nerve fibers are distributed in the medio-adventitial layer. Such nerve fibers leave the vessel wall and penetrate into the surrounding connective tissue of the lymph node.



Figure 2(a) - Cryostatic section of the artery in the area of the mesenteric lymph node gates of a rat aged 12 days.

(b).Cryostatic section of the artery in the area of the mesenteric lymph node gates of a rat aged 10.5 months.

Lens 30, Oc. 6,3x

On the transverse section (Figures 3a, b) in the area of the gates of the popliteal lymph node in the wall of the blood vessels, individual adrenergic neural bundles have a bright fluorescence. Regularly located along the nerve fiber, small and large varicose thickenings give a more vivid fluorescence than the nerve fiber itself.

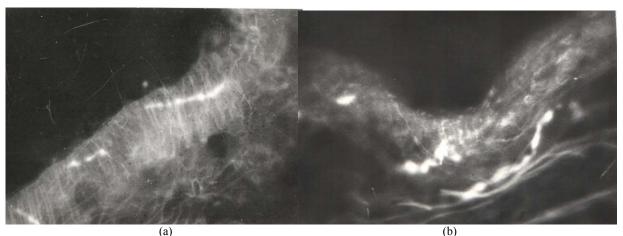


Figure 3(a) - Cryostatic section of artery in the area of the popliteal lymph node gates of a rat aged3 days.

(b).Cryostatic section of artery in the area of the popliteal lymph node gates of a rat aged10 months.

Lens 30, Oc. 6,3x

The reason for our attention to the area of the lymph node gates was that this region proved to have a higher adrenergic innervation. As we have noticed, on the preparations of the lymph node gates, separate adrenergic nerve fibers were distributed between the trabeculae, leaving the vascular wall. Initially, these nerve fibers serve as the adrenergic innervation apparatus of the wall of blood vessels, and only the individual single thin nerve fibers, separated from the intra-walled vascular nerve plexus, are distributed among the connective tissue of the trabeculae of the lymph node. It is known that in the area of the gates in the capsule of the lymph node there is the greatest number of smooth muscle myocytes. It used to be considered that in the vascular wall the varicose thickenings of the terminal sections of adrenergic axons, in the region of which catecholamines are being released, are at certain definite distances from the smooth muscle cells [14]. The adrenergic nervous apparatus provides motor transmission of signals from the nerve fiber to the smooth muscles, that is, it participates in the realization of vasomotor efferent signaling [15].

Consequently, the presence of an adrenergic innervation apparatus and smooth muscle cells in the tissue of the lymph nodes affects its contractile function. In the age groups studied by us (2-45 days and 10-11 months), differences in the ratio of the structural components of the lymph nodes are possible. We have considered the qualitative side of adrenergic innervation of the lymph nodes. In both month-old and mature rats, the adrenergic innervation is characterized by the presence of multiple nerve fibers that form plexuses with regularly located varicose extensions along the entire length of the nerve fiber. The presence of adrenergic nerve fibers in the capsule of the lymph node is shown, where there is an accumulation of smooth muscle cells. It is known that adrenergic mediators have a distant effect on smooth muscle cells; the distance between them corresponds to 200 nm. Regular varicose thickenings have a brighter fluorescence, which may indicate a high content of catecholamines in them. Such varicose thickenings are considered to be depots of catecholamines [16].

Thus, on the basis of the data obtained by us, it can be asserted that, starting from the first days of postnatal ontogenesis, the adrenergic apparatus continues to form in the tissues of lymph nodes, and is fully formed by the 25-30 day after the birth of rats, and it is logical to affirm that the lymph nodes have an adrenergic vasomotor innervation, which influences their function.

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## АДРЕНЕРГИЧЕСКАЯ ИННЕРВАЦИЯ ЛИМФАТИЧЕСКИХ УЗЛОВ ИЗ РАЗНЫХ РЕГИОНОВ ТЕЛА У МОЛОДЫХ И ЗРЕЛЫХ ЖИВОТНЫХ

**Аннотация.** С помощью специфического флуоресцентно-микроскопического метода визуализации катехоламинов изучалась адренергическая иннервация в ткани шейного, брыжеечного и подколенного лимфоузлов у крыс разных возрастных групп (2-45 дней до 11 месяцев). Показано наличие адренергической иннервации в лимфатических узлах с первых дней жизни, и в процессе постнатального онтогенеза она развивается и усложняется, и полностью формируется к 20-30 дню от рождения.

Ключевые слова: лимфатические узлы, адренергический нервный аппарат

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#### ЖАС ЖӘНЕ ЕРЕСЕК ЖАНУАРЛАР ДЕНЕСІНІҢ ӘРТҮРЛІ АЙМАҚТАРЫНДАҒЫ ЛИМФА ТҮЙІНДЕРІНІҢ АДРЕНЕРГЕТИКАЛЫҚ ИННЕРВАЦИЯСЫ

**Аннотация.** Арнаулы флуоресцентты-микроскопиялық әдістеме қолдану арқылы 2-45 күндік және 10-11 айлық егеуқұйрықтардың мойын, аш шек, тізе асты бездерінің адренергиялық нерв аппараты зерттелді. Зерттеу нәтижесінде егеуқұйрықтардың лимфа бездерінде туғанынан бірінші күннен бастап, адренергиялық нерв талшықтары пайда болып, пост-наталдық онтогенез процессінде күрделеніп 20-30 күнде толық дамығаны көрсетілген.

Түйін сөздер: лимфа бездері, адренергиялық нерв аппараты.

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## FACTORS THAT PROVIDE MOVEMENT OF LYMPHATICS OF RATS ON LYMPHATIC VASCULARS

**Abstract.** Movement of lymph in the reduction of the vascular wall due to the existence of valves in the lymph vessels occurs only in one direction. Authors use the rat for experimental work. For a reliable interpretation of the data obtained from animal experiments on the human body, it is necessary to know the specific features of their structure. In the body, the movement of lymph along the vessels is facilitated by a number of secondary factors, so passing through the thoracic cavity, the duct accumulates lymph from the organs located there. Under the aorta, the caudal thoracic duct passes in the form of a broad cistern of the thoracic duct, moreover, the intestinal lymphatic duct starts. However, the thoracic duct is very thin and gently structured by semi-transparent or almost invisible without special devices of rat lines.

**Keywords:** lymphomas, experience, rats, perforation, vessels, intestines, nodes.

#### INTRODUCTION

In the movement of lymph, a certain role is played by rhythmic contractions of the walls of some lymphatic vessels. These abbreviations occur 8-10 and even, according to the instructions of individual researchers, 22 times per minute. The movement of lymph in the reduction of the vascular wall due to the existence of valves in the lymphatic vessels occurs only in one direction. Lymphatic system - includes lymph, lymphatic organs (lymphatic nodule, lymph node, tonsils, spleen, thymus gland) and ways that conduct lymph (lymphatic capillaries, vessel, trunk, duct). The lymph node consists of a peripheral cortical substance (cortex) and a central medulla; Covered with a capsule containing elastic and smooth muscle fibers. The basis of the cortex is lymphatic nodules (lymphatic follicles), small accumulations of cell-rich lymphoid tissue in which lymphocytes develop; In addition to lymph nodes, lymphatic follicles are found in the tonsils, spleen, mucous membranes of the stomach, intestines, larynx. The tissue of the lymph node is divided by connective tissue strands - trabeculae into incompletely delimited lobules. Through the convex surface of the lymph node penetrating lymphatic vessels penetrate, and the outgoing lymph vessels divert the lymph from the lymph nodes through the gates to the deepening in the lymph node for the entry of arteries, nerves and exit of veins and vascular vessels. Under the capsule of the lymph node and in the brain substance there is a network of spaces called the lymphatic sinus.

#### MAIN PART

In the body, in addition to the main mechanism, a number of secondary factors contribute to the transport of lymph along the vessels. During the inhalation, the outflow of lymph from the thoracic duct to the venous system increases, and when it is inhaled, it decreases. The movements of the diaphragm affect the lymph flow - periodic compression and stretching with the diaphragm of the thoracic duct cistern strengthens the filling of its lymph and promotes the movement along the chest lymphatic duct. The increase in activity of periodically contracting muscular organs (heart, intestines, skeletal muscles) affects not only the strengthening of the lymph drainage, but also facilitates the passage of tissue fluid into the capillaries. The contractions of the muscles surrounding the lymphatic vessels increase the intra-lymphatic pressure and squeeze the lymph in the direction determined by the valves. When the limb is immobilized, the outflow of lymph is weakened, and with active and passive movements it increases. Rhythmic

stretching and massage of skeletal muscles contribute not only to the mechanical movement of the lymph, but also increase their own contractive activity of lymphangions in these muscles.

A large lymphatic vessel of a distinctive shape emerges from the plexus - the mesenteric CS. It lies between the cranial mesenteric (right and cranial) and ilio-colon (left and caudal) arteries, and then between the cranial mesenteric vein (right) and the artery (left and caudal). The vascular bundle lies on the flattened cranial surface of the root fat body of the mesentery of the small and large intestine, and in different ways:

- First (the ventral end of the root body) to the left of the middle, (oblique) sagittal segment of the ascending colon, then below it (caudal) and finally to the right;
  - right along the entire segment, to the head of the pancreas.

The main lymphatic ducts include the thoracic duct with a cistern, cervical, subclavian, cranial and caudal mesenteric, mediastinal, renal and portal ducts. The thoracic duct is unpaired, located 2 cm below the diaphragm approximately at the level of the left adrenal vein. It lies near and slightly below the ventral aorta on the left side and passes cranially through the diaphragm into the thoracic region and the neck area to the right of the esophagus. It turns dorsally to the carotid arteries and trachea at the level of the clavicles and joins the left subclavian vein. According to Job (1915), the thoracic duct passes dorsolateral along the cranial hollow vein to the site of its connection with the venous system, flowing into the left external jugular vein at the junction of the latter with the subclavian vein. Passing through the chest cavity, the duct collects lymph from the organs located here. Caudally the thoracic duct passes under the aorta in the form of a broad cistern of the thoracic duct and gives rise to the intestinal lymphatic duct. The thoracic duct is very thin, delicate and often almost transparent, and in some rat lines it is almost invisible without special adaptations. Lymph nodes are widely scattered in the body of a rat, located along the lymphatic vessels surface or in deeper areas and are grouped into groups of lymph nodes - regional nodes. The caudal (of 4 knots) axillary node receives a large outflowing vessel from the inguinal nodes, which accompanies the superficial epigastric vein (going cranially along the milky line). In this node there is an outflow of lymph from the nipples and ventral areas of the chest and belly. Two medial axillary nodes drain the lateral surfaces of the abdomen and back through a large lymphatic vessel, which merges with them, passing along with the vein a large subcutaneous muscle. A small branch of this lymphatic vessel passes in the deep layers of the skin itself to the medial humeral node. The rostral axillary node receives the humeral lymphatic vessel from the medial surface of the thoracic extremity and axillary region. Large subclavian lymphatic duct goes from this node to the thorax along with the axillary vein and joins the axillary vein.

Dissection of CGBB on total preparations of 20 white rats 1-2 months. both sexes, fixed in a 10% formalin solution. Results of a biochemical blood test showed an increase in creatinine, bilirubin, urea, thymol level and ALTAST enzymes, alkaline phosphatase, total amylase in the experimental group of animals.

In the lymph, the total protein content was deeper 42% than in the blood. The content of urea, creatinine, residual nitrogen increased. From these data it can be seen that the most striking changes were observed from the total protein, urea in lymph and blood plasma.

The regional lymph nodes of the internal organs of the belly (Figure 9) are divided into three groups that are emptied separately into the thoracic duct cistern through the lymphatic ducts. Splenic, caudal gastric and portal nodes drain the cranial abdominal organs, the cranial mesenteric chain collects lymph from the intestine, and caudal mesenteric mesenteric from the descending colon; all of them are considered as certain functional entities. Small splenic node - In. lienalis, solitary, collects lymph from the spleen capsule and the fibrous trabeculae of the spleen by means of lymph vessels that go together with the four veins of the spleen's gates. Its efferent duct goes centrally together with the splenic vein to the caudal gastric node. Caudal gastric lymph node - In. gastricuscaud., single or paired, is attached to the gastro-omental vein and drains the distal esophagus, stomach and pancreas through the lymph vessels that accompany the visceral veins. A short efferent duct enters two portal nodes, one located on either side of the portal vein. A group of portal lymph nodes pour out into the left part of the thoracic duct cistern through the portal lymphatic duct - a large lymphatic canal that runs obliquely through the abdominal aorta and caudal vena cava. A large accumulation of cranial mesenteric lymph nodes represents a chain of 6-10 nodes located at the root of the mesentery; drains the duodenum, thin, ascending and transverse colon. The lymphatic plexus, located under the entire mucous membrane of the small intestine, is emptied

into separate nodes of the chain through the lymph vessels that run along the segmental branches of the cranial mesenteric vein. The cranial mesenteric duct accompanies the ephemeral vein and collects the flowing lymph from each node of the chain. It passes dorsally and pours into the right side of the thoracic duct cistern, while the cranial mesenteric and splenic veins flow into the portal vein cranially. The paint introduced into the intestinal wall always passes through the nodes and never enters directly into the mesenteric duct. The caudal mesenteric lymph node is located in the mesentery of the descending colon at the intersection of the caudal mesenteric vein (going to merge with the cranial mesenteric vein) with the abdominal aorta and caudal vena cava. The node collects lymph from the rectum and sigmoid colon through the lymphatic canal, which is located next to the vein. The efferent caudal mesenteric duct opens into the thoracic duct cistern on the left side.

The lymphatic channel of the mesentery of the colon and small intestine of the white rat has a similar structure - a system of lymphatic vessels - radial (draining lymph from the organ) and arcade (transverse anastomosis of radial vessels). In the structure of mesenteric lymphatic vessels of the small and large intestine, differences were found that consist in the inverse correlation of the parameters of arcade and radial vessels.

#### CONCLUSION

The rat's blind gut lies on the loops of the small intestine: the base is skew-Sagittal, more often along the middle line or near it, the apex is more often curved to the right. Near the base of the cecum, on the left and above the ileum (PC) mouth is 1 ileocecal LU (large, bean-shaped). The iliac-humeral LU are located to the right of the terminal segment of the PC. From the base of the caecum, an upward OK (FOC) emerges behind and to the right of the ileocecal angle. Its ventral loop is located almost transversely. In general, the root of the mesentery of the VOC and the small intestine is a dense body. To the left of it lies the middle sagittal segment of the BOC (Figure 1-5) or crosses its cranial surface obliquely. After fixation, I gradually removed the loops of the small intestine and segments of the colon, opening access to the pancreas and duodenum-jejuna flexure. Between them, I found pancreaticduodenal CABG, and after dissecting the pancreas -

the initial segment of the CBA and adjacent near-aortic CIBL. The root body extends from the dorsal loop OK (on the ventral surface of the head of the pancreas, near the medial edge of the duodenum) to the ventral loop of the BOC, to the right and to a different extent under the (caudal) middle segment of the BOC. The root can be curved: its dorsal end lies to the right of the middle segment of the FOC, it can have a tire, the ventral end to the left. The granular relief of the root body is due to the fatty lobules. Its convex surface is directed caudally, and the flattened surface is cranial.

At the latter is a vascular bundle (cranial mesenteric veins and artery, and between them - the lymphatic trunk). Near the ventral end of the root body, but separately from it lie the terminal CABL in the fatty capsule: they are located near the place of transition of the transverse loop of the FOC to its middle segment, on either side of the site of the PAO from the trunk of the KBA to the left.

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## ФАКТОРЫ, ОБЕСПЕЧИВАЮЩИЕ ПЕРЕДВИЖЕНИЕ ЛИМФЫ КРЫС ПО ЛИМФАТИЧЕСКИМ СОСУДАМ КИШЕЧНИКА

Аннотация. Передвижение лимфы при сокращении сосудистой стенки в связи с существованием клапанов в лимфатических сосудах происходит только в одном направлении. Авторами крыса используется для проведения экспериментальных работ. Для достоверной интерпретации на организм человека данных, полученных в результате опытов на животных, нужно знать видовые особенности их строения. В организме передвижение лимфы по сосудам способствует ряд второстепенных факторов, так проходя через грудную полость, проток аккумулирует лимфу от расположенных там органов. Под аортой каудально грудной проток проходит в виде широкой цистерны грудного протока, к тому же дает старт кишечному лимфатическому протоку. Однако, грудной проток очень тонко и нежно структурирован полупразрачных или почти невидимой без специальных приспособлений линий крыс.

Ключевые слова: лимфы, опыт, крысы, пердвижение, сосуды, кишечник, узлы.

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### ЛИМФАТИСТИКАЛЫҚ ЖӘРМЕТТЕРДЕГІ РАТТАМАЛАРДЫҢ ЛИМФАТИЦИЯСЫ ҚОЗҒАЛЫСЫНА КАТЫСТЫ ФАКТОРЛАР

Аннотация. Лимфа тамырларындағы клапандардың бар болуына байланысты тамырлы қабырғадағы лимфаның қозғалысы тек бір бағытта жүреді. Авторлар тәжірибелік жұмыстарға егеукұйрықты пайдаланады. Адам денесіндегі жануарлар эксперименттерінен алынған деректерді сенімді түрде түсіндіру үшін олардың құрылымының ерекшеліктерін білу қажет. Денеде лимфалардың ыдыстағы қозғалысы бірнеше қайталама факторлармен қамтамасыз етіледі, сондықтан кеуде қуысы арқылы өтетін бұлшықет жерде орналасқан органдардан лимфа жинайды. Аорта астында кеуде қуысының кеуде қуысы кеуде қуысының кең шырағы түрінде өтеді, сонымен қатар ішектің лимфа түтігі басталады. Алайда, кеуде қуысы өте жіңішке және жартылай мөлдір немесе егеуқұйрықтарды арнайы құрылғылары жоқ дерлік көрінбейтін түрде құрылымды.

Түйін сөздер: лимфомалар, тәжірибелер, егеуқұйрықтар, перфорация, тамырлар, ішектер, түйіндер

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#### Social sciences

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# TO THE QUESTION OF PRE-TRIAL ADJUSTING OF THE CONFLICTS IN THE MODERN LEGAL SYSTEM OF THE REPUBLIC OF KAZAKHSTAN

**Abstract.** The judicial system belongs to the branch of power, which, being the original generator of all Kazakhstan transformations, would be able to transform Kazakhstan in really civilized, law-abiding state. The accrued democratic society and legal state will demand complete reformation of all system of justice, not only courts, but also other law-enforcement institutes of state power. Thus, after acquisition of independence, all this time of reforms, development of the independent judicial system, and realization of judicial and legal reform. Realization of political and economic transformations entailed and deep reformation of legal sphere of the society, legal reform by itself, had to move in accordance with the realization of political and economic transformations. The governmental program of the legal reform assisted to the legal system in Kazakhstan, according to the world standards and future realization.

**Keywords:** constitution, legal system, court, judicial system, legal politics, legal reform, humanizing of the judicial system, democratization, mediation, custom's law.

When mediation is court-connected, there is potential for the satisfaction purpose to be promoted to some degree. Within the privacy of mediation, parties may pursue satisfaction of their individual goals and imaginative solutions. However, there are some additional considerations that apply in that context, including the public nature and rights-based focus of the litigation system. Court-connected mediation is conducted in the shadow of that system. The satisfaction of individual interests and priorities may therefore be promoted in court-connected mediation, in conjunction with other considerations, including the legal standards that apply to the dispute.

An alternative mediation ideology prioritizes equality. If the equality purpose is prioritized, then "the most important concern is promoting equality between individuals or, conversely, reducing inequality". Like the satisfaction purpose, the equality purpose also aims to resolve the immediate dispute between the disputants.

Equality may be promoted by many features of a mediation process, including: providing disputants with an equal opportunity to participate in the process, encouraging equal disputant control of content, accurate disputant knowledge about the alternatives to an agreed outcome, including the likely legal outcome (to safeguard for fair outcomes) and cooperation between disputants and a willingness to treat each other fairly.

The equality purpose of mediation is promoted by two groups of people; those who believe that mediation has a tendency to oppress particular members of society and conversely, those who believe that mediation can achieve social justice. Some critics of mediation assert that mediation should ensure fairness but that the structures of mediation do not protect vulnerable or less powerful disputants and thereby can contribute to inequality. On the other hand, there are some writers who maintain that

mediation achieves equality by delivering social justice. From this perspective, disempowered members of society are empowered by the forging of links between such groups and the provision of a forum in which they have a voice.

The equality purpose is related to the satisfaction purpose because the meeting of needs and alleviation of suffering is emphasized, however, the priority is that needs are met and suffering alleviated equally between the disputants, rather than to their individual satisfaction. The concept of equality introduces a collectivist sentiment into mediation and moves away from the individualism promoted by the satisfaction purpose. From this perspective, mediation has a public as well as a private purpose.

The equality purpose encourages reference to some external standard of fairness in process or outcome to ensure that equality is promoted and inequality is addressed. The imposition of such external standards can encourage more of a rights-based than an interest-based focus. This potential is likely to be magnified in the court-connected context, where the determination of rights by a court forms a powerful background to the process. Legal standards apply equally to all disputants. Therefore, there are links between the equality ideology of mediation and the formal legal system. Where mediation takes place within the context of the public justice system there is likely to be some emphasis on the equality of the process and objective fairness of outcomes. These may mirror legal standards of procedural fairness and substantive justice.

The transformation purpose has both an individualist and collectivist focus. Attention is placed on a particular relationship for the ultimate purpose of promoting peace in the broader community.

The transformation purpose has emerged in mediation theory in a movement away from the problem-solving approaches to mediation. It developed partly in recognition of some shortcomings in the application of problem-solving approaches such as the tendency to overemphasize settlement and thereby contain the conflict interaction rather than encouraging people to explore their conflict According to the transformative purpose, the dispute is a symptom of the true problem, which is the way the individuals relate to one another. The resolution of the immediate dispute may be an incidental consequence of the mediation process, but the real issue is relational.

Transformation is focused on the relationship between the disputants rather than focusing on either their interests or their rights. Two fundamental concepts of the transformation purpose are "empowerment" and "recognition". Empowerment is the development within individuals of a sense of their own value, strength and capacity to make decisions and to handle their own problems. Recognition is the acknowledgement; understanding or empathy for the situation and views of the other disputant. Transformative mediation has the capacity to foster empowerment and recognition in disputants, which are qualities that will result in constructive interaction between them.

The purpose of transformation may be promoted by many features of mediation, including: direct disputant participation in the process, disputant control of both process and content, a flexible process that can be adapted to meet the individual needs of the disputants, cooperation between disputants and commitment to the mediation process [1].

Because court-connected mediation occurs within a problem-solving framework where the aim is to resolve disputes, the purpose of transformation is generally notprioritized in court-connected mediation. The transformation model of mediation is rarely practiced in the court-connected context. On the one hand, Hensler has opposed transformative court-connected mediation on the basis that the goals of transformation are not appropriate for a public justice system. She believes that these goals are private goals that can be pursued outside the civil justice system. Litigants are presumed to be seeking finalization rather than enhanced communication. This assumes that the private goals of parties ought not to be pursued in the public-private context of court-connected processes.

Although there is theoretical potential for transformative approaches to mediation to be adopted in a court-connected program, there are significant obstacles that would need to be overcome before this could be done effectively.

Against the background of the theoretical purposes that may be promoted in mediation, the instrumental purposes for which mediation has been adopted by courts should be acknowledged. Commentators have suggested that mediation was adopted by courts to solve its problems of delay rather than to embrace mediation ideology.

This comment indicates that the primary purpose of court-connected mediation, from the view of courts at least, may not be based upon any of the mediation purposes explored above. Instead, the purpose of court-connected mediation may be to solve practical problems faced by the courts. In order to investigate this further, it is useful to conduct an analysis of the institutional objectives of court-connected mediation.

The analysis starts with a fundamental question: "what is the purpose of court-connected mediation?" Unfortunately, the goals of court-connected mediation programmers in Kazakhstan are rarely articulated. It has been suggested that the enthusiasm of court administrators for mediation was founded primarily on a perception of mediation as a case management tool rather than on an interest in incorporating any of the mediation values identified above into the formal justice system[2, P.12].

Court-connected mediation has been promoted and supported on the basis that it is cheaper, quicker, more readily accessible and less complex than judicial adjudication. Mediation has been promoted as offering informality and direct disputant participation, qualities which theoretically improve accessibility. It also provides an opportunity for cooperation.

One of the big efficiency benefits of mediation is that it has enabled courts to facilitate early settlement of litigated matters. Before court-connected mediation was introduced, the overwhelming majority of civil claims were settled prior to trial.

However, they were often settled literally at the door of the court, on the day of trial. This created problems for courts because judges were left with an empty docket, as matters were settled without there being time to reallocate the judge's time to another case. Mediation has enabled courts to reduce waiting lists for trial, because it hasfacilitated earlier settlements in some cases.

By introducing court-connected mediation, often mandatory in nature, courts have been able to encourage settlement to occur earlier in the litigation process. Rather than settling cases that would otherwise actually be tried, mediation has created a forum for settlement of cases that would otherwise have been settled through processes such as unassisted lawyer negotiation. The cases that are bound for settlement tend to be recognized before a trial date is allocated, because mediation is attempted. Therefore, mediation may be a stimulus for earlier negotiation between lawyers than would otherwise occur.

Another efficiency benefit that court-connected mediation has achieved for courts is that it may streamline the remaining legal process even for those cases that do not settle at mediation. For example, the areas of dispute may be more clearly identified, which enables a narrowing of the issues that need to be argued at trial. Furthermore, the sharing of information that occurs at mediation may clarify the legal arguments that will be made between the parties and the evidence that will be necessary to support those arguments. These factors may decrease the amount of time required to try a case. Another benefit of clarifying the legal cases is the exposure of parties to a "reality check" of the weaknesses in their case, which may encourage settlement.

One of the issues in court-connected mediation is that if there is an overemphasis on efficiency, without reference to other aspects of mediation, there is a danger that the richness and the variation that could have been present in mediation will be lost. The goal of efficiency impacts on the nature of court-connected mediation by creating pressure to find "quick" settlements and by encouraging the discussion of a narrow, limited range of issues. In other words, it encourages a departure from the core features of responsiveness, self-determination and cooperation towards an emphasis on a narrow scope, reliance upon legal advisors and distributive bargaining practices [3, P.207].

There is a choice to be made by program providers about the extent to which the potential benefits of mediation are offered in court-connected mediation programs. A clear definition of purpose at a program level would clarify the aim of the mediation process.

To facilitate decision making about what courts might offer through court-connected mediation, research about what litigants' value in dispute resolution provides an important guide.

Research findings that contrast "lawyers and parties" perspectives of the purpose of mediation include Relis interviews of participants in medical injury disputes in Toronto. She found that for both plaintiffs and physician defendants, the purpose of mediation was to facilitate communication between the disputants about the circumstances around the dispute; making mediation a very personal encounter. This perspective contrasted with lawyers (both plaintiff and defendant), who saw mediation as an opportunity for strategic communication to lower plaintiffs' expectations about monetary outcomes. Defendant lawyers discouraged physician attendance at mediation because the dispute was only about money and the insurer, not the physician, could instruct about money Researchers have also identified a fundamental distinction between the way that legal actors and disputants evaluate mediation. There is a tendency for legal actors to measure the success of mediation primarily on whether or not a settlement was reached and the nature of the outcome. By contrast, research has consistently shown that disputants measure their satisfaction with mediation (along with all dispute resolution processes) according to their experience of the process. The opportunity to participate directly is a significant part of disputants "experience of process and is discussed further at Research findings about disputants" aims in mediation highlight that the narrow, adversarial style of many court-connected mediation programs may not be satisfying the more important interests for litigants.

An example of a mature court-connected mediation program that has maintained a commitment to mediation benefits other than efficiency is the Saskatchewan Queen's Bench program in Canada. This program was introduced in a court that was not experiencing delay. The opportunity for the parties to have a face to face meeting and the ability to adapt the mediation process on a case by case basis are emphasized in this programmer.

Despite the range of potential benefits of mediation, the way that the success of court-connected mediation programs has been measured indicates that the benefit of efficiency is the primary institutional focus. The focus of courts on outcomes, measured by immediate short-term settlement statistics, as opposed to quality indicators, demonstrates the dominance of efficiency measures of the "success" of mediation.

Nonetheless, it is clear that there is a range of aims that may be promoted in court-connected mediation. There are opportunities for court programs to promote purposes of satisfaction, equality, transformation or efficiency. This is consistent with the diversity that is found within the mediation field.

In the narrowest of formulations, the affection process is a process that generally involves human agents generating claims for the reciprocal giving and receiving or exchange of positive sentiment. In many such claims, the expectation of physical, sexual exchange of biological and psychological intimacies is expected. Intimate relations also encompass intense demands for intimacy beyond the specific ties of individual emotionally and sexually driven parties. Thus, the relationships generate intense emotional demands and attachments, which require strong subordination of sexual drives while enhancing the emotional interdependence based on positive sentiment between the members of a small micro-social group[4, P.108].

For convenience, we may cross-culturally maintain that such outcomes may be accurately described as affection units in the sense that whatever the precise form these units are specialized however skilled they are to the giving and receiving of positive sentiment and affection. The affection process therefore is a process in which claiming, deciding about the nature and quality of human intimacy uses the methods of communication, of appropriate signs and symbols, of affect, positive sentiment, love including romantic love. In addition to the communication of the appropriate signs and symbols of affection, the behavior of the parties is sustained by expectations of collaboration so that practical conduct and behaviors enhance the reciprocal flow of positive sentiment. Thus, the affection process is a pattern both of communication and of collaboration transmitting and exchanging the symbols and ideals of love, loyalty, positive sentiment, patriotism and ultimately the love of man and God as well as the actual operational behaviors, which sustain the ideals.

Above we indicated that positive sentiment or affection is one of the outcomes of social organization and we call this an affection process. There is another side to this. We also spoke of social processes reproducing negative sentiment. In short, society frequently generates complex processes, which

reproduce personality types suited to claiming and demanding the values of a negative utopia. Thus, history demonstrates the ubiquity of social institutions, which symbolize human indignity on a colossal scale. Thus, society ubiquitously reproduces its ideals in the form of love, altruism, affect, and at the same time reproduces the negation of those ideals, hate, self-love and narcissism and ubiquity of the genocide-prone pathological personality and terror prone. Below we provide a table, which parallels the social process of affection (positive sentiment) and the social process of negative sentiment (deprivations) to underscore the critical challenge posed by the question of the control and regulation of both positive and negative sentiment and its importance to human rights and the dignity of man on a universal basis.

- 1. A formal myth of love and affection. The myth may be concealed and informal, but nonetheless, it is a real myth reinforcing the symbology of togetherness of the target of love and affection and those within the 'in-group' of the community context.
- 2. A symbol-myth system of solidarity, affection, and positive sentiment is a crucial component of the perspectives of the community or its elite, or its traditional and opinion leaders.
- 3. These subjectivities or perspectives of positive sentiment are outcomes of complex behavior patterns, which are characterized by affective sentiments and strong portrayals of the target of affect as appropriate for the displacement of positive inference and meaning in terms of shared affect.
- 4. Indications of emergent patterns that consolidate the collaborative behaviors of the 'we' or the 'ingroup,' vesting that group with the idealization of appropriate community acceptance as positive sentiment and love and the foundation for the licit family form which is also culturally preferred and valued.
- 5. There are further emergent, often graduated, behaviors in the primary group, which consolidate and sustain the image of community solidarity through patterns of collaboratively conditioned behavior conditioned by postitive sentiment. These include the communication of discrete signs, symbols, operational codes, myths, narratives, and reified stereotypes, which symbolize the institutionalization of the ideals of love and a positive sense of shared affect in the community.
- 6. The process of affection also involves the manipulation of signs, symbols, codes, myths, narratives and stories between members of the 'in-group' and between members of the 'in' and 'out-group.' Positive sentiment may be used in a way so also isolates those not included in this universe of affect and solidarity.
- 7. The system of generalized affective behaviors, thus, involves distinctive, and often, discrete pattern of communication of relevant signs and symbols of the 'in-group' loyalty and solidarity, as well as signs and symbols that identify, disparage, or threaten members of the 'out-group.' The patterns of communication are sustained or enhanced by collaborative operations in the exercise of public or private power. This may mean repression and exploitation for some and the power to exploit positive sentiment for base motives on the other. Thus, solidarity and patriotism may be promoted in such a way that it underlines by implication the vulnerability and validity of victimizing others such as the social pariahs, outcasts, those who are indifferent to the situation of all others.
- 8. Human beings conditioned to generate positive sentiment [affection] as an ordinary aspect of personal identity are obviously desired from a human rights perspective. The predispositions of the personality inclined to positive sentiment, invariably creates environments in which micro-social relations reflect the normative priority given to the reproduction of positive sentiment or affect. Thus, innocent child rearing and nurturing in which love and affection is practiced generates personality types better suited to reproduce personality types partial to democratic political culture. On the other hand, a person may be raised in a climate of negative sentiment where repression, deprivation and fear wittingly or unwittingly reproduce insecurity and intolerance of others in the self-system. Thus, the practices of negative sentiment in family or affection units may be a dangerous social inheritance. When such personality types mature, they exhibit the partiality to anti-democratic perspectives such as authoritarianism and domination. They reproduce the cycle of negative sentiment.
- 9. Reproducing the cycle of positive sentiment is critical to the culture of human rights and its sustainability on a global basis. Thus, the micro-social units [affection units] ostensibly specialized to positive sentiment or love and affection are critical for a healthy and normal society that does not

institutionalize compulsive, neurotic or psycho-pathological outcomes. In short, a psycho-political culture of positive sentiment reproduces in effect the social and political foundations of the culture of human rights. Perhaps even more than that, it is giving to those committed to the love of God, the religious redemption of the love ideal through human rights.

The above nine points may of course be mapped with greater precision in terms of the wide range of issues and problems that are implicated in the human prospect. Implicit in what is suggested however, is a normative challenge. The critical challenge is to the boundaries of law in our time. Law, tradition, human rights law and evolving custom are not instruments of social control that are blind, deaf and dumb to the past. On the contrary, they are important challenges for the human aspect of choice and decision in avoiding the negative and affirming the positive.

This means the enhancing the balanced shaping and the sharing of positive sentiment (affection). The alternative puts law and legal culture in a position of complicity in enhancing the outcomes of negative sentiment with the destructive potential for the future of our species[5, P.921].

The power of positive sentiment is clearly challenged by the power of reproducing negative sentiment as the world becomes fragmented and polarized in culture wars and wars, which it is asserted, are inevitable conflicts about universals inherent in the ostensible clash of civilizations. We summarize the framework therefore of the social process of negative sentiment. We note parenthetically that from a human rights perspective the disidentification of the other is a short distance from the application of the strategies fed by hate and destruction for the extermination or depreciation of the other[6, P.49].

In human rights law, we have made progress in seeking to define the boundaries of behaviors fed by negative sentiment. These include the laws prohibiting genocide, persecution on grounds of religion, racial prejudice, apartheid and in general, crimes against humanity.

- 1. A formal systemic myth or a concealed, informal, but nonetheless, real myth reinforcing the symbology of otherness of the target 'out-group'.
- 2. A symbol-myth system of prejudice, fear and hate is a crucial component of the perspectives of the dominant group or its elite and opinion leaders.
- 3. These subjectivities or perspectives are outcomes of complex behavior patterns, which are characterized by negative sentiments and negative portrayals of the 'other,' such that the symbolic 'other' is reinforced as a target for negative inference and meaning.
- 4. There are emergent patterns that consolidate the collaborative behaviors of the 'we' or the 'ingroup', vesting that group with a sense of superiority, or 'herrenvolkism,' paternalism, and further, seeking to enhance the value position of that group at the expense of the 'out-group'.
- 5. There are further emergent, often graduated, behaviors in the dominant group, which consolidate and sustain the image of the victim group through patterns of conflict-conditioned behavior. These include the communication of discrete signs, symbols, operational codes, myths, narratives, and reified stereotypes that such issues as racism, anti-Semitism and more.
- 6. The process of group deprivations also involves the manipulation of signs, symbols, codes, myths, narratives and stories between members of the 'in-group' and also between members of the 'in' and 'out-group'.
- 7. The system of generalized group deprivations, thus, involves distinctive, and often, discrete pattern of communication of relevant signs and symbols of the 'in-group' loyalty and solidarity, as well as signs and symbols that identify, disparage, or threaten members of the 'out-group.' The patterns of communication are sustained or enhanced by collaborative operations in the exercise of public or private power that move beyond discrimination, anti-Semitism, prejudice or hate to the possibilities of wholesale extinction of cultures and masses of human beings.

Our focus and emphasis is on love and hate as foundational sentiments for animating sentiments which shape who we are and what we might become. Our focus therefore is on the most foundational of all the animating sentiments of humanity, the generation and the distribution of both positive and negative sentiment. By positive sentiment, we mean the shaping and sharing of affection at every level of

organization but with a particular focus on micro-social affection units. The term, affection unit, permits us to focus on the universality of affect and positive sentiment in all human beings. The reference to 'affection unit' would refer to whatever micro-social structure is an outcome in any particular culture of how that culture controls and regulates the affection process [7].

In the Law "About mediation" this principle is enshrined in the Law of the Republic of Kazakhstan thus: The mediator has to be impartial, carry out mediation for the benefit of both parties and provide to the parties equal participation in the procedure of mediation.

In the conclusion we would like to stress, that the processes of affection as expressed in institutionalized forms may serve as a base of power to secure other values central to the culture of human rights. Finally, it would enquire into the relevance of other values that may condition the nature of the affection process itself. Thus, enquiry would look toward the relationship between power and affect, or religion, wealth, education and enlightenment, skill, health and well-being as factors contextually relevant to the nature of the affection process itself. Perhaps this suggests a more comprehensive and novel paradigm of thinking and conceptualizing about the nature of family relations, kinship ties and other micro social affection units in a complex world with heightened expectations for the universality of human dignity based on the culture of human rights.

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#### ҚАЗІРГІ ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҚҰҚЫҚТЫҚ ЖҮЙЕСІНДЕГІ ДАУЛАРДЫ СОТҚА ДЕЙІНГІ РЕТТЕУ МӘСЕЛЕСІНЕ

Аннотация. Сот жүйесі биліктің ерекше тармағын бола отырып, Қазақстанды өркениетті құқықтық мемлекет ретінде қалыптастырып демократиялық қатынастарды жетілдіретін ерекше генераторлық ықпалға ие болып саналады. Сондықтан да сот жүйесі мемлекеттегі барлық әділет жүйесін құқық қорғау органдарын мемлекеттік билік институттарын түбегейлі реформалауды жүзеге асыруға тікелей ықпал етеді. Осы себептерге байланысты егемендікке қол жеткізгеннен кейін елімізде тәуелсіз сот жүйесін қалыптастырудың жолдары ізделіп сот-құқықтық реформалар жүзеге асырылды. Саяси және экономикалық өзгерістер қоғамдағы заңнамаларды түбегейлі өзгерістерге әкелді. Сол себептен де құқықтық реформа саяси-экономикалық трансформациялармен параллельді түрде жүргізіліп отырды. Мемлекеттік құқықтық реформаның бағдарламасы Қазақстан Республикасының құқықтық жүйесін әлемдік стандарттармен есептесе отырып дамыту талаптарын қойды. Сондықтан да осы өзгерістер сот құрылымы мен сот жүргізу әдістерін, процессуалды заңнамаларды, құқық қорғау органдарын және адвокатураны реформалау қажеттіктерін туындатты. Мемлекеттік құқықтық реформалар бағдарламасын талдағанда көз жеткізетін жағдай, ол Қазақстанда сот билігін жетілдіру оған еркіндік беру демократизациялау, сот билігін мемлекеттік биліктің еркін, тәуелсіз тармағына айналдыру бағытында көптеген жұмыстар жасалғаны көрінеді. Бұл іс-әрекеттердің

барлығы азаматтардың құқықтары мен еркіндігін қорғап конституциялық құрылым мен еліміздің құқықтық кеңістігін қалыптастыруға бағытталған.

**Түйін сөздері**: конституция, құқықтық жүйе, сот, сот жүйесі, құқықтық саясат, құқықтық реформа, сот жүйесін гуманизациялау, демократиялау, медиация, адат.

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## К ВОПРОСУ О ДОСУДЕБНОМ РЕГУЛИРОВАНИИ КОНФЛИКТОВ В СОВРЕМЕННОЙ ПРАВОВОЙ СИСТЕМЕ РЕСПУБЛИКИ КАЗАХСТАН

Аннотация. Судебная система относится той ветви власти, которая, являясь своеобразным генератором всех казахстанских преобразований, была бы способной трансформировать Казахстан в истинно цивилизованное, правовое государство. Вновь созданное демократическое общество и правовое государство потребует полного реформирования всей системы юстиции, в которую входят не только суды, но и другие Таким образом, после приобретения правоохранительные институты государственной власти. независимости, все это время было поиском путей развития независимой судебной системы, реализации судебно-правовой реформы. Осуществление политических и экономических преобразований повлекло за собой и глубокое реформирование юридической сферы общества, поэтому правовая реформа должна была идти параллельно с осуществлением политических и экономических трансформаций. Государственная программа правовой реформы способствовала приведению правовой системы Казахстана в соответствие с мировыми стандартами и предусматривала реализацию следующих взаимосвязанных направлений: изменение структуры судоустройства и судопроизводства; совершенствование процессуального законодательства; реформа в правоохранительных органах и адвокатуры. Анализ основных положений Государственной программы правовой реформы показывает, что в Казахстане был осуществлен комплекс необходимых мер по утверждению судебной власти как самостоятельной, демократичной и ведущей ветви государственной власти, которая стремиться реализовать свои полномочия в интересах защиты прав и свобод граждан, конституционного строя и правового пространства страны.

**Ключевые слова:**конституция, правовая система, суд, судебная система, правоваяполитика, правовая реформа, гуманизация судебной системы, демократизация, медиация, обычное право.

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# THE INTRODUCTION OF INNOVATIVE TECHNOLOGIES IN THE EDUCATIONAL PROCESS OF HIGHER EDUCATION

**Abstract.** The most important strategy of the overall national development of Kazakhstan is the modernization of higher education, the purpose of which is to create innovative conditions for students in educational institutions of the country. The transition to a multi-level system of training, improving the competitiveness of educational institutions of higher professional education, the introduction of telecommunications systems and the widespread use of information networks of the Internet allows for a qualitatively new level of training for future specialists ready for innovative technological solutions, creative thinking and tasks in the field of research activities. To improve the quality of the educational process and the effectiveness of the management of the educational process, it is necessary that the organization of informatization covers all the main activities of the institution.

#### INTRODUCTION

Informatization refers to the process of creating optimal conditions for satisfying needs, i.e. students in higher education, on the basis of the formation and use of information resources for the organization of training, education and self-education. Informatization of the educational and educational process requires: - the organization and development of an automated information management system; - The introduction of information and innovative technologies in the learning process. Currently, one of the main tasks of higher education is to prepare competitive, highly qualified personnel to perform professional tasks. Educational institutions in the country are improving the quality of education, scientific and methodological work, introducing information technology training, actively interacting with customers. To improve the quality of education, the development and introduction of innovative technologies in the learning process is becoming increasingly important, which ensures the effectiveness of learning through the visualization of the material being taught, the development of skills for students in working with modern computer equipment, etc. However, the introduction of information technologies allows you to significantly improve the efficiency and quality of the organization of training, to carry out continuous monitoring of classes, ensure monitoring current and residual knowledge of students.

#### MAIN PART

Modern innovative technologies in education have demanded a radical restructuring of the educational process in higher education. Visualization of the material allows you to improve the efficiency of educational and scientific activities, with less time spent to master the volume of material defined by the curriculum. In this regard, lecture halls and some classes are permanently equipped with presentation tools — a personal computer, a screen, a speaker system, an interactive whiteboard, etc. The equipment should always be in the classrooms, which will simplify the introduction of new educational technologies in the educational process of the university. [1] The most important direction of the introduction of innovative methods is the creation of conditions conducive to the formation and development of abilities in students to research activities: - targeted, concerted actions (interaction) of the scientific and teaching staff of the university with the leadership of the research department; - increasing the responsibility of students for their actions; - the interaction of teachers with each other (conversations, exchange of experience); - possession of traditional methods of teaching and education in higher education; - availability of resources and a clear system for the implementation of innovative methods (specialists in

the professional field, time resource, educational and methodological base, etc.); - development of methods to assess the effect of the introduction of innovative methods; - high development from the intellectual and cultural level of the teacher; - the willingness of students to perception of specific innovative methods of education; - professional and moral readiness of the teacher to introduce innovative methods of education in creative groups. Attracting students to work in creative groups under the guidance of a teacher is one of the effective forms of preparing students for professional activities of an innovative orientation. The organization of creative groups requires a special approach: - At the beginning of the formation of a creative group, there are many who want to be its participants, but over time there are screenings for various reasons; the work the group is working on is not interesting, organization and selfdiscipline are not formed for the synchronous work of its participants. Thus, the leaders of creative teams and their teams need to: - propose a wide range of problems and areas of work of creative teams, taking into account the diversity of interests of each student-researcher; - for the annual replenishment of creative groups, it is necessary to organize students, starting from the first courses of study, attracting them to organizing events and developing their personal qualities that are necessary for further research work; differentiated approach to the leadership of students' research, taking into account the psychological work of each to form a positive moral and psychological climate in the working group, an environment of psychological compatibility and harmony; - to motivate senior students to research creative activity in groups to count this work as a training and production pre-diploma practice, and also to create conditions for them to participate in psychological and pedagogical competitions, scientific and practical conferences, competitions that require organizational and material costs at the expense of the university; - to encourage teachers to create creative groups for the study of scientific problems. [1] Thus, the innovation orientation of an educational institution is a certain set of innovation subjects (team members who are ready for the innovative development path of a higher education institution). Pedagogical innovation has become more actively used. The readiness of educational institutions for innovative development acts as a willingness to perceive, produce, assimilate and disseminate innovations, the ability of management structures to engage the teaching and learning staff on the path of innovation.

New requirements of society to the level of education and personal development lead to the need to change learning technologies. Today, technologies are productive, allowing to organize the educational process taking into account the professional orientation of the training, as well as the orientation on the personality of the student, his interests, inclinations and abilities [2].

By learning technology is meant a certain way of learning, in which the main load on the implementation of the function is performed by the training means under the control of the person. In technology of teaching, the leading role is assigned to the means of teaching: the teacher does not teach students, but performs the functions of stimulating and coordinating their activities, as well as the function of managing the means of teaching. The pedagogical mastery of the teacher consists in selecting the necessary content, applying the best methods and means of teaching in accordance with the program and the set pedagogical tasks.

Method is a way to advance to the truth. The success of training depends mainly on the orientation and internal activity of the trainees, the nature of their activities, the degree of independence, the manifestation of creative abilities and should serve as an important criterion for choosing a method. There are 5 teaching methods:

- Explanatory illustrative method.
- Reproductive method.
- Problem presentation method.
- Partially search, or heuristic method.
- · Research method.

The main forms and methods of teaching that improve the quality of education are: role-playing games, business games, seminars, repeating and summarizing lessons, conferences, debates, dialogues, problem-based learning, independent work, defending abstracts, individual work, creative essays, reports, messages; testing, programmed control, research work and many others. All the listed learning technologies contribute to solving the problem of learning quality.

Analyzing the modern practice of conducting lectures [2], we can formulate a number of didactic problems that need to be solved. So, one of them is a significant amount of information presented to

students in combination with an insufficient level of its structuredness, which complicates perception. The teacher's use of mainly one perception channel does not provide adequate learning of the educational material - the bulk of information must be understood by the student "by ear" (which also creates another difficulty - inaccuracy and unclear design of the abstract notes). The form of presenting information in a lecture lesson, as a rule, is static and cannot flexibly adapt to changes in the content of education. As for the trainees themselves - the conservative form of lectures does not contribute to their vigorous activity, which does not contribute to the formation of the students' subjective position in relation to the didactic process. These problems are particularly relevant for the teaching of special technical disciplines.

Correction of these shortcomings can be carried out through a variety of didactic innovations - using the method of problem-based learning, case study, the method of working in small groups, computer modeling and practical analysis of the results, interactive lectures, the use of test items as a control component of lectures, and inclusion in the educational The process of new forms of presentation of educational material. Practice shows that the most effective, in this context, is the use of electronic presentations that structure the content of the lecture in accordance with the logic of its presentation.

The student's emotional state largely determines mental and physical performance. The high emotional tone of the audience and its involvement in the educational process ensures the implementation of the disclosure of the reserves of the student's personality. If there is no psychological comfort in the lesson, then other incentives for learning and cognitive activity are paralyzed, the main value of the relationship between the teacher and the students is their cooperation, which involves a joint search, joint analysis of success and miscalculations. In this case, the student becomes an initiative partner.

The training of highly qualified specialists with fundamental and applied knowledge, who are able to successfully master new, professional and managerial areas, respond flexibly and dynamically to changing socio-economic conditions, possessing high moral and civic qualities at the present stage is impossible without innovative educational technologies related to improving efficiency learning and aiming at the end result of the educational process.

The use of new and new information tools leads to the emergence in pedagogy of a number of new concepts. The conceptual apparatus for the informatization of education is more widely disclosed in the work of G.K. Selevko [4].

Information technologies are a combination of systematic and mass ways and methods of processing information in all types of human activity created by applied computer science using modern means of communication, printing, computing equipment and software.

Computer technology training is the process of preparing and transmitting information to the student, the main means of implementation of which is a computer.

Information educational technologies call all technologies in the field of education using special information technical means of education (computer, audio, film, video) to achieve pedagogical goals [5, p.18].

In this regard, to clarify the conceptual apparatus, the author has developed a working definition of the concept of "information technical training aids".

Information technical training tools are understood as teaching tools based on personal computers with their software, supplemented with various multimedia, peripheral and auxiliary facilities.

It should be noted that multimedia provides a transition from a rigidly fixed text, characteristic of classical written culture, to a "soft" one - on the screen. Instant readiness of multimedia text for transformation literally pushes the learner to dialogue with him, as a result of which information is perceived at once by several senses in combination with fast access and interactive possibilities of working with it. This gives great opportunities for the development of a special, "visual thinking" that plays an independent role in the development and functioning of a person.

The term information technical training tool includes two concepts: a technical device (for example, a computer, a multimedia projector, a DVD player) and the training tool itself (presentations, video films, respectively). The main thing here, of course, is a learning tool - a carrier of educational information, it is also a means of stimulating the cognitive activity of trainees. With this approach, it becomes clear that the training tools that require the use of appropriate technical devices form part of the arsenal of training materials. They can be used in two ways.

First, to supplement the traditional teaching aids, established on the basis of a rich teaching practice, with technical means as auxiliary. This approach is most common. He, of course, allows us to rationalize the method of teaching, but only slightly. On this basis, it is sometimes an erroneous conclusion that the existing methodology, based on the usual teaching aids, is close to optimal, and, consequently, the cost of introducing innovations will not justify itself.

Secondly, to consider technical training tools in the general range of all possible means, distribute the content of training across a set of interrelated and interdependent means and form in this way sets of training tools in accordance with the capabilities of each of the tools to adequately reflect the phenomenon being studied and solve assigned didactic (training) tasks. This is a qualitatively different in comparison with the first approach to the use of technical means of training. It leads to radical changes in the education system of any discipline, opening the opportunity for optimizing the methods and forms of education, allows you to make the learning process active and manageable, to shift the focus from information training to creative learning that requires thinking.

In the light of the instructions of the President, the Ministry of Culture developed and submitted to the people of Kazakhstan a draft State Program on the Functioning and Development of Languages for 2011–2020.

The program has 4 goals for its implementation.:

- 1. The state language is the main factor in the unity of nations;
- 2. Expansion of the sphere of use of the state language;
- 3. Developed language culture the main force of the intellectual nation;
- 4. Development of linguistic capital of the people of Kazakhstan.

The Program provides ways to solve these goals, target indicators and indicators for their implementation.

The draft State Program specifies the need to form the public demand for a language, the problem of language development, the creation of a linguistic social environment, the preparation of methods for quality education and their implementation.

The countries of the world want the freedom of every individual in vocational training to become united for all states. Directions in solving problems of education in the country are determined on the basis of the program documentation of the Bologna process and UNESCO. Our state, in raising the quality of higher education, does not rely on separate work, but supports work in the framework of world leading ideas. At the same time, the significance of Kazakhstan's entry into the Bologna process, other projects "should be understood as a substitute for educational paradigms in order to improve the quality and competitiveness" [6].

#### **CONCLUSION**

The set of teaching aids cannot be viewed outside the close relationship with the scientific content of the course, the methods and forms of training. The development of a set of tools for teaching an academic discipline is one of the main tasks of the science of teaching a subject, a private teaching method. Being the material basis of the teaching and learning processes, the toolkit serves as a link between the scientific content of the academic discipline and the didactic system of teaching the subject [7].

There are significant differences in the use of personal computers and information technology in education, which are explained by the orientation towards specific theories of learning and the mastering of knowledge, as varieties of the cognitive process developed in philosophy, psychology, pedagogy and other sciences. At the same time, according to E.S. Mashbitsa, none of the domestic theories of learning did not become the basis for the development of training computer programs [8]. The reasons indicate the impossibility of their technologization, which is a prerequisite, their development is irrelevant to the peculiarities of computer training, one-sidedness is manifested in the description of pedagogical interaction.

To ensure the quality of the educational process, teachers must be specialists in their field, meet the general requirements for teachers, complete basic training, develop their own original methodology and use it in the learning process [9].

Modern media and mass communications cannot replace a lecture, but it should become even more flexible, differentiated, taking into account the particular discipline, the audience specificity, and the psychological laws of cognition, processing what was heard, its impact on the formation of assessments, attitudes, attitudes, feelings and human beliefs, and the capabilities of information technology [10].

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#### ВНЕДРЕНИЕ ИННОВАЦИОННЫХ ТЕХНОЛОГИЙ В ОБРАЗОВАТЕЛЬНЫЙ ПРОЦЕСС ВЫСШЕЙ ШКОЛЫ

Аннотация. Важнейшей стратегией общего национального развития Казахстана является модернизация высшей школы, цель которой – создание инновационных условий обучения студентов в образовательных учреждениях страны. Переход на многоуровневую систему подготовки кадров, повышение уровня конкурентоспособности образовательных учреждений высшего профессионального образования, внедрение телекоммуникационных систем и широкое использование информационных сетей Интернет позволяет обеспечить качественно новый уровень подготовки будущих специалистов, готовых к инновационным технологическим решениям, творческому мышлению и выполнению задач в области научно-исследовательской деятельности. Для повышения качества образовательного процесса и эффективности управления образовательным процессом, необходимо, чтобы организация информатизации охватывала все основные направления деятельности учреждения.

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### ЖОҒАРҒЫ БІЛІМ БЕРУ ҮРДІСІНЕ ИННОВАЦИЯЛЫҚ ТЕХНОЛГИЯЛАРДЫ ЕНГІЗУ

**Аннотация.** Қазақстанның жалпы ұлттық дамуының маңызды стратегиясы жоғары оқу орындарын жаңғырту болып табылады, оның мақсаты еліміздің оқу орындарында оқушыларды тәрбиелеу үшін инновациялық жағдай жасау болып табылады. Жоғары кәсіби білім берудің білім беру мекемелерінің бәсекеге қабілеттілігін жоғарылату, телекоммуникациялық жүйелерді енгізу және интернеттің ақпараттық желілерін кеңінен қолдану, инновациялық технологиялық шешімдерге, шығармашылық ойлауға және зерттеулер саласындағы дайындыққа дайын болашақ мамандар үшін сапалы жаңа деңгейге өтуге мүмкіндік береді. әрекеттер. Оқу үрдісінің сапасын және оқу үдерісін басқарудың тиімділігін арттыру үшін ақпараттандыруды ұйымдастыру мекеменің барлық негізгі қызметін қамтиды.

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# EDUCATION AND SCIENCE AS FACTORS OF INNOVATIVE ECONOMICS DEVELOPMENT

**Abstract.** This work is aimed at analysis of education and science role as a system of structure elements that form the innovative economics. The tasks are: reveal the notion of education and science, analyze its constituents and its role in operating process of innovative economics, and analyze its interconnection as structural system-forming elements. The following methods were used to implement the work: graphical analysis, methods of deduction and induction, and analysis of semantic sources. The research results showed some correlation between the education level and a degree of innovative development of economics; the features of social demand in the education field in view of market economics were revealed, and as result, the education goals in knowledge economy were determined. The results can be used for correction of the national policy in the field of education and science management. The authors have come to a conclusion that for successful forming of innovative economy it is necessary to transit from less flexible convey of practical knowledge to teaching the skills on knowledge application.

**Key words:** innovative economy, research universities, human capital, lifelong education.

#### Introduction

The contemporary economic relations inherent to post-industrial societies show the most effective forms of interaction between economic agents. The most effective means such forms when goods or services have higher added values in comparison with the analogues, high level of nominal GDP and PPP around the world. Among the features inherent to the post-industrial economy are the following: large share of service sector under developed industrial sector; however, the main economic growth is reached namely due to services sector. Manufacture in this case is mainly engaged in servicing of more advanced fields. One of the forms of post-industrial economics development is innovative economics in which the main growth is not focused on service sector only, but on the service sector interacting with information and knowledge. In different time periods, the researches related to the information, knowledge and its generation were conducted by various scientists, such as Ch. Landry, R. Florida, B.P. Simonov, D.A. Ruban, F. McKinley and other. All researches were focused on the features of human capital forming as the main source of innovation in the society. This work will mainly describe the issues of education and science influence as processes and systems of institutes and enterprises on forming of innovative economics.

#### Main body

Education is a comprehensive notion uniting several quite different elements each of which is responsible for its part of the social life. According to Ushakov Dictionary, education is a process of knowledge acquisition, learning, and enlightenment [1]. In its turn, the process includes several

interconnected elements: system of knowledge that should be conveyed from one person to another, the process of this knowledge convey from one to another, combination of regulations and education standards, and national programs systematizing the process of knowledge convey, and combination of education organizations and social institutes encouraging the implementation of this process. The goal of education, in view of society, is training of people who have knowledge necessary to society now and in near future. Thus, the education type and its priorities are determined on the base of the social demand, and the nature of demand varies depending on political and state system, but mainly on the type of the national economy management. For the planned economy that was typical for the USSR, the social demand was less determined by the society, but more by the managing board basing on the planning indicators. For the market economy, the social demand is based more on the competitive labor market, i.e. on demand for definite knowledge and consequently salary size. In addition, definite culture codes inherent to this or that society, traditions and status of knowledge owners in the society can influence to some extent on decision what knowledge to convey, and what skills should be taught.

For all situations mentioned above the role of education in society and economics has one common feature – all these roles are reactive, i.e. responding to external stimulus. In some sort, it can be stated that education is the object of influence, not the subject.

The innovative economics as a system based on the flow of innovations, on continuing technological improvement, on manufacture and export of high technological products with high added value supposes that the main economic growth is achieved not due to manipulations with material production (as under industrial economy) and financial assets (as under post-industrial economy), but owing to manipulation with knowledge [2].

At the same time, the notion "innovation" is mentioned frequently. Innovation under this context is ability of a human to create new combinations of available knowledge and technologies capable to solve existing problems, or make the current processes more effective. So, the innovative economy is economy ensuring the growth owing to effective manipulations with available information, with further creation of new information and its practical application. Innovative economies reach competitive advantages due to qualitative, not quantitative changes in the public economy structure.

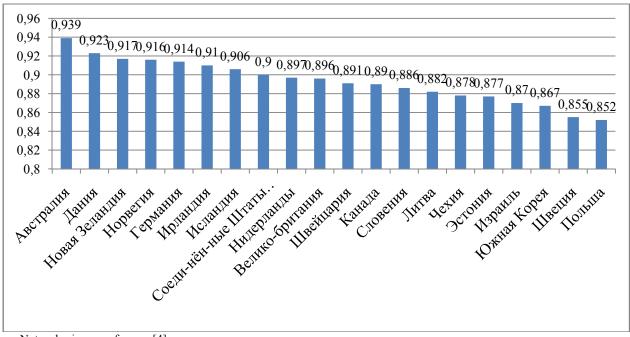
Similar to any other economy, the innovative economy needs people having necessary knowledge and skills in knowledge application. It could be said that the innovative economy forms a unique demand for skills trained under the training process in any case, but requires its formalization [3].

Education under this context as a factor of economy development does not differ much from education under the context of any other economy – it is a supplier of qualified personnel having skills corresponding to economy demand. The difference is in information dynamics of economic system.

Pre-innovative economies, in view of qualitative growth, are relatively static and stable, for instance, for a worker who wants to implement his work successfully it is enough to have a definite set of knowledge that he corrected a little and improved under renovation of productive capacities. Economic growth of an enterprise and a state in whole was reached due to increase of existing capacities, i.e. it was quantitative in its essence.

Innovative economy is informational dynamic – the structure of knowledge changes constantly, the speed of new information appearance able to influence on functioning of economic system is higher than in other economic systems, i.e. the skills gained during the learning process become out of date by the moment of practical activity start. Thus, the goal of education as a system in the innovative economy is not convey of a definite set of practical activity skills, but convey of knowledge on knowledge application that will be necessary for practical activity.

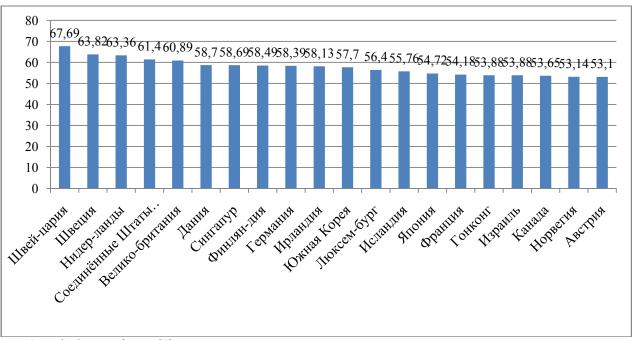
To show the interconnection of education and economic growth below is a Figure showing the education index and list of countries having the largest innovative potential.



Note – basing on reference [4]

Figure 1- Values of education global index for 20 first countries in rating

According to the global education index the most part of countries except USA, South Korea, Israel, and Canada are post-industrial European societies (Figure 1).



Note – basing on reference [5]

Figure 2 – Global index of innovations by countries

The data in Figures 1 and 2 shows that most countries having high education index also exist in the list of top countries on the innovation index, i.e. there is some correlation between the indicators of innovation and education in the countries. Basing only on data of these two indexes it is impossible to talk on any definite cause-effect relations. For example, Nassim Taleb stated that not education influences on

the development of economy, but developed economy increases the number of educated people in a country [6]. In spite of this, the education today captures the most part of young people in the developed countries in this or that form – not only in the form of systematized process of data convey, but via cultural activities and interactions, via convey of definite values focused on knowledge as value itself. In addition, the education is an inherent part of scientific personnel forming.

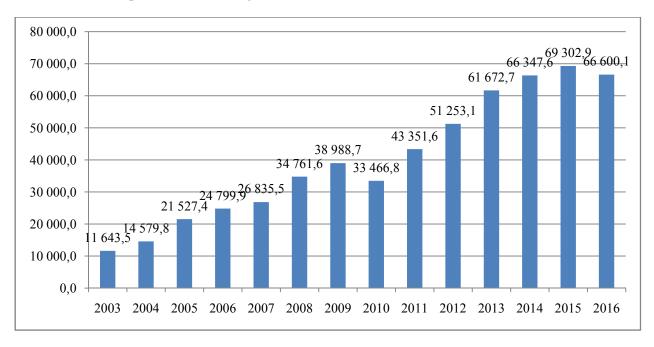
According to a definition, science is a field of human activity which function is elaboration and theoretical systematization of knowledge on reality; includes activities on new knowledge acquisition and its result – the sum of knowledge forming a base of scientific worldview [7].

Basing on the definition of the innovative economy stated above, the interconnection of science and innovative economy development is direct – a science, field of activity systematizing and elaborating new knowledge is one of the main sources of the innovative economy development. And the science not only generates theoretical knowledge, but elaborates and adopts new methods of practical work that further are transformed by entrepreneurs into innovations on which the innovative economy is based.

If we consider the interaction of education and science in the system of innovative economy, then it can be expressed as follows: Education-Science-Entrepreneurship-Manufacture of product or service. The education stage provides the main knowledge and skills necessary for further functioning in the innovative economy; the science stage generates new knowledge and concepts that are transformed into innovations at the entrepreneurship stage and are adopted by manufacture and make profit in future.

At the same time, the combinations of education and science are possible including the institutional level – in the form of research universities combining the features of educational organizations and scientific-research structures.

Regardless of influence of education and science, the conduction of researches and adoption of innovations need funding that could encourage manufacture of products for its further payback and generation of profit. For the analysis of this expenditures, we use an indicator "Internal expenditures on research and development" shown in Figure 3.



Note – basing on reference [8]

Figure 3 - Internal expenditures on research and developments in the Republic of Kazakhstan, million tenge

Despite significant increase of expenditures in comparison with 2003, this is still insufficient for adoption of innovations. The cost of modern equipment necessary for advanced researches is much higher than opportunities of Kazakhstan investors for today.

In addition, the problem caused by insufficient funding, in particular, salary size of researchers is much smaller than that of foreign organizations. As scientific qualification, owing to globalization, is relatively the same, this causes significant outflow of human capital from the countries in search of a better life.

#### Conclusion

According to the modern paradigm of development and modernization of Kazakhstan economy proposed by the President in his Address to Kazakhstan nation "Build the future together" one of the tasks is to strengthen the elements of innovative economy in the structure of the national economy. The innovative economy requires, first of all, high speed of operation with knowledge and information, and to be at the cutting edge of research and innovative works. The education, as one of the factors, encouraging the human capital development, i.e. personnel able not only to implement ordinary actions, but continuously develop own talents and skills of operation with knowledge to acquire and transform this knowledge into innovations, today is one of the inherent parts of the innovative economy. In its turn, the science is an element creating a medium in which the knowledge manipulation process occurs to form new knowledge and concepts that further will be used by economically active agents of the innovative economy to create innovations and get practical effect from the results of scientific field operation. Science and education, in its turn, are also interconnected and able for close interaction, for instance, at specialized organizations, such as research universities ensuring seamless transition from skills acquisition to its direct application. In addition, the contemporary education system should be more focused on the development of skills of thinking and self-development than on conveying of fixed knowledge as the latter can suddenly become out of date. Under this context, the value of such abstract theoretical knowledge as mathematics and information science increases.

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#### БІЛІМ ЖӘНЕ ҒЫЛЫМ ИННОВАЦИЯЛЫҚ ЭКОНОМИКАНЫ ДАМЫТУ ФАКТОРЫ РЕТІНДЕ

Аннотация. Жұмыстың мақсаты білім мен ғылымның рөліне инновациялық экономиканы қалыптастырудағы құрылымдық элементтер жиынтығы ретінде талдау жасау болып табылады. Міндеттер ретінде мыналар қойылды: білім мен ғылым ұғымын ашып көрсетіп, олардың құрамдас бөліктері мен инновациялық экономиканың өндіріс процесіндегі орнына, олардың өзара байланысына құрылымдық негіздік элементтер ретінде талдау жасау. Жұмыста келесі әдістер пайдаланылды: графикалық талдау, дедукция және индукция әдістері, семантикалық көздерді талдау. Зерттеу барысында білім деңгейі мен экономиканың инновациялық даму деңгейі арасындағы белгілі бір корреляция туралы мәліметтер алынды және білім экономикасындағы айқындалған мақсаттарға сүйене отырып, нарықтық экономика тұрғысынан білім саласындағы әлеуметтік сұраныс ерекшеліктері анықталды.

Нәтижелер білім мен ғылым менеджменті саласында мемлекеттік саясатты оңтайландыру үшін қолданылуы мүмкін. Мақала соңында табысты инновациялық экономика қалыптастыру үшін білім арқылы жұмыс дағдыларын оқытуға практикалық білімді барынша төмен икемді бере отырып көшу қажет деген қорытындыға келеді.

Түйін сөздер: инновациялық экономика, зерттеу институттары, адам капиталы, үздіксіз білім беру

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#### ОБРАЗОВАНИЕ И НАУКА КАК ФАКТОРЫ РАЗВИТИЯ ИННОВАПИОННОЙ ЭКОНОМИКИ

Аннотация. Целью данной работы является анализ роли образования и науки как совокупностей структурных элементов в формировании инновационной экономики. В качестве задач были поставлены: раскрыть понятие образования и науки, проанализировать их составляющие и их место в производственном процессе инновационной экономики, проанализировать ИХ взаимосвязь как структурных системообразующих элементов. В работе были использованы следующие методы: графический анализ, методы дедукции и индукции, анализ семантических источников. В ходе исследования были получены данные об определенной корреляции между уровнем образования и степенью инновационного развития экономики, раскрыты особенности социального запроса в сфере образования с точки зрения рыночной экономики, исходя из которых определены цели образования в экономике знаний. Результаты могут быть использованы для корректировки государственной политики в сфере менеджмента образования и науки. В конце статьи авторы пришли к выводу, что для успешного формирования инновационной экономики необходим переход с менее гибкой передачи практических знаний к обучению навыкам работы со знаниями.

**Ключевые слова:** инновационная экономика, исследовательские университеты, человеческий капитал, непрерывное образование

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# THE ROLE OF MONETARY POLICY OF THE NATIONAL BANK OF RK IN THE ECONOMIC DEVELOPMENT OF THE STATE

**Abstract.** The role of the monetary policy of the National Bank of Kazakhstan in the economic development of the state is increasing, due to the relevance of resource, financial and technological constraints. The study showed a high level of uncertainty over the long-term perspectives. It is extremely important to search for alternatives and to carefully work out various scenarios. Considering the interrelationships of Kazakhstan's economy to a large extent, involved in world economic relations with the rest of the world, and understanding the impact of monetary policy on macroeconomic indicators, in the authors' opinion, the role of the National Bank of Kazakhstan is increasing. Since the main purpose of monetary policy is to maintain low inflation (at the level of 6-8%). The achievement of these goals will be ensured by regulating the level of the monetary base using all the tools available to the National Bank of Kazakhstan.

**Keywords:** National Bank, role, monetary policy, financial market, instability, inflation.

#### INTRODUCTION

The fundamental task of monetary policy is to help the economic system achieve a level of production that is characterized by a state of full employment and a lack of inflation.

- maintaining equilibrium in the money market, controlling and regulating the money supply in circulation;
- the fight against inflationary phenomena in the economy, the regulation of the rate of national currencies;
  - business cycle regulation and market alignment;
  - providing the real economy with cheap credit resources.

The main goal of the OST is to maintain low inflation rates (at the level of 6-8%). The achievement of these goals will be ensured by regulating the level of the monetary base using all the tools available to the National Bank.

#### MAIN PART

Monetary policy is aimed either at stimulating credit and money issue (credit expansion), or at their containment and circulation (credit restriction).

State regulation of the monetary sphere is carried out in several interrelated areas [3]:

- 1. state control over the banking system;
- 2. public debt management;
- 3. regulation of the volume of credit operations and money issues.

Monetary policy methods are a combination of techniques and operations through which monetary policy actors — the National Bank as the state monetary authority and second-tier banks as "conductors" of monetary policy — affect objects (demand for money and money supply) to achieve the goals. Methods of conducting everyday monetary policy are also called tactical goals of monetary policy [1, p. 15].

Indirect methods of regulating the monetary sphere affect the motivation of the behavior of economic entities through market mechanisms. Naturally, the efficiency of using indirect methods of regulation is closely related to the degree of development of the money market.

Today, the main objective of the National Bank of the Republic of Kazakhstan is to ensure price stability in the Republic of Kazakhstan. Price stability means achieving and maintaining a low level of inflation, which helps to maintain the purchasing power of the population, reduce economic uncertainty, promotes long-term investment in production, and best contributes to economic growth and improving the welfare of the population. The target benchmark of the National Bank in 2016-2017 is the annual inflation corridor of 6-8%. In the medium term by 2020, the National Bank seeks to achieve annual inflation of 3-4%. The National Bank of the Republic of Kazakhstan has adopted a monetary policy regime aimed at establishing and achieving the inflation target in the medium term. The main feature of this regime is a clear definition of goals and priorities of monetary policy, contributing to the formation of favorable expectations of the population and the market and increasing their confidence in the central bank.

The interest rate channel plays a special role in the inflation targeting regime, through which central bank interest rate policies affect market rates with a further shift to consumer, savings, investment behavior of the population, and, ultimately, to inflation processes. The main instrument of the National Bank's monetary policy is the base rate.

An intermediate benchmark for making decisions on the level of the interest rate is the inflation forecast, which takes into account the inflation expectations of the population. If, in the medium term, the forecast inflation exceeds the target value, the central bank decides to raise the current base interest rate, and vice versa. The operational target is the short-term, one-day money market interest rate.

The adopted exchange rate policy regime - the floating exchange rate of the tenge is formed under the influence of fundamental factors - world oil prices, as well as exchange rates of the countries - major trading partners, first of all, Russia.

The advantages of the floating exchange rate regime include: achieving an equilibrium level of the real exchange rate in the market, maintaining the competitiveness of domestic producers, preventing significant imbalances in the current account and preventing a decline in international reserves. The Kazakhstan Central Bank does not interfere in the exchange rate process, and at the same time reserves the right to conduct interventions to prevent excessive changes in the tenge exchange rate, as well as to ensure the stability of the financial system. Interventions in general do not contradict the policy of a floating exchange rate and can be carried out by central banks, including to replenish the country's international reserves.

However, internal problems of the domestic economy, such as a high level of gross external debt, its raw material dependence, poor credit portfolio classification and poor asset quality of the banking system, can become an obstacle to a country's sustainable growth trajectory. Seven years have passed since the start of the implementation of the Strategy for Industrial-Innovative Development, but the result was the opposite of what was desired: the share of the extractive sector in the industrial structure not only decreased, but, on the contrary, increased significantly.

The strategic plan - 2020 provides for sustainable and balanced development of the national economy in the next decade due to accelerated industrial diversification, that is, this should be essentially a turning point in the development of the country's economy. Unfortunately, the raw materials sector is actually owned by foreign companies that are not ready to reinvest the revenues and profits received here into the real sector, because they benefit from the export of raw materials and they have their own factories, but they are processed all over the world, which ensure profit margins through the sale of final products, employment of its citizens and tax revenues in the domestic treasury.

Practice shows that we had significant deviations of monetary policy from forecast indicators, which was primarily due to underestimates of the cost of oil and the volume of resources attracted from foreign markets. These factors influenced the approximate reality of forecasts, as a result of which the actual indicators, as a rule, were formed far above the planned level. The president explained the reorganization of the economic bloc of the government by the fact that "no one deals with issues of strategic and state planning, which are becoming very important," ...

Implementation of the Program - 2020. as emphasized in the Message, should be the main core of work. No one should stand aside ... A real stressful plan, even with its incomplete implementation, mobilizes everyone to implement the set strategic objectives. Unfortunately, the forecast of the main

indicators of monetary policy for 2010, as the benchmarks for the development of the economy, despite the critical remarks of the Head of State to the ministries of the economic bloc and banks, does not meet the serious requirements for making good decisions.

It is money as a specific financial instrument that is the main motive for making certain economic decisions both at the level of state policy and at the level of individual enterprises.

The main tool for carrying out monetary policy to maintain the planned level of inflation is the manipulation of the interest rate (refinancing rate), which increases deposit rates in private banks and increases the attractiveness of saving money rather than spending. Lowering the discount rate lowers deposit rates in private banks and reduces the attractiveness of saving money.

In addition, the increase in the discount rate increases the level of interest rates in banks and reduces the interest rates on lending. Thus, lower interest rates increase inflation. Raising the discount rate reduces inflation.

In practice, monetary targeting means that the national bank supports the specified parameters of change in the monetary aggregate.

This strategy is based on two prerequisites:

- if there is a stable relationship between money and the price level, then price stabilization can be achieved by limiting the monetary aggregate;
  - The amount of money should be controlled by monetary policy over a limited time horizon.

With direct control of inflation, the strategy of the Central Bank focuses directly on the dynamics of inflation. The policy of the National Bank in this case is reduced to a more or less mechanical reaction to the deviations of the predicted values of inflation from the given values at a certain time horizon.

Some thoughts on the inflation targeting project account:

The main elements of inflation targeting are:

- the main goal of the monetary central bank is price stability;
- setting quantitative targets for inflation;
- high requirements of transparency of its implementation strategy;
- an approach based on a prospective assessment of inflationary pressures, taking into account a wide range of information.

The NBK follows the policy of inflation targeting in order to gradually reduce inflation. In the "Forecast of the socio-economic development of Kazakhstan for 2015-2019" it has been established:

"The National Bank of the Republic of Kazakhstan will continue to conduct monetary policy, the main goal of which is to ensure price stability, which implies keeping annual inflation in the range of 6.08.0%. As part of this work, measures will be taken to improve the interest rate channel and gradually reduce the role of the currency channel. In order to effectively address the challenges facing the Government and the National Bank, a set of measures will be developed aimed at reducing inflation to 3-4% in the medium term".

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#### РОЛЬ ДЕНЕЖНО-КРЕДИТНОЙ ПОЛИТИКИ НАЦИОНАЛЬНОГО БАНКА РК В ЭКОНОМИЧЕСКОМ РАЗВИТИИ ГОСУДАРСТВА

Аннотация. Роль денежно-кредитной политики Национального банка РК в экономическом развитии государства возрастает, в связи с актуальностью ресурсных, финансовых и технологических ограничений. Как показало исследование высокий уровень неопределенности долгосрочных перспектив представляется чрезвычайно важным поиск альтернатив и тщательную проработку различных сценариев. Учитывая взаимосвязи экономики Казахстана в значительной степени, вовлеченной в мирохозяйственные связи с остальным миром и понимая влияние кредитно-денежная политика на макроэкономические показатели, по мнению авторов, возрастает роль Национального банка РК. Так как основной целью кредитно-денежной политики является поддержание низких темпов инфляции (на уровне 6-8%). Достижение этих целей будет обеспечиваться регулированием уровня денежной базы с использованием всех имеющихся у Национального банка РК инструментов.

**Ключевые слова:** Национальный банк, роль, кредитно-денежная политика, финансовый рынок, нестабильность, инфляция.

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#### ҚР ҰЛТТЫҚ БАНКІНІҢ АҚША-КРЕДИТ САЯСАТЫНЫҢ РӨЛІ МЕМЛЕКЕТТІК ЭКОНОМИКАЛЫҚ ДАМУ

Аннотация. Ресурстық, қаржылық және технологиялық шектеулердің өзектілігіне байланысты Қазақстан Республикасы Ұлттық Банкінің мемлекеттің экономикалық дамуына ақша-кредит саясатының рөлі артып келеді. Зерттеу ұзақ мерзімді перспективада жоғары деңгейдегі белгісіздікті көрсетті, әр түрлі сценарийлер арқылы баламаларды іздеу және мұқият жұмыс істеу өте маңызды. Қазақстанның экономикасын әлемнің басқа елдерімен әлемдік экономикалық қатынастарға қатыстыра отырып, ақша экономикасының макроэкономикалық көрсеткіштерге әсерін түсіну арқылы Қазақстан экономикасының өзара байланысын ескере отырып, авторлардың пікірінше, ҚР Ұлттық Банкінің рөлі артып келеді. Ақша-кредит саясатының негізгі мақсаты төмен инфляцияны қолдау болып табылады (6-8% деңгейінде). Осы мақсаттарға қол жеткізу Қазақстан Ұлттық Банкіне қолжетімді барлық құралдарды пайдалана отырып, ақша базасының деңгейін реттеу жолымен қамтамасыз етілетін болады.

Түйін сөздер: Ұлттық Банк, рөл, ақша-кредит саясаты, қаржы нарығы, тұрақсыздық, инфляция.

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#### RESOLUTION OF HOUSING DISPUTES IN THE CIVIL PROCESS

Abstract. To date, new norms have been adopted that lay the foundation for the implementation of the new Civil Procedure Code. The aim of the article was to describe the mediation as a legal phenomenon of decisive housing disputes and the identification of its practical procedural resource. Negotiations between the parties while the case was in court proceedings were always conducted, but for obvious reasons they should have been conducted outside the framework of the proceedings. In the process orbit, the result of the negotiation relationship could be manifested - the conclusion of a settlement agreement, subject to approval by the court. Having determined the specifics of a legal phenomenon, its place in a number of other judicial procedures (settlement of the dispute by the court on the merits, conclusion of a settlement agreement, execution of the decision), it is possible to designate a practical framework for the application of mediation rules.

Keywords: disputes, process, tangible property, housing, legal proceedings, negotiations, legal phenomenon, mediation.

#### INTRODUCTION

Among the innovations, a special place is occupied by mediation, which is a new step by the Kazakhstani legislator, aimed at using reconciliation procedures in legal proceedings and reducing the "degree of conflict" in litigations. A special place of mediation in Kazakhstan's legal reality is also explained by the fact that the legislator, in order to standardize new procedures, did not introduce separate rules into the existing procedural codes. Instead, an independent regulatory legal act was adopted - the Law of the Republic of Kazakhstan "On Mediation", after which the norms detailing the provisions of this Law were incorporated into the procedural legislation. This step of the legislator is explained by the fact that mediation as a procedural mechanism is applicable both in civil and in criminal proceedings (with certain restrictions), and thus the adopted special Law became a single regulatory framework, designed to perform inter-sectoral functions. The first problems were identified from the moment of the adoption of the Law, and experts still restrainedly evaluate this regulatory innovation. Evaluation of laws is traditionally associated with the criteria of its effectiveness, and in this sense, legislation on mediation is not an exception. Consistently introducing mediation rules into procedural legislation, the legislator attempted to synchronize the new normative act on mediation with the codified acts of the procedural block.

#### MAIN PART

Among the more detailed issues that today require the attention of scholars and practitioners, we should mention the limits of the use of mediation (expansion / contraction of the regulatory framework of application), the activities of mediators in the procedural field as participants in procedural relations and as representatives of the professional community; organizational forms of activity of mediators and prospects for improving these forms. Special attention should be paid to the issues of professional training of mediators, increasing their qualifications and the issues of their taxation, etc. The isolation of the mediator as a new subject of procedural relations poses the problem of rational placement of new rules in industry laws - regulatory legal acts of substantive and procedural. In the scientific direction, where the subject of research is mediation, there is a lack of work on this topic.

In modern conditions, this seems to be the most optimal way to minimize the number of conflicts in civil circulation and in the sphere of family, labor, land, agricultural, housing and other legal relations. Mediation is a proven mechanism of world law practice, it has enough advantages in Kazakhstani conditions and can generally alter not only civil, but also criminal justice in a positive way. The need for mediation. Modern procedural models that are aimed at reducing the time for resolution of disputes began to be applied since 1999. With the adoption of the current Civil Procedure Code of the Republic of Kazakhstan, which replaced the regulatory code of the Code of Civil Procedure of the Kazakh SSR, the courts were freed from the need to conduct "full-format" proceedings on cases whose result was obvious. The procedural form for this innovation was the order proceedings, previously unknown to the civil process of the Soviet type. Further, other significant in their regulatory purposes, innovations in legal proceedings were introduced, and a significant step in the further improvement of the civil procedure industry was the introduction of the institute of mediation into legal proceedings (2011). As noted above, experts have differently appreciated the innovation, but the obvious fact is that it has an undeniable potential that, if used rationally, will largely save the national civil justice from the "birthmarks" of the Soviet judicial process: red tape in resolving cases and non-execution of judicial decisions. What are the prerequisites for an active search for ways to reduce the number of litigations? Today it is indisputable that the increase in the number of judges is not a panacea for the problems of national justice; suffice it to say that the in-depth specialization of the courts did not reduce the number of cases brought before the courts. In addition, the increase in the number of judgments rendered by the courts does not mean that the number of judicial acts executed accordingly increases. From year to year, an increasing number of subjects are involved in the orbit of the judicial process: these are citizens, legal entities, state bodies, international organizations, etc. With all the diversity of the subject composition of the disputed (conflict) legal relations of all these subjects, one thing unites: this desire as quickly as possible resolve a legal dispute and obtain procedural guarantees of the execution of agreements, if any, have been achieved. In this sense, mediation is an effective legal tool that in Kazakhstan's realities can show its positive qualities.

The effectiveness of mediation is proven by international law enforcement experience. The courts of England and Wales traditionally actively support mediation, because it seems to be a relatively quick and inexpensive alternative to litigation and has a high potential for success. When the court cannot persuade the parties to resolve the dispute through mediation, it may even impose monetary sanctions on the parties who unreasonably (in the court's opinion) refused it, may even suspend the proceedings on their own initiative in order to give time for a decision on mediation.

Substantive law does not always cope with its regulatory functions, or there are problems with law enforcement. Neither one nor the other for the losing party is of fundamental importance, a specific subject operates with the concepts of the validity and fairness of a judicial act. If the court decision does not meet these criteria, then it cannot be considered lawful in the representation of the participant in the process. In such a situation, mediation as a procedure and a mediator, as a procedural figure can provide a rational ending of the case, which ultimately can The courts have a specialty of judges in specific disputes. There are different categories for housing disputes. Now there are a lot of cases on eviction from housing on claims of second-tier banks. As a security for the performance of its obligations to the bank, an individual provides his housing as a pledge. In case of non-fulfillment of the obligation to the bank, this entails the foreclosure of this property under the terms of the contract and, subsequently, eviction.

Changes to the CCP facilitate the work of the courts. Take an example with representatives. The judge, in the process of studying the materials of the case, saw during the trial that the representative, who had no legal education, had incorrectly formulated the stated requirement. That is, the dispute exists, and the requirement is not based on law. As a judge, showing equal and respectful attitude towards the parties, we cannot give preference to anyone. At the same time, you think: "How is it possible!". The person (the representative - approx. Author) does not even know how to formulate this requirement. The fact that now representatives should be with higher legal education, eradicates such situations. Now we live in a legal state. Citizens and legal entities in full enjoy the rights granted by law. And in recent times the trend is this - going to court in the state language.

The program "100 steps" of the President of the Republic of Kazakhstan will affect the quality of justice. If we take the 16th step, which concerns the transition from the five-level judicial system to the three-level, then this will significantly reduce the time to consider litigation. The parties, taking advantage

of their rights, turned to the appellate court after the first instance, then the cassation system, and then the supervisory one. After the appeal appeal, the judicial act comes into force. However, using their rights, the parties could appeal against a judicial act that entered into force both in cassation and in supervisory review. In the case of the three-tier system, the judicial act which entered into force after the appellate instance can be appealed only by cassation. That is, the judicial act that entered into legal force was revised twice, and now - only once. We believe that this is a positive thing. The cassation instance will now be in the Supreme Court of the Republic of Kazakhstan. Supervisory authority will not. Also before, there were two instances in the regional court: an appeal that reconsiders a judicial act that has not entered into legal force, a cassation that reconsiders a judicial act that has already entered into legal force. Now, since 2016, the appeals instance is in the regional courts, in the courts of the city of Astana and Almaty, and the cassation instance is in the Supreme Court.

here is a possibility that the emergence of procedural mediation schemes in the future will be ahead of the lawmaking process, which in Kazakhstani conditions (and in the conditions of other CIS countries too) will resemble elements of case law. Practical examples in the legal field can be cited again from the use of modern communication resources. In addition, it is highly desirable that mediation mechanisms for the types of disputes (by category of cases) be developed in parallel in the criminal and civil procedural areas with a prominent manifestation of the elements of their unification. With the current trends, it can be assumed that mediation will be spread, the beginning of this process is laid. In the city of Astana, there is the "Republican public association" Union of Professional Mediators "Kelisu", which has a staff of qualified workers and educates future mediators. Certified mediators have tested certain mediation models that have shown their effectiveness in resolving civil and economic disputes, a promising direction for developing is the direction of resolving disputes arising from housing, family, obligations, inheritance and other legal relations. Procedural legislation focused on conciliation procedures will shape the need for the development of new substantive laws. In this sense, mediation will have a positive impact on the development of new regulatory legal acts, which in their content will be focused on the conflict-free process of law-realization. This means that a reduction in the level of conflict potential in relations emerging in civilian circulation will result in a decrease in the number of court disputes. In the classic version, the court resolves the dispute on the principle of which of the parties are supported by legal norms. However, not always even the most reasonable and motivated decisions have real prospects for execution. The available statistics on the execution of court decisions only confirms this conclusion. To put it bluntly, failure to execute a decision means failure to achieve the goals of justice. If one of the options for resolving a dispute is to make a decision on the merits of a dispute, and the other is to resolve a dispute through mediation, the following advantages are in favor of the second option: — timely resolution of the dispute is ensured, since both parties to the conflict are interested in this; do not pursue the goal of delaying the process; — The parties are not looking for illegal ways and there are no nonprocedural contacts with the judge; — gaps in substantive law, which impede the application of its provisions in complex legal cases, are neutralized; — a base of positive (conflict-free) law-realization is being created, which can serve as a basis for the development of effective regulatory legal acts; — The number of judicial acts requiring enforcement will be reduced; — Stable civil relations will be formed that do not require jurisdictional (judicial) intervention; — Business, personal, family, business and other relationships will remain, which, before the outbreak of conflict, had real prospects for positive development; — Conflicting parties can avoid costly representative services.

#### **CONCLUSION**

The diversity of life conflicts requires the development of effective models of relationships, among which, in the foreseeable future, mediation can show the aforementioned advantages. The legislative process will also have to focus on the results of the use of mediation procedures in Kazakhstan's legal proceedings. In general, mediation as a phenomenon in law and as a procedural format of relations between various subjects in the procedural field can be viewed as a promising model of a conflict-free society, when judicial intervention in legal disputes will gradually give way to contractual ways to resolve conflicts.

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Атырауский государственный университет им. Халела Досмухамедова РАЗРЕШЕНИЕ ЖИЛИЩНЫХ СПОРОВ В ГРАЖДАНСКОМ ПРОЦЕССЕ

Аннотация. На сегодняшний день приняты новые нормы, которые закладывают основы для внедрения в жизнь нового Гражданского процессуального кодекса. Целью статьи авторы обозначили описание медиации как правового явления решающего жилищные споры и выявление ее практического процессуального ресурса. Переговоры между сторонами в период нахождения дела в производстве суда велись всегда, но по понятным причинам они должны были вестись за рамками судопроизводства. В орбите процесса мог проявиться результат переговорных отношений — заключение мирового соглашения, подлежащего утверждению судом. Определив специфику правового явления, его место в ряду иных судебных процедур (разрешение спора судом по существу, заключение мирового соглашения, исполнение решения), можно обозначить практические рамки применения правил медиации.

**Ключевые слова:** споры, процесс, материальное имущество, жилье, судопроизводство, переговоры, правовое явление, медиация

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#### АЗАМАТТЫҚ ПРОЦЕСТЕ ҮЙ МӘСЕЛЕСІН ШЕШУ

Аннотация. Қазіргі уақытта жаңа Азаматтық іс жүргізу кодексін енгізудің негізін қалайтын жаңа нормалар қабылданды. Мақсаты медиацияны шешуші тұрғын үйге қатысты дау-дамайдың құқықтық құбылысы және оның практикалық процедуралық ресурсын анықтау сияқты сипаттау болды. Сот ісін жүргізу барысында тараптар арасында келіссөздер әрдайым жүргізілді, бірақ айқын себептер бойынша олар сот талқылауы шеңберінен тыс өткізілді. Процестің орбитасында келіссөз қарым-қатынастарының нәтижесі - соттың бекітуіне жататын келісім-шарттың жасалуы көрінді. Құқықтық құбылыстың ерекшелігін, оның бірқатар басқа сот процедураларында (сот даудың мән-жайлар бойынша шешілуі, келісімді жасасу, шешімді орындау) орны анықталғаннан кейін медиация ережелерін қолданудың практикалық негізін белгілеуге болады.

**Түйін сөздер:** даулар, процестер, материалдық меншік, тұрғын үй, сот ісін жүргізу, келіссөздер, заңдық құбылыс, медиация

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## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# FORMATION OF HUMAN CAPITAL IN THE SOCIAL SPHERE IN THE CONDITIONS OF INNOVATIVE ECONOMY

**Abctract.** If initially human capital was defined through the prism of the immediate ability of a person (worker) to work, then over time the concept of human capital acquired new shades. Analytical socio-economic definition of human capital, i.e. The following definition can be considered as such which includes the possibility of management: human capital is an intensive factor of production, recently used as one of the indices of socio-economic development. Accounting for human capital in the structure of the national economy characterizes the degree of rationality of the attitude of the state, society and man to human existence, to its inclusion in the social institutions of a particular society. It is precisely because of the rational attitude towards man that human capital becomes not only the subject of theoretical study, but also the object of control.

**Keywords:** Human capital, labor market; labor force, labor resources, unemployment, employer, population.

#### **INTRODUCTION**

But the intermediate definition of human capital, taken in the framework of this work for the working, can be the following definition: human capital is an integral harmoniously structured set of knowledge, skills, skills at the operational level, ability to solve problems at the level of action and the ability to initiate innovation at the level of activity.

At the present stage of development of Kazakhstan there are four main priorities that provide conditions for the emergence of a post-industrial economy in the country:

- the formation of a diversified economy with a predominance of medium and high-tech industries
- formation of production and life-supporting infrastructure of the modern level
- development of institutional partnerships between different sectors of the economy
- improving the quality of life of the population

#### MAIN PART

A qualitative change in the standard of living of the population is necessary on the basis of developing human resources and ensuring the modern quality of city social infrastructure services (health, education, culture, social assistance and social services).

In turn, management inevitably is the activity of distributing and structuring any limited resources in order to find their optimal use. Since human capital, as was shown above, is a resource of modern economics thanks to the institutional theory and theory of human capital, it requires management. Moreover, this thesis concerns the human capital required by modern highly competitive economies.

Thus, it is shown that the study of human capital must inevitably begin within the framework of institutional socio-economic theory as a transdisciplinary synthesis of sociology and economic theory. Such a requirement for the proposed theoretical and methodological construct is explained by the synergistic effect that is achieved thanks to the developed theory in the framework of institutional economics and the explanatory interpretation effect achieved through the use of categories of sociology of management.

At all levels of human capital - individual, corporate and national - it is based on special, specific knowledge, skills and technologies that determine the competitive advantages of human capital of the appropriate level.

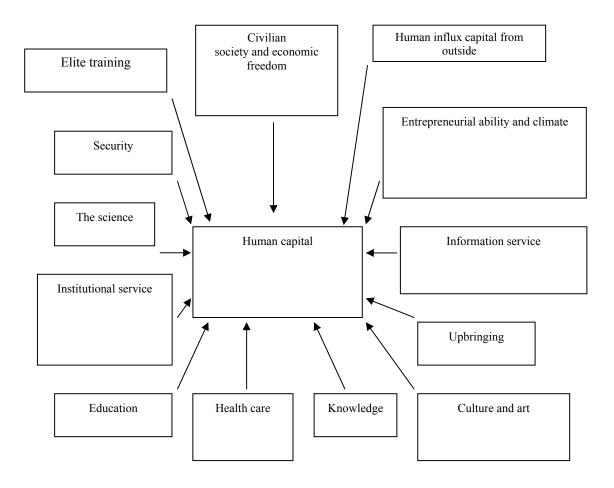


Fig. 1. Sources of national human capital formation in a broad definition

At all levels of human capital, it also includes additional qualified labor resources, quality of life, tools and technologies that ensure the realization of the competitive advantages of the national Human capital, the effective functioning of the Human capital as an intensive factor of innovation, intellectual work and development.

Positive human capital is defined as the accumulated value of the Human capital, which provides a useful return on investment in development and growth. In particular, from investments in raising and maintaining the quality of life of the population, in the growth of innovative and institutional potentials.

The fact that human capital cannot be changed in a short time, especially with a significant amount of negative accumulated human capital, is essentially the main problem of the development of the economy of the Republic of Kazakhstan from the human capital of the development theory human capital.

The methodology of the World Bank summarizes the results and methods for estimating the human capital of other schools and authors. These estimates of human capital in some countries of the world at the end of the 20th century are shown below in table 1.

Table 1 - Estimates of human capital in some countries of the world at the end of the XX century

Country	Overall volume, trillion Doll.	Human capital, in% to:		
		national wealth countries	Global Outcome	US level
World Outcome	365	66	100	384
G7 and EU countries	215	78	59	226
of them:				
USA	95	77	26	100
OPEC countries	45	47	12	47
CIS countries	40	50	11	42
including Russia	30	50	8	32
Other countries	65	65	18	68
including China	25	77	7	26
Brazil	9	74	2	9
Indonesia	9	75	2	9
Mexico	8	77	2	8
India	7	58	2	7
Pakistan	4	80	1	4

Source: L. Nesterov, G. Ashirova. National Wealth and Human Capital. // VE, 2003, No. 2; Economic theory. / Ed. Nikolaeva I.P. - M .: Unity, 2004. - S.: 417.

Human capital, as follows from Table 3.1, in most countries exceeds half of the accumulated national wealth. For developed countries, this reflects the high levels and quality of human capital. For developing and underdeveloped countries - highlights the flaws in the methodology for calculating the cost of human capital costs, which does not reflect the high proportion of investment losses, the high proportion of negative and passive human capital. And as a whole - does not reflect the quality and effectiveness of the national human capital.

Improving the quality of life, the emergence of opportunities for participation in the cultural and spiritual spheres of life for an increasing number of people ensured the emergence of a new phenomenon of social life - rapid growth of human capital due to an understanding of its significance in the structure of production and growth of investments in scientific research, professional education, and through political and economic freedom, urbanization.

At the same time, investments in human capital not only increased in volume, but also changed the forms of organization in the management and creation of human capital.

There are three stages of growth in the quality and efficiency of human capital:

- 1. Improving the level of education and the development of science as a social institution. The emergence of management as a narrow professional field of activity that led to the creation of an innovative lifestyle and thinking style the ideology of capitalism.
- 2. Understanding the need for vocational training, which led to a massive educational process in special education.
- 3. The emergence of a class of entrepreneurs who initiated competition in the sphere of production, and, consequently, competition for the possession of higher-quality human capital. This increased the value of owning human capital and significantly increased the prestige of education.

During the subsequent stages of human capital growth, there was an increase in the power of the triad of drivers of growth and development of the economy, society and quality of life: knowledge accumulation, intelligence growth (professionalism), and innovation generation. 1) Congenital abilities; 2) Health; 3) Culture and art; 4) Education.

Monitoring of supply and demand for labor in the vocational qualification context and aligning the training of people working professions, the introduction of new specialties according to the demand of employers.

Changing the structure of training programs for the training of new cadres of blue-collar occupations with an emphasis on practical training in the "mentoring" system: 70% of study time is "acquiring practical skills"; 30% of study time - "theoretical support for practical skills and competencies".

Making proposals on changing the existing Rules for the organization and financing of vocational training, advanced training and retraining of the unemployed, on the issue of equal participation of vocational schools and private training centers in obtaining state orders for training specialists with primary vocational education and retraining of the unemployed. The introduction of the dual system (specialization) with a rigid attachment to the production facility.

Making proposals to amend and supplement the current legislation on education and employment: on the introduction of a system of grants for the unemployed, according to which the unemployed - the owner of the "grant" (financial equivalent of tuition fees) chooses which institution to go to.

The introduction of a quasi-market environment in the training of workers with primary and secondary vocational education.

#### **CONCLUSION**

Introduction of a system of effective independent assessment of employee professional skills based on the activities of the Republican Center for Confirmation and Assignment of Qualification (RDCC). Quasimarket character is given by the fact that independent employers participate in the commission, tests are compiled with the participation of employers and professional practitioners assess the knowledge of graduate students and candidates for assignment or confirmation of a particular qualification. Transferring competitive operations to the Internet. Here, savings are achieved due to more competitive bidding, removal of geographical and temporal restrictions on access to contests of its possible participants, processing orders in real time. This is possible with the introduction of an e-government system and the provision of information systems for local governments and users.

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#### ФОРМИРОВАНИЕ ЧЕЛОВЕЧЕСКОГО КАПИТАЛА В СОЦИАЛЬНОЙ СФЕР В УСЛОВИЯХ ИННОВАПИОННОЙ ЭКОНОМИКИ

Аннотация. Если изначально человеческий капитал определялся через призму непосредственной способности человека (рабочего) к трудовой деятельности, то со временем понятие человеческого капитала обрело новые оттенки. Аналитическим социально-экономическим определением человеческого капитала, т.е. таким, который включает возможность управления, может считаться следующее определение: человеческий капитал — это интенсивный фактор производства, в последнее время использующийся в качестве одного из индексов социально-экономического развития. Учет человеческого капитала в структуре национальной экономики характеризует степень рациональности отношения государства, общества и человека к человеческому существованию, к его включенности в социальные институты конкретного общества. Именно вследствие рационального отношения к человеку человеческий капитал становится не только предметом теоретического изучения, но и объектом управления.

**Ключевые слова:** Человеческий капитал, *рынок труда*; рабочая сила, трудовые ресурсы, безработица, работодатель, численность населения.

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#### ИННОВАЦИЯЛЫҚ ЭКОНОМИКАНЫҢ ШАРТТАРЫНДАҒЫ ӘЛЕУМЕТТІК САЛАДАҒЫ АДАМ ҚАРЖЫЛЫҚ КАПИТАЛЫНЫҢ ТҮРЛЕРІ

Аннотация. Алғашқыда адам капиталы адамның (жұмыскердің) жұмыс істеуге қабілеттілігінің призмасы арқылы айқындалған болса, онда уақыт өткен сайын адами капиталдың тұжырымдамасы жаңа реңктерге ие болды. Адами капиталдың аналитикалық әлеуметтік-экономикалық анықтамасы, яғни. Келесі анықтаманы басқару мүмкіндігін қамтитын ретінде қарастыруға болады: адам капиталы - әлеуметтік-экономикалық даму индекстерінің бірі ретінде жақында қолданылатын өндірістің қарқынды факторы. Адам капиталын ұлттық экономиканың құрылымында есепке алу мемлекеттің, қоғамның және адамның адам өміріне деген көзқарасының ұтымдылық дәрежесін, оның қоғамның әлеуметтік институттарына енуін сипаттайды. Дәл адамның адамға қатысты ұтымды қатынасы адами капитал тек теориялық зерттеу тақырыбы ғана емес, сондай-ақ бақылау объектісі болып табылады.

**Түйін сөздер:** Адами капитал, еңбек нарығы; жұмыс күші, еңбек ресурстары, жұмыссыздық, жұмыс беруші, халық.

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# THEORETICAL AND PRACTICAL ASPECTS OF MONITORING THE FINANCIAL CONDITION OF AGRARIAN SECTOR ENTERPRISES

**Abstract.** According to the authors, in Kazakhstan, as in any country in the world, diagnostics and constant monitoring of the stability of the financial condition of enterprises is an objective necessity in the framework of effective economic development of the state. Due to the crisis in the global economy, part of competitive enterprises are currently experiencing financial difficulties, which creates risks of bankruptcy, failure to fulfill obligations to creditors, investors and counterparties, failure to fulfill tax liabilities, adversely affects the loan portfolio of banks. In this regard, a complex assessment acquires particular relevance, that is, monitoring the financial status of enterprises in the agrarian sector of the economy of the Republic of Kazakhstan, whose main task is, first of all, to identify bankruptcy risks, the causes and factors for reducing the financial condition of enterprises in the agrarian sector.

**Keywords:** agriculture, export, potential, competition, financial monitoring, forecasting, business, sustainable development.

#### **INTRODUCTION**

Agriculture is an important sector of production, providing the population with food and raw materials for other industries. Agriculture in the structure of GDP of the Republic of Kazakhstan in 2017 amounted to 4.3% [1]. The implementation of government programs for industry support was a significant factor in growth in agriculture (2.9%) [2]. For agriculture, a positive trend is the gradual process of product diversification.

The exceptional position of the agro-industrial complex and the agrarian sector in the economy makes it necessary to ensure the financial sustainability of agricultural enterprises. Ensuring sustainable development of rural areas involves, above all, ensuring the financial sustainability of enterprises in the agrarian sector.

Sustainable development of the agricultural sector depends on the activities of the primary link - enterprises. The sustainability of an enterprise is defined as "the financial condition of an enterprise whose business activity in normal conditions ensures the fulfillment of all obligations to employees, other organizations, the state thanks to sufficient incomes and, accordingly, income and expenses" [3].

Under the influence of the global economic crisis, enterprises of the agro-industrial complex are increasingly suffering from a reduction in demand for their products, balancing on the verge of zero profitability, often in a zone of unprofitableness, that is, facing the threat of termination. In this connection, a complex assessment of the financial condition of enterprises in the agrarian sector of the economy, whose main task is to identify the risks of bankruptcy, the causes and factors of the decline in the financial condition of enterprises in the agrarian sector, acquires particular relevance.

#### **MAIN PART**

To maintain economic growth, reduce the number of crisis enterprises, it is necessary to constantly monitor the financial condition of enterprises in all sectors of the economy. This task can be solved from the standpoint of the formation of a new organizational mechanism - monitoring the financial condition of enterprises.

In the conditions of an unstable economic situation, the availability of an effective mechanism for monitoring financial condition becomes the most important condition for the stable and successful development of an enterprise. Forming operational information based on systematic analysis, monitoring provides the basis for making optimal management decisions, assessing their consequences even before implementation and forecasting the further development of the organization. An efficiently developed monitoring system will allow both companies and government agencies to quickly receive a comprehensive assessment of the financial condition of companies and make adequate decisions in a constantly changing market environment.

In the management of enterprises, such functions of financial management as planning, organization, accounting, analysis, control and regulation are implemented. However, for effective management requires objective and timely information about the changes occurring in the controlled object. Obtaining such information by all market participants is possible based on creating a system for monitoring the financial condition of an agricultural enterprise. Monitoring the financial condition of the company is a prerequisite for informed management decisions in order to implement the adopted tactics and business strategy.

Ensuring the sustainable economic development of the state involves the sustainable development of primarily enterprises of all sectors of the economy. Diagnostics and constant monitoring of the stability of the financial condition of enterprises is an objective necessity in the framework of effective economic development of the state. To maintain economic growth, reduce the number of crisis enterprises, it is necessary to constantly monitor the financial condition of enterprises in all sectors of the economy. This task can be solved from the standpoint of the formation of a new organizational mechanism - monitoring the financial condition of the company.

The origin of the word "monitoring" is associated with English origin (English monitor, monitor,

In the big economic dictionary "monitoring" (English monitoring from the Latin monitor-observer) is defined as observation, tracking, analysis and evaluation of any phenomenon or object [4, p. 600].

In the modern economic dictionary "monitoring" means continuous observation of economic objects, analysis of their activities as an integral part of management [5, p. 227].

In the modern financial and credit dictionary, monitoring of current financial activities means a mechanism for continuously monitoring the most important current results of financial activities in the constantly changing financial market conditions [6].

According to B. Saparova. monitoring means continuous monitoring of economic objects, analysis of their activities as an integral part of management [7, p.439].

Most economists do not make certain distinctions between monitoring financial condition and analyzing the financial condition of a company.

However, the concept of "monitoring" is much broader than the concept of "analysis". Monitoring includes analysis, as one of the main stages of its implementation.

In economics, there is also no definite distinction between the concepts of "monitoring financial condition" and "financial monitoring".

Therefore, for example, Chernov V.A. believes that financial monitoring (monitoring of financial status) is a system of continuous monitoring and analysis of the financial condition and the results of the organization [8].

Serdyukova E.V. considers financial monitoring as a system of continuous observation, analysis and forecasting of indicators of the financial condition of enterprises, formed at the macro or microeconomic levels, with the aim of ensuring the adoption of tactical and strategic management decisions of the appropriate level, as well as evaluating the effectiveness of decisions made [9].

Dosmambetova F.K. in its work also does not distinguish between the concepts of "monitoring financial condition" and "financial monitoring". In her opinion, financial monitoring is the receipt of reliable information about the financial situation and the basis for the introduction of stabilization methods [10].

However, the concepts of "monitoring financial condition" and "financial monitoring" should be differentiated as the legislation of the Republic of Kazakhstan clearly defined the concept of "financial monitoring" as a set of measures for collecting and analyzing information about operations with money and (or) other property received from financial monitoring [11].

According to the legislation of the Republic of Kazakhstan, financial monitoring has been introduced in order to prevent the legalization (laundering) of illegally gained income and the financing of terrorism.

Thus, the concepts of "financial monitoring" and "monitoring of financial condition" have different contents.

Many authors believe that monitoring the financial condition of an enterprise is an essential tool for managing an enterprise's crisis.

The monitoring system should be signaling, warning in nature, the essence of which is to identify as a result of systematic diagnostics of the financial state of the probability of insolvency or bankruptcy of enterprises.

The monitoring process should not be limited to monitoring the state of the enterprise under study. To ensure that monitoring can be used as an effective management tool, it is necessary not only to monitor the parameters and the state of the enterprise being studied, but also to analyze, evaluate their change under the influence of various factors, forecast and evaluate the future development of the enterprise.

Summarizing the above, it can be determined that monitoring the financial condition of an enterprise is a system of monitoring, analyzing and evaluating the financial condition of an enterprise in order to identify trends, forecast development prospects, prevent crisis situations and make optimal management decisions.

The main purpose of monitoring the financial condition of the company is timely identification of trends in the financial condition of the company and assessment of development prospects.

The main tasks of monitoring the financial condition of the company are:

- 1) the definition of the main financial indicators of the enterprise for a certain period and their trends;
- 2) analysis and evaluation of the results;
- 3) assessment of the effectiveness of the financial policy of the company;
- 4) timely identification and analysis of negative trends in the financial condition of the company, assessment of the financial risks of the enterprise;
  - 5) prevention of crisis situations;
  - 6) forecasting the activity of the enterprise;
- 7) Justification of recommendations and proposals to improve the financial sustainability of the enterprise, the identification of reserves.

The economic content of monitoring the financial condition of the enterprise is manifested in its functions. The functions of monitoring the financial condition of the company cover the functions of the "finance" category and economic analysis.

The main functions of monitoring the financial condition of the enterprise are:

- 1) An analytical function, which, based on continuous observation of an object, involves analyzing its financial condition, which includes measuring actual results and relating them to specified goals, standards, and norms;
- 2) Diagnostic, implying the interpretation of the results obtained and allowing an objective assessment of the results of the monitoring object analysis;
- 3) The function of forecasting is to develop a long-term perspective of changes in the financial condition of the company.
- 4) Organizational and managerial, involving control over the state of the monitoring object and preparation of recommendations for making corrective and proactive management decisions.

The objects of monitoring are the financial condition of the enterprise, the financial results and the effectiveness of its financial and economic activities [6]. The main object of monitoring of the enterprise is the financial condition of the enterprise.

The subjects of monitoring can be divided into two categories: internal and external.

The management system of the enterprise and the owners (shareholders), staff of the enterprise represent internal entities.

Various contractors of an enterprise associated with it by certain economic relations can be attributed to external subjects of monitoring: partners, suppliers, creditors, investors, banks, insurance companies, investment funds; public authorities (financial authorities, tax authorities, etc.); audit firms, associations of entrepreneurs, consultants.

Below are the main components of the monitoring system of the financial condition of the company (Figure 1).

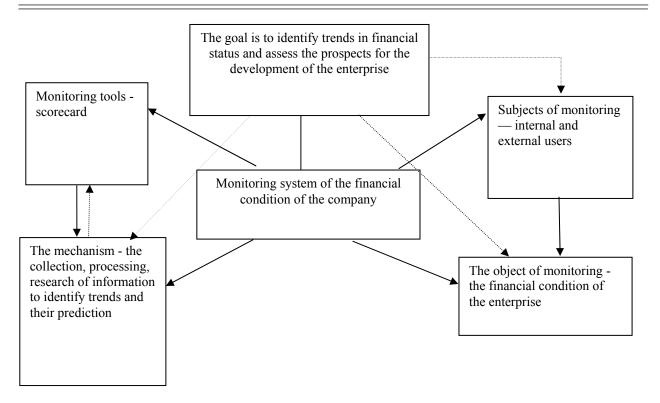


Figure 1 - the Main components of the monitoring system of the financial condition of the company

Based on Figure 1, it is clear that all the main monitoring elements that make up its content are interrelated: the goal determines the object and subjects of monitoring, the monitoring mechanism; the monitoring mechanism determines its tools.

The main stages of monitoring the financial condition of the company include monitoring, analyzing and evaluating the actual financial condition, developing recommendations for improving the financial management strategy and forecasting the future financial condition (Fig. 2).

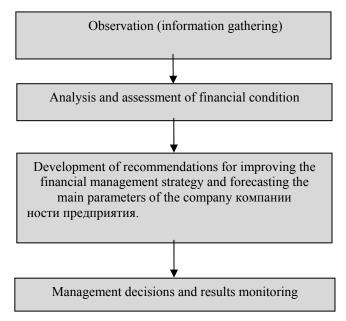


Fig. 2 - The main stages of monitoring the financial condition of the company

The forms and types of monitoring depend on the characteristics of the production and economic activity of the enterprise, the management structure, the size of the organization. They may change under the influence of certain factors: changes in legislation, features of activities, changes in the management system, etc.

Monitoring the financial condition of the company can also be classified:

- by the nature of the development: strategic and operational (ongoing) monitoring;
- according to the degree of coverage of objects of control: integrated and local monitoring;
- by consumers of monitoring results: for internal and external consumers.

Strategic monitoring assesses the progress of the implementation of the overall strategy, the possibility and expediency of further development of the chosen strategy.

Operational monitoring assesses the correctness of individual functions and work, monitors current activities on the actual values of individual indicators, comparing them with planned, normative, average indicators and indicators of previous periods.

Comprehensive monitoring includes a comprehensive assessment of the activities of the enterprise and the adjustment of directions for the development of activities. Local (one-time) monitoring provides a "point-like" assessment of an enterprise's activity or individual economic measures, but it does not allow for a comparative assessment, to study the dynamics of indicators and to predict directions for the organization's further development.

Based on the grouping of subjects of monitoring financial condition distinguish between internal and external monitoring.

Internal monitoring of financial condition is an analytical system organized in enterprises for the purpose of intra-company management. The purpose of internal monitoring of the financial condition of an enterprise is to regularly provide the company's management bodies with full operational information about the current financial status in order to monitor deviations of actual and planned indicators and make management decisions.

#### **CONCLUSION**

External monitoring is carried out to assess the financial condition (solution of the problem of choice). The purpose of external monitoring of the financial condition of an enterprise is to provide external users with the necessary operational information about the financial position of the enterprise, the degree of its financial stability for making certain investment, commercial, financial decisions.

Distinctive features of internal and external monitoring of the financial condition of the company, depending on various characteristics, are given in table 1.

Sign of	Type of monitoring			
	internal	external		
Subjects of monitoring (users of information)	Company management, financial managers financial advisors issues, owners	partners, competitors, shareholders (mainly minorities), public organizations, customers, creditors, banks, contractors, auditing and consulting firms, financial and tax authorities, etc.		
Purpose	Improving the financial condition of the company in the future, the assessment of internal reserves	Evaluation of the financial position of the company to solve the problem of choosing investments		
Informational base	Operational and management accounting data	Enterprise financial statements		
Character provided by information	Analytic confidential information of character	Public Analytics= information		
Temporal aspect of analysis	month, quarter, half year, year	Retrospective and nerspective		

Table 1 - Distinctive features of internal and external monitoring of the financial condition of the company

Monitoring the financial condition of the company for the management of the enterprise is of fundamental importance. Using this category as one of the main tools for managing an enterprise has several advantages, primarily ensuring that the first signs of deterioration in financial condition are detected and that the necessary management decisions are made to eliminate them. Monitoring the financial status of an agricultural enterprise should be one of the most important functions of financial management.

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# ТЕОРЕТИЧЕСКИЕ И ПРАКТИЧЕСКИЕ АСПЕКТЫ МОНИТОРИНГА ФИНАНСОВОГО СОСТОЯНИЯ ПРЕДПРИЯТИЙ АГРАРНОГО СЕКТОРА

Аннотация. По мнению авторов, в Казахстане, как и в любой стране мира, диагностика и постоянный контроль устойчивости финансового состояния предприятий является объективной необходимостью в рамках эффективного экономического развития государства. Вследствие кризисных явлений в мировой экономике часть конкурентоспособных предприятий в настоящее время испытывают финансовые затруднения, что создает риски банкротства, неисполнения обязательств перед кредиторами, инвесторами и контрагентами, неисполнения налоговых обязательств, негативно сказывается на ссудном портфеле банков. В связи с этим особую актуальность приобретает комплексная оценка, то есть мониторинг финансового состояния предприятий аграрного сектора экономики РК, главная задача которой, в первую очередь, выявить риски банкротства, причины и факторы снижения финансового состояния предприятий аграрного сектора.

**Ключевые слова:** сельское хозяйство, экспорт, потенциал, конкуренция, финансовый мониторинг, прогнозирование, бизнес, устойчивое развитие.

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## АГРАРЛЫҚ СЕКТОРДЫҢ КӘСІПОРЫНДАРЫ ҚАРЖЫЛЫҚ ШАРТТАРЫН МОНИТОРИНГТІҢ ТЕОРИЯЛЫҚ ЖӘНЕ ПРАКТИКАЛЫҚ АСПЕКТІЛЕРІ

**Аннотация.** Авторлардың пікірі бойынша, Қазақстанда, әлемдегі кез-келген елдегі сияқты, диагностикалау және кәсіпорындардың қаржылық жағдайының тұрақтылығына үнемі мониторинг жасау мемлекеттің тиімді экономикалық дамуы аясында объективті қажеттілік болып табылады. Әлемдік экономикадағы дағдарыс салдарынан бәсекеге қабілетті кәсіпорындардың бір бөлігі банкроттық тәуекелдерін тудыратын, кредиторлар, инвесторлар мен контрагенттер алдындағы міндеттемелерді орындамаған, салық міндеттемелерін орындамаған, банктердің несие портфеліне теріс әсер ететін қаржылық қиындықтарды бастан өткеруде. Осыған байланысты кешенді баға беру, атап айтқанда, агроөнеркәсіп секторындағы кәсіпорындардың қаржылық жағдайын төмендету үшін банкроттық тәуекелдерін, себептерін және факторларын анықтау үшін басты міндет болып табылатын Қазақстанның агроөнеркәсіптік кешеніндегі кәсіпорындардың қаржылық жағдайына мониторинг жүргізу.

**Түйін сөздер:** ауыл шаруашылығы, экспорт, потенциал, бәсекелестік, қаржылық мониторинг, болжау, бизнес, орнықты даму

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## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# ASSESSMENT OF THE EFFECT OF INTERNAL GOVERNMENTAL AUDIT ON THE USE OF GOVERNMENTAL RESOURCES IN THE REPUBLIC OF KAZAKHSTAN

**Abstract.** According to the authors, an important aspect of state financial control is to ensure the legality, rationality and efficiency of the use of public financial and material resources, as well as the desire to establish effective management of the economy and to comply with the established norms of administrative activity. For what, first of all, it is necessary to assess the impact of the internal state audit on the use of public resources in the Republic of Kazakhstan. Since changes in the law, that is, the emergence of new approaches to conducting a state audit of the efficiency of resource use in the Republic is a necessary process of evolution, both for the economy and for state mechanisms as a whole. This impact can be assessed by auditors and analysts who will also help create an efficient and effective management mechanism that allows for rational use of national goods and resources.

**Keywords:** internal audit, state audit, methodological approaches, costs, resources, use.

#### **INTRODUCTION**

Audit forms of financial control are carried out by legal entities and auditors who are specifically certified. The object of audit control, above all, is entrepreneurial activity. First of all, of course, preliminary control is carried out. It affects the stage of consideration, drafting and approval of the financial plan of the enterprise, estimates of income and expenses of the organization, constituent documents, texts of contractual agreements, etc. The purpose of this control is to prevent the irrational and improper use of material, monetary and labor resources. The current control is carried out during the execution of plans (financial) to verify compliance with standards and norms for the use of financial assets and material and commodity values. Subsequent control is carried out at the end of the reporting period. It also determines how appropriately the state funds were spent in the process of executing budgets and the organization's financial plans. The types and forms of financial control can be classified and on some other grounds.

#### **MAIN PART**

For example, episodic, constant and discrete monitoring can be distinguished [7, p. 108]. Today, close attention in the Republic of Kazakhstan is paid to the problem of the formation of an effective mechanism in the field of state financial control. According to the Law of the Republic of Kazakhstan dated November 12, 2015 "On State Audit and Financial Control", Kazakhstan provides for the creation of a system of state audit and financial control bodies. It includes: the counting committee, which is the highest body of state audit and financial control; revision commissions of regions, cities of republican significance, the capital; authorized body for internal state audit; the internal audit service of the central state bodies, with the exception of the internal audit service of the National Bank of Kazakhstan, local executive bodies of regions, cities of republican significance, the capital; the internal audit services of the central government agencies, established at the discretion of the first head within the prescribed staffing level.

According to the Law of the Republic of Kazakhstan dated November 12, 2015 No. 392-V "On State Audit and Financial Control", the control task is to identify violations and take response measures. In this case, they mean the initiation of administrative proceedings, the urge to restore (eliminate) the damage, bringing to disciplinary responsibility, the transfer of materials to law enforcement agencies to make procedural decisions.

In the new law, an important role is assigned to internal audit services, which should become the tool of the first head to achieve the goals, help identify weaknesses and develop effective recommendations for increasing the effectiveness of the entire state body and its subordinate organizations.

In carrying out this work, services are not limited in their powers, and their main goal is to conduct a performance audit. The Ministry of Finance has developed a model regulation on internal audit services, which outlines their main functions.

In this regard, first of all, employees of the internal audit services of central state and local executive bodies should reorient their activities from detecting violations to analyzing and evaluating the functioning of all business processes of the state body and its departments to establish hidden potential, labor and financial resources.

Another innovation - in all government bodies to improve their activities in the framework of the internal state audit, a consultative and advisory body should be created - the Council on State Audit and Risks, headed by the first head of the state body.

Audit of efficiency, today is one of the most effective mechanisms of state influence and control over the functioning of the economy, and the legitimacy of domestic processes. The Republic of Kazakhstan today is experiencing significant difficulties. This is due to a significant crisis in international relations, as well as in the economic system, which greatly affects our state. In such conditions, the effectiveness of the use of domestic funds and resources acquires particular relevance. Thus, the audit of efficiency is a new promising form to ensure the expenditure of public finances. In this case, we are considering a change in the traditional system of state financial control, by introducing methods of state control over performance audit into the system. Thus, the emergence of new approaches to the performance audit in the Republic is a necessary process of evolution of both the economy and government mechanisms [4, p. 12]. Audit of efficiency, occupying sanctioned by the state, as well as self-government bodies, is a control aimed at determining the effectiveness of the use of budgetary funds, public property, in order to improve both quality and cost savings. For example, considering the sphere of construction, we can note that in this area, control is exercised only over ensuring the quality of the work on the project. As a result, not full control of efficiency is carried out, and the financial side falls out of control. In particular, difficulties arise with the choice of contractors, and an increase in the amount of construction to 2 or more times. Using traditional control methods? self-control is carried out only within the framework of the legislative acts on the project, as a result of which, there is a loss of data on the effectiveness and relevance of the funds spent to the result. Audit of efficiency in turn allows you to use the most efficiently the financial resources of the state, preventing them from inappropriate use. It aims to test how effectively and effectively government policies are implemented. Performance audit ensures the provision of objective, transparent and reliable information about the work of state bodies, and allows developing useful recommendations for them to improve the efficiency of public finance management. Financial control of the effectiveness and cost-effectiveness of using budgetary funds, in the form of performance audit, is an active factor in increasing the efficiency of financial management, contributing to the solution of state tasks. Audit of efficiency, today is one of the most effective mechanisms of state influence and control over the functioning of the economy, and the legitimacy of domestic processes. In general, performance audit is one of the methods of financial control, in the economic or social sphere. Its results are determined by checking the execution of the budget at the facilities. And its main goal consists of "economy, productivity and efficiency", i.e. the resulting savings from the results achieved. Different authors consider the specifics of performance audit from different points of view, some view it as a check on the use of material and natural resources and the development of a system of measures to eliminate the revealed violations, shortcomings and problems, others believe that, first of all, performance audit is a method of financial control of state funds, which is carried out by checking the activities of public authorities, as well as other regulatory, or other persons involved in this process, namely the powers and functions assigned to them.

For the organization of this work and the achievement of the objectives of the state audit, a first-class professional staff of state auditors is needed, which will allow to carry out relevant work related to the prevention of violations and improving management efficiency.

#### **CONCLUSION**

Therefore, the law provides for certification of specialists in the National Commission, whose members will be representatives of the Presidential Administration, the Government, public organizations and deputies.

First, applicants for the title of state auditors need to successfully complete training in certain disciplines and prove their knowledge, and only then they will be required to have an interview at the National Commission and receive the title of state auditor.

I would also like to note the high personal responsibility borne by state auditors for violating the basic principles and standards of state audit and financial control enshrined at the legislative level.

As a result, the state should receive knowledgeable and competent auditors and analysts who will help create an effective and efficient management mechanism that allows for rational use of national goods and resources.

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#### ОЦЕНКА ВЛИЯНИЯ ВНУТРЕННЕГО ГОСУДАРСТВЕННОГО АУДИТА НА ИСПОЛЬЗОВАНИЕ ГОСУДАРСТВЕННЫХ РЕСУРСОВ В РЕСПУБЛИКЕ КАЗАХСТАН

**Аннотация.** Важным аспектом государственного финансового контроля являются по мнению авторов, это обеспечение законности, рациональности и эффективности использования государственных финансовых и материальных ресурсов, а также стремление наладить действенное управление экономикой, и соответствующей установленным нормам административной деятельности. Для чего, прежде всего необходимо, оценить влияние внутреннего государственного аудита на использование государственных ресурсов в республике Казахстан. Так как изменения закона, то есть появление новых подходов к проведению государственного аудита эффективности использования ресурсов в Республике

является необходимым процессом эволюции, как экономики, так и государственных механизмов, в целом. Оценить данное влияние могут аудиторы и аналитики, которые так же помогут создать действенный и эффективный механизм управления, позволяющий рационально использовать национальные блага и ресурсы.

**Ключевые слова:** внутренний аудит, государственный аудит, методологические подходы, расходы, ресурсы, использование.

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#### ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДАҒЫ МЕМЛЕКЕТТІК РЕСУРСТАРДЫ ПАЙДАЛАНУҒА АРНАЛҒАН ІШКІ АУДИТТІҢ АУДИТІНДЕГІ НӘТИЖЕЛЕРДІ БАҒАЛАУ

**Аннотация.** Мемлекеттік қаржылық бақылау маңызды аспектісі авторлардың айтуынша, мемлекеттік қаржы және материалдық ресурстарды заңдылық, рационалдық және тиімділігін қамтамасыз ету, сондай-ақ тиімді экономикалық басқару, және әкімшілік іс-нормативтік сәйкестігін орнату ниеті болып табылады. Ең алдымен, ішкі мемлекеттік аудиттің Қазақстан Республикасында мемлекеттік ресурстарға қолданылуына әсерін бағалау қажет. Заңнаманың өзгеруі, яғни республикада ресурстарды пайдалану тиімділігіне мемлекеттік аудитті жүргізудің жаңа тәсілдерінің пайда болуы экономиканың да, тұтастай мемлекеттік механизмдердің де эволюциясының қажет процесі болып табылады. Бұл әсерді аудиторлар мен сарапшылар бағалай алады, олар сондай-ақ ұлттық тауарлар мен ресурстарды ұтымды пайдалануға мүмкіндік беретін тиімді және тиімді басқару механизмін құруға көмектеседі.

Түйін сөздер: ішкі аудит, мемлекеттік аудит, әдістемелік тәсілдер, шығындар, ресурстар, пайдалану.

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#### CATEGORY OF "CONTINGENCY" AS A FACTOR IN THE LEGITIMIZATION OF TOLERANCE AND PLURALISM

**Abstract.** The article highlights the issues of multiculturalism of the modern globalizing world in terms of the complexity of establishing a tolerant relationship between irreducible pluralistic positions of different cultures and suggests their neo-pragmatic interpretation through the centralization of the category of "contingency".

The relevance of the article is directly conditioned by the current world situation, marked by growing tendencies of cooperation, communication and parity polylogues, but in practice, they reveal some difficulties (and sometimes insuperable) of building a proper level of tolerant relationships.

The method used in this study, in the classical philosophical tradition was called "transcendental". It is aimed at identifying the conditions for the possibility of realizing a particular phenomenon. In our case, it is the crisis of traditional cultural strategies of the West in relation to the rest of the world.

As a result of applying the transcendental method to the situation of an urgent crisis, we formulate the basic meanings of the self-consciousness of Western culture, conceptualization of which clarifies the causal connection between the past and the present and, thus, explains the nature of the reasons that led to the actual crisis of the Eurocentric worldview.

The purpose of this article is to initiate a process of radical reinterpretation of traditional meanings of classical philosophy due to their irrelevance in the solution of modern sociocultural problems, in particular, the problem of establishing tolerant relationships between different cultures within the globalizing world.

Keywords. Contingency. Tolerance. Pluralism. Objectivism. Essentialism. Culture. Language.

#### Introduction

About two hundred years ago, in the Age of Enlightenment, when the period traditionally designated by historians as the New Time had reached its culmination, Western civilization finally defined its character through the category of permanent progress.

Other world civilizations, followed by rapidly modernizing regional cultures, considered it their duty to begin to share the fundamental conviction that science and technology will henceforth continue to develop unceasingly, gradually bringing humanity closer to an increasingly perfect state.

Catastrophic events that occurred in the world in the 20th century completely discredited these bright expectations and hopes. The unprecedented success and spread of totalitarian ideologies undermined the notion of the priority value of the freedom of human existence. The colossal successes of theoretical physics in practice turned into global environmental problems. The uncontrollable growth of the world's population, initiated by the increase in favorable living conditions, has formed a mass consumption society that threatens to deplete in the near future many, including non-renewable, natural resources.

Today the skeptical attitude is caused not only by the idea of unlimited material progress. Its no less powerful crisis is also experienced by the realities of a purely humanitarian property, namely, love of truth, faith in good and beauty.

It is no accident that the outstanding French anthropologist Claude Levi-Strauss noted that "it's time to look around, push the traditional framework beyond which our thoughts about the existence of mankind do not go. To embrace a more diverse social experience, more different from ours than the one to which we are accustomed to reduce our horizons" [1].

In our opinion, first of all, this appeal should be directed to the field of intercultural and ethno-social relations, in particular, to such an aspect as the problem of intolerance and the lack of tolerance that takes place in the modern world.

It is important to understand that this problem, which the American political scientist Samuel Huntington very aptly called the "clash of civilizations" problem, is of a fundamental nature. Therefore, the solution of this problem does not depend on the current social, political, economic or cultural situation. It is not something momentary and therefore in the near future solvable. On the contrary, this problem is a natural result of the historically developed centuries-old vector of development of Western civilization, and therefore it casts doubt on the very foundations of this civilization and the underlying traditional categories of classical philosophy.

According to Huntington, "civilizations are dissimilar in their history, language, culture, traditions and, most importantly, religion. People of different civilizations have different views on the relationship between God and man, individual and group, citizen and state, parents and children, husband and wife, they have different ideas about the relative importance of rights and obligations, freedom and coercion, equality and hierarchy. These differences have developed over the centuries, and they will not disappear in the foreseeable future. They are more fundamental than the differences between political ideologies and political regimes" [2].

#### Method(s)

The exposure of the problem of tolerance deficit in the historical perspective independently sets the initiative for choosing the method of investigation. This is the so-called transcendental method, created by the great German philosopher Immanuel Kant [3].

The transcendental method is aimed at revealing the conditions for the possibility of realizing a particular phenomenon. In our case, the phenomenon, the implicit prerequisites for the emergence and existence of which we must find out, is the crisis of modern Western culture. Accordingly, the result of applying the transcendental method will be the definition of the basic meanings that determine the essence, character and vector of development of Western history and, wider, civilization.

Being in solidarity with Hegel that philosophy is "an era grasped in thought" [4], we will focus our attention not on specific historiographic facts, not on the content-event composition of the culture of the West, but on summarizing ideas of refined philosophical reflection embracing the facts and events not mentioned by us.

Thus, in our study the notions "history of Western culture" and "history of Western philosophy" become equipolar. Or, more precisely, the history of Western philosophy in this study is the key to understanding the history of Western culture, being its eidetic analogue, the semantic structure or, if you will, the intellectual model.

#### Results

Following the modern American philosopher of the neo-pragmatist trend Richard Rorty, we proceed from the idea that the basis of the entire history of Western philosophy is two fundamental myths [5]. Rorty himself calls them "delusions". In the more correct terminology of the French postmodern philosopher Lyotard, they should be called "metanarrations" [6]. We opted for the completely axiologically neutral term "myth" in Losev's sense of the word, as an axiomatic way of constructing an integral system that describes the world [7].

The first fundamental myth of Western philosophy is the idea of the existence of some objective truth that is outside the subject of knowledge. In the light of this idea, the epistemological ideal becomes an adequate representation of this truth by language means. Based on the content of the first myth, it can be nominally labeled as the myth of "objectivism", or as a myth of "substantialism".

The nature of "substantialist" representations can vary: from Plato's plural substantialism (the doctrine of the world of eternal ideas) [8] and Aristotle (the doctrine of entelechies as inner essences of things) [9], to the dual and monist substantialism of Descartes (the doctrine of psychophysiological parallelism) [10] and Spinoza (the doctrine of the unity of substance, its attributes and modes) [11].

The first thinker who debunked the myth of "objectivism" ("substantialism") in the history of Western philosophy was Immanuel Kant, who strictly delineated the noumenal and phenomenal spheres of cognition, and also emphasized the constitutive function of the cognitive activity of man (the truth is created, not discovered).

The second fundamental myth of Western philosophy is the idea of the existence of some unchanging inner human essence, which can be called "self" or "I" with a capital letter ("Transcendental I"). The ideal of cognition in this case is not the adequate representation, but the fullness of self-expression. This myth

can be designated for convenience as the myth of "essentialism" (essence as an internal, unchanging essence).

The German thinker Friedrich Nietzsche with his doctrine of the Superman ("man is something that must be transcended" [12]) can be considered the overturner of this myth. But equally Danish philosopher Seren Kierkegaard aspires with this doctrine of existentialism ("Man is the synthesis of infinite and finite, temporary and eternal, freedom and necessity, in short, synthesis. Synthesis is the ratio of two members. From this point of view "I" does not yet exist" [13]).

What is the logical connection between the above-described myths underlying the self-consciousness of Western philosophy and the crisis that Western culture is undergoing today?

To clarify this non-obvious mediation, we should turn to the thought of the French philosopher Jacques Derrida, who summarized the fundamental myths of the European philosophical tradition under the general rubric of "metaphysics of presence". In another more ironic derivation, he characterized this metaphysics as "onto-theo-telo-phallo-phono-logo-centrism", hinting at the established way of reasoning in which some central category is selected (Being, Reason, Spirit, Truth, I, Logos, etc.) and then in a binary or hierarchical relationship with which all other categories are built and unfolded [14].

According to Derrida, the very model of binary oppositions assumes the initial asymmetry of its members. For example, in the opposition Logos/Mythos, the first member is labeled as something absolutely positive, connected with rationality, progress, development, while the second member is labeled as equally unconditionally negative, as something illusory, not true, misleading. The same implicit logic of the superiority of the first term over the second is preserved in all cases of binary oppositions: man/woman; right/left; good/evil; science/religion; mind/feeling, etc. In the cultural perspective, all the above-mentioned oppositions somehow go back to the fundamental opposition West/East [15].

Thus, the sequential connection between the ideological foundations of Western philosophy and the modern world cultural situation is clarified.

The position of Europe's dominant (indulgent) attitude toward the rest of the world follows directly from the belief in the existence of some kind of objective truth, to which only representatives of European culture (this is not always declared, but always implied) have privileged access. That is why they are endowed (or rather they give themselves) the moral right to be teachers of all mankind. This myth justifies and legitimizes any colonial ambitions, be it direct military intervention or indirect lobbying of information trends (despite the seeming mildness of globalization processes, which in essence are inseparable from Westernization, in fact there is an imposition causing a legitimate confrontation. The West, of course, does not introduce troops, but aggressively invades the information sphere. Television, the internet, the press, and literature abound in images of Western culture which are presented exclusively in a positive way that does not allow an alternative).

The myth of "essentialism" (the presence of some unchanging internal essence), although it works somewhat differently, leads exactly to the same results. According to the unspoken agreement, by default the position is accepted according to which the inner "I" (self) of the bearers of Western culture is more genuine, more authentic than, say, the self of the Papuans or Bushmen (it is enough to recall the Hegelian passage that the triumph of Napoleon was a procession of the World Spirit).

That is why any rhetoric about tolerance and pluralism, which is actively articulated today in the space of public discussions, is suppressing itself.

As long as the myth of "objectivism" and/or the myth of "essentialism" is explicitly or implicitly present in the outlook of participants in the intercultural polylogue, even the very possibility of realizing a tolerant relationship will not arise. It is for this reason that the revision and rethinking of the meanings which ground Western culture (and many others following it) become necessary.

As we know from the time of Aristotle, "natura abhorret vacuum", therefore radical abandonment of the heritage of classical culture is only the first step in solving the global historical and civilizational problem. The next step involves the development of a worthy ideological alternative that would not only avoid the shortcomings of previous myths, but also contain the potential to eliminate any other difficulties that may arise in the mainstream of traditional semantics.

#### Discussions

In our opinion, an alternative to the traditional methods of philosophical interpretation, based on the principles of "objectivism" and "essentialism", can be the project offered by Richard Rorty in his book "Contingency, Irony, and Solidarity" [16].

In the spirit of classical pragmatism, Rorty considers the cognitive activity of a person in a purely instrumental way. For him, intellectual and moral progress is not a history of understanding, what things really are, but rather a history of producing useful metaphors that help to better describe and explain the essence of the matter, thereby generally improving the human condition in the world. Rorty believes that "old metaphors constantly die in literalness all the time, and then serve as a platform and background for new metaphors" [17].

From this original linguistic presumption, he concludes that such an analogy "allows us to think our language, that is, science and culture, as something formed as the result of a multitude of pure contingencies" [18].

In a radical form, the thesis put forward by Rorty sounds like this: "our language and our culture are just as random as the emergence of, for example, orchids or anthropoids as a result of thousands of small mutations (and the extinction of millions of other creatures)" [19].

In the light of this approach, the status of any culture, any language, or as expressed by Rorty himself, of "any dictionary", is deprived of the possibility of claiming any privileged position. All cultures, languages and dictionaries become equivalent and equipollent precisely because of the randomness of their appearance and origin.

The random nature of human existence, which includes the history of all cultures, according to Rorty, should not be interpreted as a pessimistic postulate. On the contrary, the absence of the highest meaning given from the outside should be interpreted as a positive possibility of creation and self-creation.

In his argument, Rorty relies on such contingency thinkers as Freud, Nietzsche, Davidson and Blumenberg. Briefly summarizing the course of his own thought, Rorty concludes one of the chapters of his book with the following expressive summary: "Once we felt the need to worship something that is outside the visible world. Since the 17th century, we have tried to replace the love of God with the love of truth, referring to the world described by the natural sciences, almost like a deity. Since the end of the 18th century, we have tried to replace love of scientific truth with love for ourselves, the worship of our own profound spiritual and poetic nature, which we treated as another quasi deity. The course of thought of Blumenberg, Nietzsche, Freud and Davidson is aimed at ensuring that we will no longer worship anything and will not treat anything as quasi deity any more, that we treat everything – our language, our conscience, our community – as a product of time and contingency. Achieving this goal, in Freud's words, would mean "to consider the chance worthy of determining our destiny" [20].

Now we turn to the consideration of the connection between Rorty's ideas and the concept of tolerance and the way in which the tolerance for other cultures can be semantically grounded with the help of the category of "contingency".

In the broadest sense, various dictionaries define tolerance as "willingness to accept". Specificity of tolerance as such lies in the object to which the tolerance is intentionally directed. The fact is that this object must necessarily be labeled as deviant in relation to the generally accepted norm. In any other case, one can speak of either acceptance or indifference, but not tolerance. The object of tolerance can be both individuals and entire social groups. At the same time, the subject area of tolerance is not limited to personalized subjects, it also extends to various abstract provisions. For example, opinions, positions, ideological attitudes, subcultural trends, etc.

Thus, with the first definitive approximation, we can note a certain paradox of the nature of tolerance. It is to accept the unacceptable.

If we define tolerance as a kind of intentional attitude, we should specifically stipulate the status of the subject, from which the intention itself comes. Bearing in mind the aforementioned paradox, we are forced to postulate the necessity for the subject to have sufficient competence, which would allow him/her to carry out a tolerant attitude.

That is why we propose to disclose the content of the competence of the subject of a tolerant relationship as an opportunity to philosophically substantiate one's own behavior. In other words, the subject must clearly understand and realize what he/she treats tolerantly, and most importantly – why and what for he/she does it.

If, as an ontological prerequisite for such a rationale, we take the idea of contingency, we can say that the motive that will guide the subject is recognition of the principle of parity of any kind of positions.

In the light of this equality, provided by contingency, the highest specific form of tolerance between irreducible pluralistic positions can be defined as "human solidarity". At the same time, human solidarity should be seen not as a fact, but as a goal to be achieved.

As Rorty points out, "solidarity is achievable not through research, but through imagination, through the mental ability to see fellow-sufferers in complete strangers... Solidarity is not revealed by reflection, but is being built. It is created by increasing our sensitivity to certain details of the pain and humiliation of others, strangers to us. This increase in sensitivity makes it difficult to marginalize people who differ from us in their way of thinking" [21].

#### **Conclusions**

Summing up our research, we can formulate the following conclusions:

- The myths of "objectivism" and "essentialism", underlying the self-consciousness of Western culture, make it impossible for a genuine tolerant attitude to other cultures within the modern globalizing world.
- An ideological alternative that can constitute intellectual competition to "objectivism" and "essentialism" is the category of "contingency", which should be understood in a neo-pragmatic manner.
- The category of "contingency" at the semantic level eliminates the ontological differences between any phenomena.
- The "contingency" of human existence is not a reason for the proclamation of nihilistic moods, but a positive opportunity for creation and self-creation on the condition that henceforth the subject cannot delegate responsibility to any metaphysical instances.
- The "contingency" of all languages, cultures, events, realities means that there is no normative pattern with which everyone should comply.
- The absence of a standard eliminated by contingency legitimizes the diversity and difference of all things, both material and ideal.
- In conditions of contingency, tolerance takes the form of solidarity, which, being a tolerant relation between irreducible pluralistic positions, is not a fact, but a goal facing the subjects of the human community.
- In terms of practical application, the change of conceptual perspective, undertaken in this article, will help to differently reflect the state of the ethno-political processes in Kazakhstan [22].

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#### КАТЕГОРИЯ «СЛУЧАЙНОСТИ» КАК ФАКТОР ЛЕГИТИМАЦИИ ТОЛЕРАНТНОСТИ И ПЛЮРАЛИЗМА

**Аннотация.** Статья освещает проблематику мультикультурализма современного глобализирующегося мира в аспекте сложности установления толерантного отношения между нередуцирумыми плюралистическими позициями различных культур и предлагает ее неопрагматическую интерпретацию посредством централизации категории «случайности».

Актуальность статьи напрямую обусловлена современной мировой ситуацией, отмеченной усиливающимися тенденциями сотрудничества, коммуникации и паритетного полилога, вместе с тем на практике обнаруживающими сложности (а порой и непреодолимости) построения должного уровня толерантных взаимоотношений.

Метод, применяемый в настоящем исследовании, в классической философской традиции получил название «трансцендентальный». Он направлен на выявление условий возможности реализации того или иного феномена. В нашем случае - это кризис традиционных культурных стратегий Запада в отношении остального мира.

В результате применения трансцендентального метода к ситуации назревшего кризиса, мы формулируем основные смыслоположения самосознания западной культуры, концептуализация которых проясняет каузальную связь между прошлым и настоящим и, таким образом, объясняет характер причин, повлекших за собой в качестве следствия актуальный кризис европоцентристского мировоззрения.

Цель настоящей статьи инициировать процесс радикальной реинтерпретации традиционных смыслов классической философии в виду их нерелевантности в деле решения современных социокультурных проблем, в частности, проблемы сложности установления толерантных взаимоотношений между различными культурами в рамках глобализирующегося мира.

**Ключевые слова.** Случайность. Толерантность. Плюрализм. Объективизм. Эссенциализм. Культура. Язык.

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#### «КЕЗДЕЙСОҚТЫҚ» КАТЕГОРИЯСЫ ТОЛЕРАНТТЫЛЫҚ ПЕН ПЛЮРАЛИЗМДІ ЛЕГИТИМИЗАЦИЯЛАУ ФАКТОРЫ РЕТІНДЕ

**Аннотация.** Мақалада қазіргі заманғы жаһанданушы әлемнің мультикультурализмі әр түрлі мәдениеттердің төменгі плюралистік ұстанымдары арасындағы төзімділік қатынастарының күрделілігі тұрғысынан ерекшеленеді және оның «кездейсоқтық» санатын орталықтандыру арқылы оның жаңапрагматикалық түсіндірілуін көрсетеді.

Мақаланың өзектілігі қазіргі заманғы әлемдік ахуалмен тікелей байланысты, ынтымақтастықтың, қарым-қатынас пен паритеттік полилогтардың өсу үрдістерімен байқалады, бірақ іс жүзінде олар төзімділік қатынастарының тиісті деңгейін қалыптастырудағы қиындықтарды (кейде мүмкін болмайтын) айқындайды.

Осы зерттеуде пайдаланылған әдіс, классикалық философиялық дәстүрде «трансцендентальді» деп аталды. Ол белгілі құбылыстарды жүзеге асыру мүмкіндігін анықтауға бағытталған. Біздің жағдайда бұл әлемнің қалған бөлігіне қатысты Батыстың дәстүрлі мәдениетінің дағдарысы.

Шұғыл дағдарыс жағдайына трансценденталдық әдісті қолданудың нәтижесінде біз батыс мәдениетінің өзіндік сана-сезімінің негізгі түсініктерін тұжырымдаймыз, оның концептуализациясы өткен және бүгінгі арасындағы себеп-салдардың байланысын түсіндіріп, осылайша Еуропацентристік дүниетанымның дағдарысына әкелетін себептердің сипатын түсіндіреді.

Осы мақаланың мақсаты қазіргі заманғы әлеуметтік-мәдени проблемаларды шешуде өзектілігін ескере отырып, классикалық философияның дәстүрлі мағынасын түбегейлі қайта түсіндіру процесін бастамалау, атап айтқанда жаһандану жағдайындағы әртүрлі мәдениеттер арасындағы төзімділік қарым-қатынастарды орнату мәселесін шешу болып табылады.

Түйін сөздер: Кездейсоқтық. Төзімділік. Плюрализм. Объективизм. Эссенциализм. Мәдениет. Тіл.

# REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# MODERNIZATION OF THE ORGANIZATIONAL STRUCTURE MANAGEMENT OF ENTERPRISES OF AGRO-INDUSTRIAL COMPLEX

Abstract. According to the authors' research, the basis for improving the organizational structure of the management of an agro-industrial enterprise is the identification of the functional significance of an agricultural enterprise. As a result of the formation of a new organizational structure for managing the agro-industrial enterprise, the efficiency of the enterprise will increase. Modernization of the organizational structure of management will contribute to the achievement and maintenance of the agro-industrial enterprise competitiveness in the short term, but in the long term, the development of basic and new key competencies will be required. Why do we need financial government support for agriculture? National holding "KazAgro" acts as an infrastructure investor and source of financing for agricultural producers, necessary for the development of the agricultural sector of the country. However, state subsidies in the field of agriculture and agribusiness should be directed to the creation and promotion of the introduction of advanced technologies for the intensification of production and the modernization of the organizational structure of management.

**Keywords:** agriculture, modernization, management, organizational structure, business, sustainable development.

#### INTRODUCTION

In the Address of the President of the Republic of Kazakhstan, he noted, "The agricultural sector of Kazakhstan has great export potential and high potential for the introduction of innovation. The demand for food every year in the world will increase. We should not miss this opportunity." And the main direction in addressing these global challenges is the transfer of the agricultural sector to the industrial-innovative way of development and improvement of the agro-industrial complex management system. In foreign countries, the Ministry of Agriculture and Forestry, its regional management structures, the Agricultural Chambers, and a number of mixed, semi-governmental, and professional organizations manage the agro-food complex. Thus, a complex in structure, but united in the actions of the system of bodies on the orientation of agricultural production and market management of agricultural products was created. Its competence goes beyond the agricultural sector, as it covers other sectors of the agro-food sector.

#### MAIN PART

Specialized bodies perform advisory, informational, coordination functions. In the structure of government subsidies of foreign countries, the largest share is occupied by funds to support prices. In modern concepts of pricing for agricultural products in countries with developed market economies, active government intervention in the formation and regulation of prices is envisaged. The system of state price regulation in almost all countries with developed market economies is the same and provides:

- the establishment of upper and lower limits of price fluctuations and an indicative or conditional price that the state seeks to support;
- buying or selling non-perishable products for the purpose of commodity intervention and maintaining the desired price level.

The modernization of the organizational structure of the agro-industrial holding management, based on the functional approach, is carried out according to the project technology of a set of processes for improving the functions and organizational structure of the agro-industrial holding management, carried out in strict sequence, according to the developed plan and directives of the working group.

The implementation of the project technology involves the definition of the main directions of changes in the functions and organizational structure, the formation of a document in which all the officials participating in the project, their responsibilities and obligations, the timing of the project will be fixed.

The project technology of changing the organizational structure of management based on the functional approach involves the following procedures:

- 1. Diagnostics of the functions and tasks of each employee of the structural units of the agro-industrial holding.
- 2. Formation of the content of the project technology, assignment of official duties for responsible persons.
- 3. Development of the content of the project technology and its implementation in the process of improving the organizational structure of management of the agro-industrial holding, evaluation of the results.
- 4. Assigning new functions to each of the employees. As a result of the implementation of the project technology, recommendations are made on the modernization of the organizational structure of the management of the agro-industrial holding on the basis of basic key competencies.

In this regard, it is necessary to carry out the reform of agrarian science in order to increase the availability of educational and consulting services for agricultural producers. Therefore, the stabilization and further accelerated development of the agro-industrial complex of our republic is impossible without the reproduction of new knowledge, replication of the achievements of agrarian science, their accelerated diffusion into agrarian production. These areas of activity should be ensured by expanding the R & D sphere, increasing the need for highly qualified scientific and engineering personnel, financing research and development at rates exceeding economic growth, which in turn will lead to a further increase in the science intensity of our country's GDP.

The leading role in providing financial assistance in the framework of state support for agriculture in Kazakhstan is played by the KazAgro National Holding. It acts as an infrastructure investor and source of financing for agricultural producers, necessary for the development of the country's agricultural sector. One of the strategic objectives of KazAgro Holding is the concentration and direction of investments in solving the priority tasks of the agro-industrial complex, as well as increasing the efficiency of public investments in the agro-industrial sector. [4] Also, the President of the country was instructed to ensure an increase in food exports by 40% by 2021 by diversifying agricultural production. These tasks should be implemented in the framework of the new state program for the development of the agro-industrial complex. [1]

Government subsidies in the field of agriculture and the agro-industrial sector as a whole, first of all, should be directed to creating and stimulating the introduction of advanced technologies for the intensification of production (research, selection, elite seed production, livestock breeding, biotechnology, etc.). Another important area is the implementation of investment projects for the maintenance and development of large engineering factors of production (irrigation and reclamation systems, etc.). Currently, in the depressed and inefficient agricultural regions of Kazakhstan, the state provides microcredit for the rural population, including those aimed at the development of all forms of employment (for specific projects). The implementation of the above measures to improve the competitiveness of the agricultural sector contributed to the successful entry of Kazakhstan into the World Trade Organization and the strategic goal of our country to become one of the 30 most competitive countries in the world.

The main factor limiting the renewal of agricultural machinery is the low profitability of agroindustrial production due to the instability of the price situation in the markets for agricultural products. Given the high degree of wear and tear on agricultural machinery, it is necessary to increase the volume of investments in their renewal based on innovations in an accelerated mode through the implementation of a system of measures to increase the purchasing power of agricultural producers and reduce the cost of acquiring material and technical resources.

Components of the system of material and technical support of the agro-industrial complex are: the production of high-quality material and technical resources and in quantities sufficient to maximize meet the needs of agricultural and processing enterprises; the sphere of distribution of material and technical resources, ensuring and regulating the supply of resources for the production process; production and

financial, scientific, information and practical advice to enterprises of the agroindustrial complex, providing industrial entities with a different range of services, repair and mechanical services should ensure the working condition of a large and complex fleet of equipment, machinery of agricultural and processing enterprises through repair and modernization.

Modernization of the organizational structure based on the functional approach involves a gradual change in the type of organizational and functional structures of the agro-industrial holding through the use of step-by-step improvement of business functions on the basis of monitoring the external environment, making appropriate adjustments to individual business processes, taking into account the transformation of business functions, identifying key competencies and developing dynamic core competencies that are the foundation of agro-industrial competitiveness Shlenov holding. Creating a new organizational structure involves a fundamental change based on the use of functional outsourcing and the associated restructuring of the business process system. In the case when the use of key competencies is inexpedient, a new organizational structure of management is formed, based on the selection of ns of functions of strategic importance for an economic entity and their transfer to functional outsourcing.

Modernization of the organizational structure of the agro-industrial holding - cssnadpra  $\sim$  shenpy and consistent process, therefore, the goals implemented in the course of the modernization of the organizational structure will be hierarchical. The development of agricultural cooperation is one of the effective ways to solve this problem. There is not a single example of successful development of agriculture in the world without the broad cooperation of small farmers.

Now these issues are resolved at the legislative level. Thus, the Law of the Republic of Kazakhstan "On Agricultural Cooperation" adopted in 2015 allows small farmers to unite and be of general interest as a separate business entity.

By legislative measures to stimulate cooperation, it is necessary to carry out active explanatory and advisory work (clarification of legislation, preparation of draft contracts, calculations for shares, study of best foreign experience, etc.) about the advantages of association into cooperatives, practical measures for the creation of agricultural entities.

An additional measure to encourage cooperation may be the possibility of subsidies to farmers in the cooperative without direct property participation (who have introduced the right to use as a share).

In addition, it is advisable to establish joint ventures with the largest cooperatives of developed countries, the entry of Kazakh agricultural enterprises in the number of participants in international cooperatives. This will allow us to learn from experience and gain access to significant resources, distribution channels, modern methods of increasing productivity.

To increase the investment attractiveness of the agricultural sector, it is necessary to introduce a number of financial instruments aimed at cheapening loans attracted to finance agricultural projects and instruments to reduce the risk of lenders and investors. Due to the low competitiveness of agricultural products, a high proportion of imports of basic foodstuffs remains in the domestic market.

Thus, in the regulation of agriculture and the development of the agrarian sector as a whole, the state and government support plays a crucial role. At the moment, the basic act of legislation in this area is the basic law of the Republic of Kazakhstan "On state regulation of the development of the agro-industrial complex and rural territories" (as amended on April 28, 2016 No. 506-V), which defines both the legal and economic bases for the implementation of state regulation agricultural sector of the country.

Regulation of the agricultural sector must be considered comprehensively, taking into account the entire system of the agro-industrial complex of the country. Since independence, Kazakhstan, like other post-Soviet states, has begun to modernize the economy and reform all sectors of the economy. In a market economy, the agrarian sector requires an optimal combination of state regulation and market levers, which necessitates the development of a theory of stabilization and improvement of the practice of state influence on macro- and microeconomic processes in agriculture and related industries.

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#### МОДЕРНИЗАЦИЯ ОРГАНИЗАЦИОННОЙ СТРУКТУРЫ УПРАВЛЕНИЕ ПРЕДПРИЯТИЙ АГРОПРОМЫШЛЕННОГО КОМПЛЕКСА

Аннотация. Согласно исследованию авторов основой совершенствования организационной структуры управления агропромышленного предприятия становится выявление функциональной значимости сельхозпредприятия. В результате формирования новой организационной структуры управления агропромышленным предприятием, повысится эффективность функционирования предприятия. Модернизация организационной структуры управления будет способствовать достижению и подержанию агропромышленным предприятием конкурентоспособности в краткосрочном периоде, однако в долгосрочном периоде потребуется развитие базовых и создание новых ключевых компетенций. Для чего потребуется финансовая государственная поддержка сельского хозяйства. Национальный холдинг «КазАгро» выступает в качестве инфраструктурного инвестора и источника финансирования для сельскохозяйственных производителей, необходимой для развития сельскохозяйственного сектора страны. Однако, государственное субсидирование в сфере сельского хозяйства и АПК необходимо направить на создание и стимулирование внедрения прогрессивных технологий для интенсификации производства и модернизацию организационной структуры управления.

**Ключевые слова:** сельское хозяйство, модернизация, управление, организационная структура, бизнес, устойчивое развитие.

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## АГРО-ӨНДІРІСТІК КЕШЕНДІҢ КӘСІПОРЫНДАРЫН ҰЙЫМДАСТЫРЫЛЫҚ ҚҰРЫЛЫМЫН БАСҚАРУДЫ ЖАҢҒЫРТУ

Аннотация. Авторлардың зерттеуіне сәйкес, агроөнеркәсіптік кәсіпорынды басқарудың ұйымдық кұрылымын жетілдіру үшін негіз ауыл шаруашылығы кәсіпорынының функционалдық маңыздылығын анықтау болып табылады. Агроөнеркәсіптік кәсіпорынды басқарудың жаңа ұйымдастырушылық құрылымын қалыптастыру нәтижесінде кәсіпорынның тиімділігі артады. Басқарудың ұйымдастырушылық құрылымын жаңғырту қысқа мерзімде агроөнеркәсіптік кәсіпорынның бәсекеге қабілеттілігіне қол жеткізуге және қолдауға ықпал етеді, бірақ ұзақ мерзімді перспективада негізгі және жаңа негізгі кұзыреттерді дамыту қажет болады. Неліктен ауыл шаруашылығына қаржылай қолдау көрсету қажет? «ҚазАгро» ұлттық холдингі еліміздің агроөнеркәсіптік кешенін дамыту үшін қажетті инфрақұрылымдық инвестор және ауыл шаруашылығы тауарын өндірушілер үшін қаржыландыру көзі болып табылады. Дегенмен, ауыл шаруашылығы және агроөнеркәсіптік кешен саласындағы мемлекеттік субсидиялар өндірісті қарқындату және басқарудың ұйымдық құрылымын жаңғырту үшін алдыңғы қатарлы технологияларды енгізуді ынталандыруға бағытталуы керек.

Түйінді сөздер: ауыл шаруашылығы, жаңғырту, басқару, ұйымдық құрылым, бизнес, орнықты даму.

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# COMPARATIVE ANALYSIS OF MARKET CONDITIONS OF GRAIN ECONOMY OF RK AND MONGOLIA

**Abstract.** According to the authors, the agriculture of both Kazakh and Mongolian peoples since ancient times was cattle breeding. Agriculture played a minor role, however, the agro-industrial complex is the leading sector of the economy of the Republic of Kazakhstan and Mongolia, whose main task is the cultivation of crops and the breeding of farm animals for the production of crop and livestock products. At the same time, implementation of state policy plays a major role in the development of livestock in two countries. Currently, the majority of Kazakhstani corporations are experiencing a lack of funds, as they are not able to update their production facilities, introduce the achievements of scientific and technological progress, and are forced to turn for help to the state.

**Keywords:** agriculture, grain, export, Mongolia, Kazakhstan, comparative analysis, business, sustainable development

#### INTRODUCTION

Today, Kazakhstan occupies the third place in grain production in the CIS after Russia and Ukraine, is among the top ten countries in the world exporters of wheat and flour, and a significant share in the total exports of agricultural products of the country is occupied by cotton (15%), leather and wool (25 %). The presence of a huge land fund with vast areas of agricultural land, which includes arable land, pastures and pastures, is a major factor in the successful development of the agricultural sector in Kazakhstan.

Agriculture at the present stage is one of the priority sectors of the national economy of Mongolia and ensures the proper economic and export development of the country in the context of globalization. The transition to market relations since the beginning of the 90s in Mongolia, in addition to certain transformational processes in the political system, allowed the use of market mechanisms for the formation of the national agro-industrial complex as a key factor in the socio-economic development of the country. As the first important steps of market transformations, phased privatization of state property was undertaken in the country's agro-industrial complex, where at the initial stage livestock was transferred to private ownership, and at the next stage assets such as buildings and structures, agricultural machinery and equipment, etc. were privatized. [five]. As a result, at the present stage, on the basis of former state-owned agricultural enterprises, various organizational forms of private agricultural enterprises and separate personal subsidiary farms, which own more than 85% of the livestock in the country, are functioning.

#### MAIN PART

One of the main directions of agricultural development, the crop industry in Mongolia is relatively less developed than animal husbandry, which is the main branch of the agro-industrial complex specialization. Until the 1990s. Mongolia fully provided for the needs of crop production at the expense of domestic production, but as a result of market reforms that led to the privatization of large state-owned agricultural producers and the emergence on their basis of small private agricultural enterprises, the situation in the field of agriculture deteriorated sharply. To solve this problem in the agricultural sector of the country, targeted state programs "Revival of agricultural production", "Green revolution", "Journey through virgin lands III", etc., have been developed and are being implemented. [6]. As a result of this, beginning in 2005, the indicators of grain production began to grow steadily, and since 2009 the growth

rates of grain production have sharply accelerated (see table). During the study period, we can note the predominance of the trend of increasing the yield of grain, as well as the collection of grain and potatoes.

In Mongolia and Kazakhstan, almost all farms are in private hands, the state is not able to fully control the whole situation. However, it seeks to provide all possible support and assistance, allocating funds for this, introducing various development programs, as well as carrying out preventive work, such as vaccination and veterinary services for livestock. Mongolia and Kazakhstan imports milk and dairy products, vegetables, flour and flour products, which could fully supply domestic production to the country's population. In Mongolia, there are 2.8 million people, and the number of livestock is more than 40 million, while the average annual milk production is more than 400.0 thousand tons, of which more than 70% is supplied to the market, of which about 10% is processed by industrial means. Currently, Mongolia is among the leading countries in the world in terms of livestock per capita (approximately 12 heads per person). Milk stocks are sufficient in rural Mongolia, but the regional market is too small, so each family is the producer itself and as a result the realization is very poor.

Mongolia in the world acts as a major supplier of livestock products, and also occupies one of the first places in the world in the number of livestock per capital.

In order to solve the problems of agriculture in Mongolia, the following areas will be interesting in general, the positive experience of Kazakhstan in the institutional support of the agricultural sector through the operation of the National Holding "KazAgro":

- 1. Despite the consequences of the financial and economic crisis in the global economy, the investment potential of the Holding is not decreasing, but tends to increase, which will positively affect the financial and investment support of the agro-industrial complex and will allow in such conditions to increase the future potential.
- 2. The creation of a state development institute in the form of a holding company will expand the range of tools and areas for investing financial and investment resources into the country's agro-industrial complex.
- 3. The holding form of institutional support for the agricultural sector will increase the level of responsibility of officials through the mechanism of corporate governance, as well as ensure the transparency and efficiency of the use of limited budgetary financial and investment resources allocated to support agricultural producers.

Technical equipment and work to upgrade and modernize tractors and other agricultural machines is being carried out at the proper level and achieved some results thanks to the policy pursued by the Government of Mongolia to support the sustainable development of agriculture in Mongolia, including accelerating the introduction of modern technologies. On the other hand, together with technical modernization, an urgent event is the creation of an infrastructure of technical services for the regular maintenance and support of modern machines and equipment in a technically working condition and thus the creation of conditions for the full use of technical resources of machines. Unfortunately, neither the government nor the dealers pay the necessary attention to the creation of repair and servicing enterprises, and they miss considerable technical resources on the full use of powerful machines and equipment. Therefore, we conducted studies to identify and establish the causes leading to failures and downtime of agricultural machines and tractors.

As for the domestic leasing market, its modern history dates back to the adoption in 2000 of Law No. 78-II "On Financial Leasing", which clearly outlined the main parameters of the transaction, the presence of which is necessary for treating it as a leasing one, and thus initiating a full-fledged regulation of relations arising in the process of financial leasing [4].

 Year
 2015
 2016

 Degree of depreciation of fixed assets
 37,8
 36,1

Refresh rate

Table 1 - the Degree of depreciation of fixed assets

2017

37.6

15,5

18,1

According to the FSA, the degree of depreciation of fixed assets does not exceed 40%. Considerable depreciation of fixed assets, most of which were commissioned in the middle of the last century, as well as

17,5

a number of advantages of a leasing transaction over traditional bank lending - these were factors that contributed to the rapid development of leasing in the country.

Investments in fixed assets showed consistent growth. The average annual growth rate of the indicator was 22.2% - taking into account foreign investments, which over the past 6 years have grown by more than 5.5 times (Figure 2). The leasing market, among other segments of the financial market, has been influenced by positive macroeconomic trends, having increased many times over the last decade and reached a level of slightly less than \$ 1.5 billion, which is about 1.3% of GDP.

The volume of the current portfolio of leasing companies increased in 2017 by 16.5% compared with the previous year. In general, the indicator of the volume of the current portfolio amounted to 298.2 billion tenge, for comparison, the value of this indicator last year amounted to 255.9 billion tenge (Figure 3).

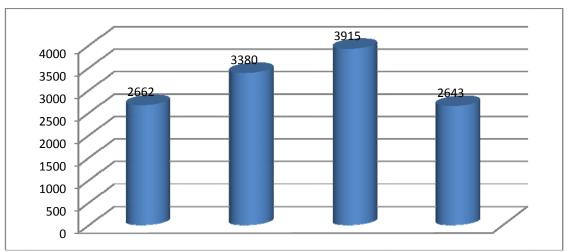


Figure 1 - The volume of the current portfolio, million tenge

The aggregate indicators of the leasing market show significant growth, and it is still to a large extent ensured by the presence of leasing financing in government business support programs. Last year private lessors, however, also began to feel somewhat better after the difficult 2015 year with the transition to a free floating exchange rate of the national currency. At the same time, the main problems of the market development remain unresolved.

#### **CONCLUSION**

Improvement in the course of research and widespread use in the production of methods of integrated land reclamation - the main condition for the effectiveness and sustainability of farming in the harsh specific environmental conditions of the steppe regions of southern Siberia - will prevent their desertification and create conditions for providing their own food for this general population. affected by the civilization of the territory of Russia. The developed scientific foundations of integrated land reclamation will also be useful for the stabilization and development of agricultural production in the steppe regions of Mongolia and Kazakhstan.

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#### СРАВНИТЕЛЬНЫЙ АНАЛИЗ РЫНОЧНЫХ УСЛОВИЙ ЗЕРНОВОГО ХОЗЯЙСТВА РК И МОНГОЛИИ

Аннотация. По мнению авторов, сельское хозяйство как казахского, так и монгольского народов издревле являлось скотоводство. Земледелие играло второстепенную роль, однако, агропромышленный комплекс является ведущей отраслью хозяйства Республики Казахстан и Монголии, главной задачей которого является возделывание сельскохозяйственных культур и разведение сельскохозяйственных животных для получения продукции растениеводства и животноводства. При этом, большую роль в развитии животноводства в двух странах играет реализация государственной политики. В настоящее время большинство казахстанских корпораций испытывает недостаток средств, так как не состоянии обновлять свои производственные мощности, внедрять достижения научно-технического прогресса и вынуждены, обратится за помощью к государству.

**Ключевые слова:** сельское хозяйство, зерно, экспорт, Монголия, Казахстан, сравнительный анализ, бизнес, устойчивое развитие

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#### ҚР ЖӘНЕ МОҢҒОЛИЯНЫҢ ЖАНАРМАЙ ЭКОНОМИКАСЫНЫҢ НАРЫҚТЫҚ ШАРТТАРЫН САЛЫСТЫРУ

**Андатпа.** Авторлардың пікірінше, ежелден бері қазақ және моңғол халықтарының ауыл шаруашылықтары мал шаруашылықтары мал шаруашылықтымен айналысты. Агроөнеркәсіптік кешен шағын рөл атқарды, алайда агроөнеркәсіп кешені Қазақстан Республикасының және Моңғолияның экономикасының жетекші секторы болып табылады, оның басты мақсаты егістік алқаптарды өсіру және егіншілік және мал шаруашылығы өнімдерін өндіру үшін ауыл шаруашылық жануарларын өсіру болып табылады. Сонымен бірге, екі мемлекетте мал шаруашылығын дамытуда мемлекеттік саясатты іске асыру маңызды рөл атқарады. Қазіргі уақытта қазақстандық корпорациялардың көпшілігі өздерінің өндірістік қуаттарын жаңарта алмай, ғылымитехникалық жетістіктерге қол жеткізе алмай, мемлекетке көмек көрсетуге мәжбүр болғандықтан, қаржының жетіспеушілігін сезінуде.

**Түйінді сөздер:** ауыл шаруашылығы, астық, экспорт, Моңғолия, Қазақстан, салыстырмалы талдау, бизнес, орнықты даму

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#### INVESTMENT PORTFOLIO SET-UP IN TERMS OF JSC NC "KAZAKHSTAN TEMIR ZHOLY"

**Abstract.** Present article is aimed to analyze the process of investment portfolio set-up in terms of Joint Stock Company "National Company Kazakhstan Temir Zholy" (JSC NC KTZh). The following research methods were used: the unity of historical and logical, scientific analysis and synthesis, statistical method.

The factors impacting the investment policy of JSC NC KTZh were identified and systematized in course of study. The ongoing investment policy of the company has been assessed and recommendations have been issued on the investment portfolio set-up and management. Finally, the authors concluded that, there is still a number of problems to the portfolio compliance to the actual strategic demands despite the theoretically correct strategy of actions in respect to the company's investment portfolio.

The results and proposals obtained during the study may be used to improve the investment policy of JSC NC KTZh.

**Keywords**: investment portfolio, investment strategy, project structure, Kazakhstan Temir Zholy.

#### Introduction

The country entry into 30 developed countries of the world by 2050 is proclaimed as the strategic goal of the economic development of the Republic of Kazakhstan. The State industrial-innovative development program, regional development programs, business road maps, etc. are currently being implemented to achieve this goal. Also since 2014, the "Nurly Zhol" comprehensive program has been implemented, aimed to the country's infrastructure modernization. National Company Kazakhstan Temir Zholy Joint-Stock Company (NC KTZh JSC) shall play particularly important role in this program implementation. The activity of the largest transport company of Kazakhstan is regulated by the Laws of the Republic of Kazakhstan "On Railway Transport" and "On Natural Monopolies" [1, 2]. The company operates in all segments of the railway transport, as well as in the transportation related and associated industries. Development of a highly efficient national transport corporation, corresponding to the best international business practices [3] is the strategic goal of JSC "NC "Kazakhstan Temir Zholy".

The passenger and cargo transportation parameters on the railway transport, such as quality of service, uninterrupted supply, streamlined logistics, prices for services, etc depend on economic efficiency of JSC NC KTZh. Revenues from the company operating activities are not able to ensure its sustainable development subject to small the market capacity. Therefore, at present, the company is actively involved in investment activities in the field of transport and logistics. The long-term and large volumes of disparate investments entail certain risks, and that therefore require a special approach to be used to the portfolio set-up.

In terms of present study, issues related to the long-term investment portfolio set-up of JSC NC KTZh will be addressed.

#### Results and discussion.

Today, investment policy of JSC NC KTZh is related to the development of interrelated actions aimed to maintain the stable economic growth, and increase the volume of passenger and cargo operations, ensure the long-term operation of the enterprise material and technical base.

Joint Stock Company has got natural monopoly in view of its activities in the state strategic field. This status imposes certain tacit obligations and responsibility for the entrusted economy sector, since in case of enterprise malfunction, the deficiency may not be compensated. Also there is a high wear and obsolescence of the enterprise basic production assets reaching 69% [4]. This leaves a certain mark on the nature of investment cash flow, and makes adjustments to the long-term goals of the enterprise as well, especially those related to investments.

In addition, current carriage rates for goods and passengers do not even cover the costs of these operations [5]. And availability of risks related to the rail transportation demand decrease due to increased popularity of alternative transportation means (road - potentially from the Second Eurasian Continental Bridge).

All these factors determine the strategy of JSC NC KTZH in the investment portfolio set-up in various degrees.

The analysis of the modern specifics of the external environment preceded the investment projects portfolio set up. Therefore, in this case, the government intends to liberalize the transport and rail industries. Accordingly, changes in the institutional structure can be expected in the near future and they may the activities of NC KTZ JSC as a branch-forming entity. In this regard, it is necessary to revise the current strategy of the investment portfolio set-up. Optimization of the portfolio assets structure comes to the first place.

The investment portfolio set-up is based on the following principles:

- Set-up of the vertically integrated portfolio, that shall encourage the costs minimization;
- transparency of the financial operations and failure of the cross-subsidization;
- Reprioritization of NK, keeping the core assets control and selling the non-core ones that have no strategic value. The main directions are: railway infrastructure, passenger and cargo carrying operations;
  - income redistribution after investment portfolio sale to finance the strategically important areas;
  - Binding the responsibility for profits and losses to the managers of relevant projects [6].

In addition, subject to expanded scope of responsibility of KTZh from the railway monopolist to the transport and logistics company engaged as well in the terminal and port infrastructure and specific road haulage, investments in the projects in these industries and areas get the considerable importance.

Project structure of the JSC NC KTZh investment portfolio is presented in the figure below.

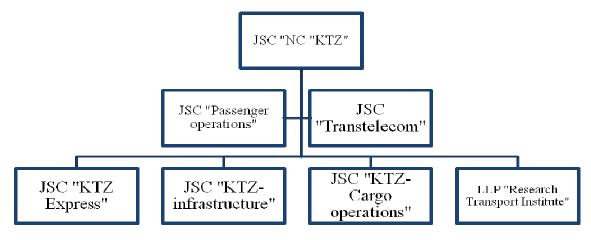


Figure - Project structure of the investment portfolio JSC NC KTZh

The process of KTZH investment portfolio set up is subdivided into several stages.

1) First of all, it is necessary to select individual investment projects for the future investment portfolio. The following enterprise organizational structure was derived in course of analysis. The projects selection principles are outlined above. The main idea is to concentrate on the core KTZ activities related projects and non-core projects abandoned.

Joint Stock Company "KTZ Express" combines the assets related to logistics and logistics operations in one way or other; KTZ completely owns its shares. JSC "KTZ-infrastructure" involves the group of shares related to the services rendered to the main railway. JSC "KTZH-Cargo operations" that are the assets related to the cargo rail way operations. In turn, the activities of the Transport Research Institute are aimed to develop more efficient transportation technologies and methods. All of the above projects are wholly belong to KTZ, while JSC "Passenger operations" and JSC "Transtelecom" implies the partial stakes ownership. Based on the diagram above, the investment projects related to all three strategic areas firstly are highly prioritized, and that also ensure interaction between each other. In addition, the entirely controlled projects are preferred.

The volume of capital investments of JSC NC KTZ in 2017 was made in the amount of KZT 275,135 million, that is 13% less than in previous year. Despite this, the Fitch forecast is designated as "stable" [7].

- 2) Further, the impact of each project implementation is assessed within the investment portfolio at the next stage. In the case shown in Figure 1, the projects are ranged in the following order, from the higher to the lower priority: JSC "KTZ-Cargo operations", "KTZ Express", JSC "KTZ Infrastructure", LLP and projects with partial stakes.
- 3) At this stage, the projects are rated, based on the priorities set forth in the stage 2. For example, one of the highest ratings in this situation is for JSC "KTZ-infrastructure", because it enables to single out the separate corporate management center to manage the entire group of the companies of JSC NC KTZ.
- 4) Assessment of the shareholders' interests as the separate stage in this case is not very relevant, since the state-owned Fund Sumruk-Kazyna is the sole holder of KTZh shares. Consequently, the interests of single shareholder cannot contradict themselves and the investment portfolio can be optimized based on such narrow specialization of the shareholder interests.
- 5) Assessment of the investment portfolio as a whole. The integration gets the greatest value in such portfolio that is, the interconnection degree between the individual investment projects. That is due to the fact that the company in this case pursues not only the goals to increase the profit, but improve the quality and ensure the stability of the services rendered as well in view of its state importance. The portfolio assessment from such point of view enables to identify the most efficient ways to optimize portfolio management.

In order to achieve better efficiency in the investment portfolio set-up of "Kazakhstan Temir Zholy", the action plan was subdivided into two phases. Today, the second phase of action plan is on (since 2014) aimed to retain the major share of cargo operation market. The company actively implements the customer-oriented and flexible pricing principles. Separate business strategy is developed for each investment project in conjunction with other strategies, enabling to update and modernize the fixed assets of JSC NC KTZ.

The ongoing investment policy of JSC NC KTZ implies the strict planning of the large capital investments for the period of more than 1 year. In our opinion, subject to weak market, such policy shall be abandoned. At the same time, everything must be carefully weighed and investment effectiveness is justified prior to include the new investment project in the portfolio, subject to actual dynamics of the container transit growth. For more informative data, it is necessary to keep records in the context of individual areas.

At the same time, JSC NC KTZh shall transform its own investment policy increasing its flexibility to market conditions. That is necessary to respond as quickly as possible to the external factors deterioration or occurrence of new opportunities for growth. For example, the stagnation of economic growth in the country may lead to the turnover fall down, and that will bring the income decrease. That may trigger the capital investment reduction. The new growth opportunities shall ensure the income level enabling to increase container transit and support the company's projects.

#### Conclusion

There are certain drawbacks and threats despite the series of measures designed to improve the efficiency of enterprise, including investment portfolio and enterprise restructuring.

First of all, the company gets negative profits for several years straight, including the low efficiency of capital expenditures, and that indicates both the further necessity to maintain the portfolio investment and threat of government intervention. Despite the fact the enterprise is already state-owned, financial support from the state may intensify the negative development trends blocking the natural mechanisms of market regulation.

In addition, despite the desire to optimize the investment portfolio, it still remains complexly structured, with the need to include the assets not only of railways, but airports, seaports, logistics, etc. as well.

Considerable deterioration of the material and technical base obstructs to predict the company's activities, because these facilities are to be updated and modernized in general, and therefore slowing down the achievement of strategic goals, or accepting the risk of the use of facilities due to wear and tear.

In general, the current methodology for the investment portfolio set-up is quite effective from the theoretical point of view, but it poorly meets the company's current needs.

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### «ҚАЗАҚСТАН ТЕМІР ЖОЛЫ» ҰЛТТЫҚ КОМПАНИЯСЫ АКЦИОНЕРЛІК ҚОҒАМЫ МЫСАЛЫНДА ИНВЕСТИЦИЯЛЫҚ ҚОРЖЫНДЫ ҚАЛЫПТАСТЫРУ

**Аннотация.** Мақаланың мақсаты «Қазақстан темір жолы» Ұлттық компаниясы Акционерлік қоғамы (ҚТЖ ҰҚ АҚ) мысалында инвестициялық қоржынды қалыптастыру процесін талдау, сонымен бірге негізгі ықпал етуші факторларды анықтау және осы процестің экономикалық нақты жайттарға сәйкестігін зерттеу болып табылады. Зерттеу әдістері негізінде тарих пен логиканың біртұтастығы әдісі, ғылыми талдау және синтездеу, статистикалық әдіс, кескінді талдау әдістері пайдаланылған.

Зерттеу барысында ҚТЖ ҰҚ АҚ инвестициялық саясатына ықпал ететін факторлар анықталып, сараланған. Компанияның қолданыстағы инвестициялық саясаты бағаланған және оның инвестициялар қоржынын қалыптастыру мен оны басқару бойынша рекомендациялар ұсынылған. Жұмыстың соңында авторлар келген ұйғарымға сәйкес, компанияның инвестициялық қоржынына қатысты әрекеттер стратегиясының теориялық тұрғыда дұрыс болғанына қарамастан, қоржын құрамының шынайы стратегиялық сұраныстарға сәйкестігімен байланысты бірқатар мәселелер бар.

Зерттеу барысында алынған нәтижелер мен ұсыныстар ҚТЖ ҰҚ АҚ инвестициялық саясатын жетілдіру мақсатында қолданылуы мүмкін.

**Түйін сөздер:** инвестициялық қоржын, инвестициялық стратегия, жобалық құрылым, Қазақстан темір жолы.

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### ФОРМИРОВАНИЕ ИНВЕСТИЦИОННОГО ПОРТФЕЛЯ НА ПРИМЕРЕ АО НК «КАЗАХСТАН ТЕМИР ЖОЛЫ»

**Аннотация.** Целью данной статьи является анализ процесса формирования инвестиционного портфеля на примере Акционерного общества «Национальная компания «Казахстан темир жолы» (АО НК КТЖ). В качестве методов исследования использованы: метод единства исторического и логического, научного анализа и синтеза, статистический метод.

В ходе исследования были выявлены и разобраны факторы, влияющие на инвестиционную политику АО НК КТЖ. Дана оценка проводимой инвестиционной политике компании, и предложены рекомендации по формированию и управлению портфелем инвестиций. В заключении авторы пришли к выводу, что, несмотря на теоретически верную стратегию действий, в отношении инвестиционного портфеля компании, все еще наблюдается ряд проблем с соответствием портфеля реальным стратегическим запросам.

Результаты и предложения, полученные в ходе исследования, могут быть использованы в целях совершенствования инвестиционной политики АО НК КТЖ.

**Ключевые слова:** инвестиционный портфель, инвестиционная стратегия, проектная структура, Казахстан темир жолы.

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# MAIN DIRECTIONS FOR IMPROVING AGROFRANCHING IN THE AKMOLIN REGION

**Abstract.** The main difference between an agro franchise and a simple farm is that the franchisee does not care about the sale of the products produced, the agro franchiser undertakes these concerns. In the Akmola region in its development has an actively dominant agrarian context, the formation of innovative agro-clusters today is an urgent and necessary task for the national economy.

The purpose of such entities is to assist in the formation of an innovative environment in the agrarian sector, within the framework of this research topic, this is agrofranchising. To ensure the success of entrepreneurs and taking into account the possible lack of knowledge, potential franchisees should be assisted in drawing up real business plans, and subsequently accounting reports, legal and personnel support, again from the state.

**Keywords:** agro franchise, agriculture, agro franchiser, development, entrepreneurship, support, innovation.

#### INTRODUCTION

The listed difficulties and problems can be considered systemic, therefore they need to be solved comprehensively, through active government intervention.

In our opinion, it is first necessary to provide agro franchising recipients with state benefits in the form of grants, subsidies, partial guarantees, in particular:

- grants for the creation, expansion and modernization of the production base and household equipment for beginning farmers, including through the implementation of such areas as subsidizing a part of the costs associated with the development of project activities by small business forms in the agro industrial complex, as well as co-financing individual activities of municipal agricultural development programs;
  - subsidizing investment loans to novice farmers;
- subsidies for reimbursement of part of the cost of paying interest on loans (loans) in the composition of the lease payment;

The system of state incentives leads to a greater interest to the network organizer, and not to the novice entrepreneur, who, as a rule, does not even understand the essence of the relationship before entering into a contract, and secondly, this can lead to a conflict between the owner and the "acquirer" of the franchise. In this case, the risk of the right holder in this case is minimal.

#### MAIN PART

For the agricultural sector, where at present the intellectual component of franchising is not sufficiently perceived and the goods are produced by the franchisee themselves, grants should be provided for the establishment of a business in terms of covering operating costs. The franchise in this case will be only an additional guarantee for the effective implementation of the grant. At the same time, the success of a franchise project should be assessed based on a number of qualifying signs of the right holder, such as, for example, the period of presence in the market, the number of network points, the number of failures, growth potential, ease of copying the finished model, etc. This will not only reduce the risks of preparing for participation in the business of rural residents, especially young people, but also to promote innovative agro projects, as well as to increase the level of justification for the presentation of grants. It will also be a

serious step towards resolving issues of pre-contractual disclosure of information necessary for an entrepreneur to make an informed decision about the "purchase" of a franchise. At the same time, if we want to develop agro franchising and stimulate its development, in our opinion, the grants for the agro franchise sector should be somewhat larger than for opening a single enterprise. Other incentives are possible, for example, loans for future harvest from various funds and rights holder's funds, taking into account payback, leasing, etc. You can take into account tripartite unions, for example, non-profit organization, franchisor and franchisee, or use of subsidy schemes through non-profit organizations for a certain group of projects or the creation of equity "village" banks, which takes place in international practice. However, these questions require independent deep and complex study.

Improving regulations can be a turning point in the development of manufacturing franchising and the development of mechanisms and conditions for lending to franchisees, state support for socially significant projects based on franchising, creating an information environment, overcoming mistrust to the world-famous business model.

An assessment of the prospects for the development of agro franchising requires an understanding of the advantages of franchising in general and of a particular franchise in particular for all participants. The franchisor gets the opportunity to expand the business and promote the brand to new regional markets without the direct costs of setting up a business. The franchisee uses a well-known brand, receives technology and turnkey business processes, the necessary methodological and informational support, thereby ensuring the competitiveness of the enterprise, saving advertising and promotion costs.

To ensure the success of rural entrepreneurs and given the possible lack of knowledge, potential franchisees should be assisted in the preparation of real business plans, and subsequently accounting reports, legal and personnel support. It is necessary to popularize the model of franchising in the countryside, to draw attention to the advantages offered by the franchise to the beginning entrepreneur.

These include:

- the possibility of replicating successful business projects and, accordingly, saving time when opening an enterprise;
  - expanding choices for the sector;
  - cost savings on information, marketing, organizational and other expenses;
  - the ability to use the brand loyalty;
  - support from an experienced partner and additional training opportunities;
  - the right to work with already known suppliers;
  - participation in corporate events and the acquisition of a new social status.

The attractiveness of a franchise for a rural resident is largely determined by the time between the investment of funds and the first crop or other product ready for redemption. As a rule, this period is longer than in any other sector of the economy; therefore, the system of incentives for the entrepreneur is of particular relevance.

#### **CONCLUSION**

State support would allow for the creation of breeding farms, slaughter and feed mills. The creation of breeding farms with the aim of using breeding livestock for the reproduction of the herd will improve the genetic potential of farm animals, which will make it possible to achieve a high level of their productivity and an increase in gross livestock production. Summarizing the above, we propose the following decision-making algorithm for designing the conditions of a franchise: - analysis of the state and prospects for the development of the market; - assessment of opportunities for obtaining state support; - the choice of the concept of ownership and the purchase of equipment; - determination of functional areas of support from the franchise owner and areas of control of the franchisee's activities by the franchisor; - highlighting the areas of cooperation between the franchiser and the franchisee; - evaluation of the effectiveness of cooperation for each of the participants and sources of synergistic effect.

Attaching great importance to state support, we proceed from foreign experience, where, thanks to various models of public-private partnerships, rabbit breeding is developing rapidly, and the leadership of municipalities plays the role of a "developer of territories". Due to climatic differences, the projected agro franchise, as a method of technology transfer, should have a regional, rather than an inter-regional or national scale.

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### ОСНОВНЫЕ НАПРАВЛЕНИЯ ПО СОВЕРШЕНСТВОВАНИЮ АГРОФРАНЧАЙЗИНГА В АКМОЛИНСКОЙ ОБЛАСТИ

**Аннотация.** Основное отличие агрофраншизы от простого фермерского хозяйства состоит в том, что франчайзи не заботится о сбыте произведённой продукции, эти заботы берёт на себя агрофранчайзор. В Акмолинской области в своем развитии имеет активно-доминирующий аграрный контекст, то и формирова-ние инновационных агрокластеров на сегодняшний день является актуальной и необходимой задачей для национальной экономики.

Целью подобных образований является содействие в формировании инновационной среды в аграрной сфере, в рамках данной темы исследования это агрофранчайзинг. Для обеспечения успешности предприни-мателей и с учетом возможной недостаточности знаний потенциальным франчайзи должна быть оказана помощь в составлении реальных бизнес-планов, а впоследствии бухгалтерских отчетов, юридическая и кадровая поддержка, опять-таки со стороны государства.

**Ключевые слова:** агрофраншизы, сельское хозяйство, агрофранчайзор, развитие, предпринимательство, сопровождение, инновации

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## АКМОЛА ОБЛЫСЫНЫҢ АГРОФРАНЧАЙЗИНГ ЖАҚСАРТУ НЕГІЗГІ БАҒЫТТАР

**Аннотация.** Агрофраншизамен қарапайым шаруа қожалығының негізгі айырмашылығы, франчайзе өндірілген өнімдерді сатуға қызығушылық білдірмейді, агрофранчизер осы мәселелерді шешеді. Ақмола облысында оның дамуында белсенді аграрлық контекст бар, инновациялық агрокластерлерді қалыптастыру бүгінгі күні халық шаруашылығының өзекті және қажетті міндеті болып табылады.

Мұндай субъектілердің мақсаты аграрлық сектордағы инновациялық ортаны қалыптастыруға көмектесу болып табылады, бұл зерттеу тақырыбы аясында агрофранчайзинг. Кәсіпкерлердің жетістіктерін қамтамасыз ету және білімнің мүмкін болмауы ескеріле отырып, әлеуетті франчайзерлер нақты бизнес-жоспарларды құруға, кейіннен бухгалтерлік есепті, заңды және кадрлық қолдауды қайтадан мемлекет тарапынан қолдау керек.

**Түйін сөздер:** агроөнеркәсіптік кешен, ауыл шаруашылығы, агроөнеркәсіптік кешен, даму, кәсіпкерлік, қолдау, инновация.

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# INTERDEPENDENCE OF TOURISM DIVERSIFICATION AND REGIONAL DEVELOPMENT FEATURES OF KAZAKHSTAN

**Abstract.** This work is aimed at identifying of the interdependence of tourism and regional features of Kazakhstan development. To achieve the set goal, the methods of system approach, scientific abstraction, analysis, synthesis, and comparison were applied. The paper shows the most perspective regions and trends of tourist activity, and assesses the contemporary state of tourism in Kazakhstan regions. To estimate the diversification correlation of tourism by regional features, the social and economic indicators of regions development were considered. The results of the research showed that tourism development in Kazakhstan regions is extremely uneven. As a consequence of this, the authors have determined several macro-regions that have its own pronounced features – South, North, Central-East, West regions, and Almaty, and Astana cities. It is shown that tourism diversification in each of them should be oriented on its factors.

**Keywords:** diversification, tourism, regional development, tourist destinations, macro-regions, agglomeration.

For tourist activity, the diversification is of special status as this field is subjected to influence of political events, economic stability in regions of tourist destination, and demographic changes in countries where tourism enterprises are located. The countries where tourism field is well-developed, the enterprises are usually ready for outside changes, they form the development strategy considering the diversification of tourist service package, geographic markets, techniques and technology of tourism. The operation in changing environment is much more difficult for enterprises in countries with poor developed tourist infrastructure, for instance, in Kazakhstan.

Development of Kazakhstan regions is determined by the following factors:

- 1. Program of regions development until 2020 (later on, Program). It is one of the instruments to implement the Anticipated scheme of territorial and spatial development of the country until 2020, adopted by the Decree of the President of the Republic of Kazakhstan on July 21, 2011, #118.
- 2. Regional development is centralized as regions receive funds from the governmental budget and are controlled by a special body.
- 3. Low level of urbanization in comparison with developed countries about 55-58% comparing to 75-85%.
- 4. Regions are grouped into four macro-regions basing on economic, nature, social and demographic parameters. These regions are: North, Central-East, South, and West regions. Along with macro-regions there are cities of national status Almaty, and Astana. The largest contribution into the national economy 23.8% comes from Western region, the South region has the largest portion of population 37.7%, the most urbanized region 69.7% is Central-East.

Basing on the region features, we have made a table of the most prospective tourism fields that can be developed (Table 1). Three-point rating system is applied, where 0 – unpromising field, 1 – possible, but requires additional investments, 2 – most promising.

According to the Program the largest GDP share comes from the West region and Almaty city, the least is from agricultural South, and North regions. However, the most effective contribution is from Almaty – the city contribution to GDP is almost the same as from the whole West region. This is due to

high diversification level of Almaty economy. And agricultural and production sectors are not able to provide enough amount of jobs [1].

Thus, the largest amount of jobs comes from the service sector. Considering the potential of tourism in Kazakhstan, significant increase to the service sector can be provided by tourism. Let's consider regional features of Kazakhstan in terms of tourism development.

Table 1 – Prospective trends of tourism activity in the Republic of Kazakhstan

Region	Type of tourism									
	Cultural and entertainment	Ethnical	Business	Treatment	Religious	Sport	Ecological	Rural	Eventful	Sub-total
Akmola	1	0	2	0	0	0	2	0	1	6
Aktyubinsk	1	2	2	0	0	0	2	1	0	8
Almaty	2	2	2	2	0	2	2	1	1	14
Atyrayu	2	2	2	1	0	0	2	1	0	10
West Kazakhstan	0	0	0	0	0	0	1	1	0	2
Zhambyl	2	2	0	2	2	0	2	1	0	11
Karaganda	0	0	2	0	0	0	2	0	0	4
Kostanay	1	1	0	0	0	0	2	1	1	6
Kyzylorda	2	2	0	0	0	0	2	1	0	7
Mangystayu	0	2	1	0	0	0	2	1	0	6
South Kazakhstan	2	2	1	2	2	0	2	2	0	13
Pavlodar	2	1	2	1	0	0	2	0	1	9
North Kazakhstan	1	1	0	0	0	1	2	1	0	6
East Kazakhstan	2	1	0	2	0	2	2	2	0	11
Astana city	2	1	2	1	1	2	0	0	1	10
Almaty city	2	1	2	2	0	1	0	0	2	10
Total	22	20	18	13	5	8	27	13	7	133
Note: made by the author basing on [1], [2]										

Table 1 allows to determine the most prospective regions and fields of tourism activity. Basing on the Table the most promising are ecological, cultural-entertainment, ethnical, and business tourism. The most prospective regions are Almaty, South-Kazakhstan, East-Kazakhstan, Zhambyl regions, and Almaty and Astana cities. However, it is necessary to consider that these are generalized indicators, and there are also opportunities for development of other types of tourism. For instance, Turkestan town located on the territory of Kazakhstan is attractive field for religious tourism due to its rich history and remained Muslim and Turkic monuments.

The Southern macro-region has high population density, but low urbanization level – 37.7% that will definitely result in population flow into the cities. This is the most integrated region owing to the project "West Europe-West China". The region extends from Tien Shan to Aral Sea, Aral Kara Kum and Balkhash Lake. The region is distinguished by a wide variety of relief, biome, and natural zones. It borders with Uzbekistan, Turkmenistan, Kyrgyzstan, and China that determines parameters of tourist flows to some extent.

The region has large opportunities for the following types of tourism:

- 1. *Ecological:* Issyk, Turgen Lakes, Kora river, Burkhan-Bulak waterfall, Charyn Canyon, Kolsay Lakes, Altyn-emel national park, Balkhash Lake, Karatayu mountains.
- 2. Cultural and entertainment: Saka burial mounts, Turkestan, Yesim Khan mausoleum, Sayram, Otyrar national archeological reserve museum, Kyuruk-Tobe diggings, Kok-mardan, Baba-ata mosque-mausoleum, "ART&SHOCK" theatre, Abay Opera and ballet theatre, Republican German Drama Theatre, Central State Museum of the Republic of Kazakhstan, A. Kasteyev Republican Art Museum, Ikylas Musical Instruments Museum, Kyurmangazy Kazakh State Philharmonia.
  - 3. Religious: Turkestan, Yassayuyi mausoleum.
  - 4. Medical and health: Sary-Agash, Merke, Chyundzha etc.
  - 5. Rural: low urbanization of the region allows for creating rural tourism at villages.

6. Sport: Kara-Kum, Khan-Tengri, Zailiyskiy Alatau, Medeo skating ring, Shymbulak ski resort.

Low urbanization level, at the same time, causes the problems with infrastructure and qualified personnel. Development and diversification of tourism are connected, first of all, with solving of these two problems.

The Western macro-region is located in the north-west part of the Republic. It is bounded by the Ural Mountains in the north, Turkmenistan deserts in the south, Aral Sea in the east, and Caspian Sea in the west. The topography is mainly plain with sharp continental climate and temperature difference in various seasons – 90 Celsius degree. The region borders with Russia cities that creates definite conditions for tourists' exchange.

The Western macro-region is distinguished by the availability of oil- and gas production industry, and outlet to the Caspian Sea. The most promising fields of tourism by types are:

- 1. *Ecological:* Great Silk Way, Ustyurt natural reserve, steppe zones, Inder and Aralsor Lakes, Caspian, and Aral Seas.
- 2. *Cultural and entertainment:* cave paintings-poems, Fort Shevchenko, archeological monuments of Saraychyk, Artyk mausoleum, monuments of Dead Kultuk, Khanga-baba necropolis.
  - 3. Religious: Beket-Ata, Shakpak-Ata, Shopan-Ata, Masat-Ata mosques.
  - 4. Medical and health: health resorts on the coast of the Caspian Sea.

The Caspian Sea is a potential source of tourists from bordering States. The problem is that the sea port is quite far from the most competitive tourist zones of Kazakhstan.

The Central-East macro-region is highly urbanized, industrially developed, has attractive tourist zones. It borders with China, South, North, and West regions. It has the whole diversity of natural zones of Kazakhstan: sand-clay deserts, clay canyons, steppe zones, mountains, forests, taiga, and alpine meadows. It is also the most bio-diverse region of the country as includes 24 national parks.

Promising tourist fields:

- 1. *Ecological:* Kazakhstan Altay, Rakhman springs, Berel glaciers, Zaysan, Markakol, Alakol, Balkhash lakes, Karkaraly mountainous-forest oasis, Ulytayu mountains, Sary-Arka steppe, Komsomol peak.
- 2. *Culture and entertainment:* ruins of mountain fortresses and settlements at Altay, Aktasty burial mound, Karasyu winter camp, Ak-Beket, Shon, Klysh, Akhmetzhan mazars.
  - 3. Ethnical: red deer farms.
  - 4. Sport: mountain rivers, extreme ski trails.

Among the key problems is remoteness of tourist places from big cities, complex travel, poor infrastructure, expensive accommodation at rare hotels. Tourism development is mostly probable if the infrastructure is developed.

The Northern macro-region is focused on production of bread wheat. It borders with Russia in the north, the Ural mountains in the west, with plain steppe of Irtysh in the east. The territory is mainly plain.

Promising tourist fields:

- 1. *Ecological:* Byurabay, Kyusmurun, Korgalzgyn lakes, Kokshetayu mountains, national park "Byurabay", Bayan-Ayul caves, Korgalzhy national nature reserve, Nayurzum nature reserve.
  - 2. Medical and health: Moyildy, Maybalyk lakes.
- 3. Cultural and entertainment: archeological sites at flood plain of Ishim, Chaglinka, and Iman-Byurlyk, historical monument Botay, Arkalyk.

Astana – is the capital of the Republic, and this fact determines the volume of investments into the city: infrastructure, culture, construction, education and science, and finances. Astana is a potential center of agglomeration, and, consequently, of city tourism.

Almaty is the biggest megalopolis of the country, former capital having significant cultural and historical heritage. In addition, the city location is geographically attractive and can receive tourists interested in mountain skiing and extreme sport. Besides, the economic base of the city is service sector [3].

The main trend of contemporary economic diversification is appearance and development of agglomerations. Development of agglomerations in the developing countries has its own specifics – population is concentrated in few leading centers. Uncontrolled migration causes overload of housing infrastructure resulting in appearance of social marginalization zones, disturbance of jobs balance and

obstruction of diversification. Example is favelas in Brazil. Such zones increase the growth of criminal threat, and decrease the educated portion of population.

Cities are the diversification sources including tourism diversification. These allow creating the cultural and social capital, and develop creative fields that also increase the tourists flow. The risk of marginal zones appearance in a city decreases significantly the tourist attractiveness of the city; an example is Naples in the south of Italy. The city has rich history and culture, but tourists complain about crime situation and dirtiness of the city.

The most attractive cities for migration in Kazakhstan are, first of all, Almaty and Astana; there are a lot of historical and cultural beauty sights, and developed infrastructure. Due to this fact, the major part of tourists is concentrated in these cities. Those also can be used as an example for tourism diversification in other big cities and regional centers, such as Shymkent, Karaganda, Ust-Kamenogorsk, Semipalatinsk, and Uralsk.

The volume of services by regions for 2017 is shown in Figure 2.

The Figure shows that the cities of the national status received the largest amount of visitors. And, as it was mentioned above, a half of visitors come with business or professional issues. Almaty and Astana possess the largest business, financial, scientific, cultural centers attractive for visitors. The least visitors were observed in Kyzylorda, North-Kazakhstan, Zhambyl, and Kostanay regions. This is explained by poor tourism attractiveness of the cities, and by unfamiliarity or hard access to touristic beauty sights at these regions.

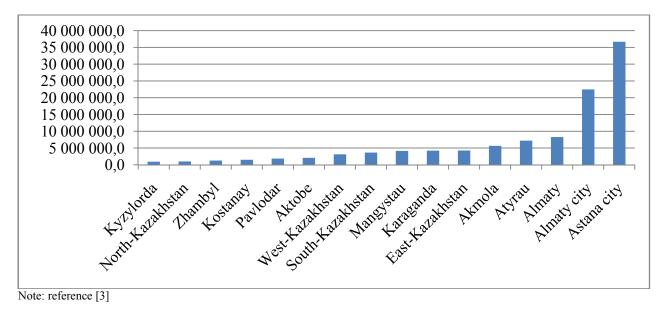


Figure 2 – Volume of services rendered by regions in 2017 (thousands tenge)

The highest level of beds occupancy in 2016 was observed at the following regions: west Kazakhstan -29,5%, Atyrayu -27,6%, east Kazakhstan -26,8%, and Aktyubinsk -24,3%. The lowest occupancy rate was in Zhambyl (15,6%) and Akmola (17,3%) regions. Hotel occupancy rate in Astana and Almaty cities was 27,6% and 28,2%, respectively.

By regions: 47,1% visitors were serviced in Astana (17,4%), Almaty (18,8%) cities, and in the East-Kazakhstan region (10,9%), although in 2013 the mentioned regions serviced 47,7% visitors [3].

Thus, the contemporary state of tourism in Kazakhstan regions can be described by the following statements:

- 1. The goals structure of visitors indicates domination of business and professional interests, and much less visitors come for tourism. More than a half come to Almaty and Astana cities.
- 2. Diversification of tourism in regions is possible via development of infrastructure and appearance of full-fledged market of touristic services. And development of touristic service market is possible if regions urbanization is increased.

- 3. Diversification factors are different for every macro-region. The Southern has high urbanization potential and infrastructure development owing to Chinese projects, the Northern has capital agglomeration and attractive natural zones, the Central-East is distinguished by high level of urbanization, and the Western has the outlet to the sea.
- 4. The strategy of regional development strives for creation of agglomerations that in future can form an additional base for tourism via creation of cultural and historical beauty sights.

To estimate the tourism diversification correlation with regional features of development let's consider the following social and economic indicators of the regions: population; GRP per capita; investments into the basic capital; volume of services rendered by accommodation places; number of serviced visitors; occupied population at regions related to tourism (Table 2).

Region	Population (persons)	GRP per capita (thousands tenge)	Investments into basic capital <sup>1</sup> (thousands tenge)	services volume rendered by accommodatio n places (TEIC. TEHTE)	number of serviced visitors (persons)	occupied population (thousands person)
Akmola	734 369	1 951,5	224 427 039	5 656 946,1	341 399	8,5
Aktyubinsk	845 679	1 330,8	355 652 890	2 078 793,3	100 450	6,3
Almaty	1 983 465	1 878,5	475 648 239	8 280 288,8	703 663	16,6
Atyrayu	607 528	870,2	2 221 164 681	7 192 536,3	184 353	6,1
West Kazakhstan	641 513	6 274,3	335 387 698	3 121 014,4	112 321	6,3
Zhambyl	1 115 307	2 448,3	202 410 035	1 258 402,0	103 912	3,8
Karaganda	1 382 734	772,9	294 009 363	4 226 003,2	292 509	10,9
Kostanay	879 134	2 086,0	179 751 515	1 506 394,8	192 174	5,9
Kyzylorda	773 143	1 432,0	189 918 748	933 647,9	59 192	5,3
Mangystayu	642 824	1 349,7	382 308 581	4 154 705,1	205 904	4,8
South Kazakhstan	2 878 636	2 869,8	417 014 574	3 652 733,9	269 974	14,8
Pavlodar	757 014	744,1	389 179 760	1 852 259,7	147 485	9,1
North Kazakhstan	563 300	2 101,0	163 322 436	1 000 726,3	120 847	4,0
East Kazakhstan	1 389 568	1 229,2	312 975 733	4 278 273,5	486 157	5,6
Astana city	972 692	1 506,3	788 390 899	36 687 488,0	989 205	11,9
Almaty city	1751308	3 892,8	539 519 463	22 479 547,1	969 861	15,3
Note: reference [3]	2017					

Table 2 – Data for correlation analysis of tourism diversification

Some significant correlation is observed between the indicators "Population" and "Occupied population at regions related to tourism" (0.76); "GRP per capita" and "Volume of services rendered by accommodation places" (0.6). There is also some relation between the number of serviced visitors and GRP per capita (0.68). Positive influence of tourism on economic indicators of the regions is definitely clear. There is no significant correlation between the investments and volume of rendered service (0.29), number of population and volume of rendered services (0.14), i.e. independently on the region the investments into the basic capital almost do not influence on development of tourism confirming small

Thus, the conducted research allows for the following conclusions.

volume of investments into tourism or its low effectiveness.

Regional development of Kazakhstan is extremely uneven. It is so uneven that makes necessary to distinguish macro-regions with its own pronounced features. Diversification of tourism in each of them should focus on its factors [4].

For the Southern region the most appropriate strategy is culture-entertainment, and ecological tourism requiring developed transport infrastructure to deliver tourists to historical and nature places, and availability of comfortable accommodation nearby. In addition, it will be necessary to have some qualified specialists in the field of history, ethnology, and historical geography to create information material and arrange excursions that are of high importance considering the information demand among tourists. Substantial aid could be rendered by digitization of transport system, and participation of tourist companies in the international apps for tourists. Indirect support in the form of the national adoption of

digital educational certificates on history and historical geography of the region could increase the number of employees in excursion and historical tourism.

The largest potential for Western region is nautical tourism – this region could receive foreign tourists travelling by the Caspian Sea. In addition, there is some potential for creation of enterprises engaged in boat trips to adjacent countries. Utilization of online stores in English, Russian, and Kazakh by tourist companies will increase the information accessibility on tours and will make them possible for purchase for foreign tourists.

Development of tourism in Central-East region should be focused on improving roads infrastructure to places attractive for tourists, and on stimulation of sound market competition among accommodation facilities to reduce prices and enhance the service quality. This stimulation, first of all, should start from support of enterprises creating the accommodation facilities. In addition, it is necessary to have qualified personnel in the field of regional ethnography, extreme tourism able to present properly the tourist places for travelers. In this regard, of high significance is digitization of local maps, ability of free gps-navigation of tourist groups, detailed information on places available for tourists' accommodation and rest [5].

Tourism development in the north region is distinguished by small information on possible tourist destinations for travelers, and poor tourist market. In addition, there are problems with road-transport infrastructure. The best option here is increase of online stores with information on tours and available tourist destinations.

Almaty and Astana cities are appropriate for culture-entertainment and ecological tourism; the cities already possess developed transport infrastructure, enough number of accommodation places and culture-entertainment enterprises. Eventful tourism is being developed. The biggest problem of these cities is its low popularity among tourist community and poor knowledge on unique tourism opportunities in these cities. To solve the problem it would be enough to increase the involvement of tourist companies into online tour sale, and translate the web-sites into English to attract foreign tourists.

The common problem for all regions is low qualification of tourist staff, poor interaction among companies related to tourism, poor marketing, underdeveloped infrastructure, small amount of statistic data on tourism field. A way out is infrastructure support on the national level and decrease of influence on small and medium business that will serve as main engines of diversification. It is necessary to acquire information on the number and activity of tourism enterprises: income, number of clients and/or sold tours, main tourist destinations. Small enterprises able to arrange specialized, but completely arranged and informative tours will be able to attract foreign tourists using the Internet, advertisement and marketing at big cities of the country.

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# ТУРИЗМДІ ӘРТАРАПТАНДЫРУДЫҢ ҚР ӨҢІРЛІК ЕРЕКШЕЛІКТЕРІМЕН ӨЗАРА БАЙЛАНЫСЫ

**Аннотация.** Жұмыстың мақсаты туризмді әртараптандырудың Қазақстан Республикасының өңірлік ерекшеліктерімен өзара байланысын анықтау болып табылады.

Аталған мақсатқа жету үшін жүйелік тәсіл, ғылыми абстракциялау, талдау және ситез, салыстыру әдістері қолданылды. Мақалада туризмді дамытудағы анағұрлым болашағы бар өңірлер және туризм бағыттары анықталды. Қазақстан өңірлеріндегі туризмнің заманауи ахуалына баға берілді. Өңірлік ерекшеліктер және туризмді әртараптандырудың корреляциясын бағалау мақсатында өңірлердің әлеуметтік-экономикалық көрсеткіштері қарастырылған. Зерттеу нәтижелері көрсеткендей, Қазақстан өңірлеріндегі туризм тым әркелкі дамуда. Сондықтан, авторлар нақты ерекшеліктері бар макроөңірлерді бөліп көрсеткен — Оңтүстік, Солтүстік, Орталық-шығыс, Батыс өңірлері және Алматы, Астана қалалары. Олардың әрқайсысындағы туризмді әртараптандыру өз факторларына сәкес іске асырылуы тиіс екендігі көрсетілген.

Түйін сөздер: әртараптандыру, туризм, өңірлік даму, туристік бағыттар, макроөңірлер, агломерация.

УДК 338.48

#### А.Ж. Панзабекова

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### ВЗАИМОСВЯЗЬ ДИВЕРСИФИКАЦИИ ТУРИЗМА С РЕГИОНАЛЬНЫМИ ОСОБЕННОСТЯМИ РАЗВИТИЯ РЕСПУБЛИКИ КАЗАХСТАН

Аннотация. Целью работы является идентификация взаимосвязи диверсификации туризма с региональными особенностями развития Республики Казахстан. Для достижения цели использовались методы системного подхода, научной абстракции, анализа и синтеза, сравнения. В статье определены наиболее перспективные регионы и направления туристической деятельности. Дана оценка современному состоянию туризма в регионах Казахстана. В целях оценки корреляции диверсификации туризма региональными особенностями, рассмотрены социально-экономические показатели развития регионов. Результаты исследования показали, что туризм в регионах Казахстана развивается крайне неравномерно. Вследствие этого, авторами выделены макрорегионы, каждый со своими ярко выраженными особенностями – Южный, Северный, Центрально-восточный, Западный, и города Алматы, и Астана. Показано, что диверсификация туризма в каждом из них должна ориентироваться на свои факторы.

**Ключевые слова:** диферсификация, туризм, региональное развитие, туристические направления, макрорегионы, агломерация.

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# EDUCATIONAL PROCESS AND INNOVATIVE MANAGEMENT IN MODERN PEDAGOGY IN HIGHER SCHOOL

**Abstract.** According to the authors, in the world tendencies towards a change in the content of education, methods and forms of work with students, associated with the newly emerging concepts of higher education, are increasing. The education system of students is experiencing an innovation process, and the quality of management in modern pedagogy is the main priority of a vocational school, that is, the preparation of the personality of a specialist, professionally competent, competent, creatively developing, dominated by spiritual and moral humane qualities. In this regard, there is an increasing need to enhance the creativity of teachers in the process of using modern pedagogical technologies that will ensure the satisfaction of the demands of modern pedagogical practice. Currently, for a future teacher, mediocre possession of some baggage of knowledge and skills is not enough; his constant readiness for change, readiness for creativity is necessary.

Keywords: education, process, innovation, management, pedagogy, high school, society.

#### INTRODUCTION

Trilingual education is one of the priorities of the modernization of the Kazakhstani education system for the foreseeable future. In November 2015, the "Roadmap for the development of trilingual education for 2015-2020" was adopted [1]. The Roadmap provides for a number of organizational measures, including the improvement of the regulatory and legal framework, research activities, methodological and scientific and methodological support, activities to promote tri-lingual education, training and professional development of personnel, institutional support and informational support. The "road map" implies teaching some subjects in the Kazakh and Russian languages in all schools, regardless of the language of instruction, as well as a gradual transition to the English language of instruction in high school [1].

Teaching in schools with Russian and Kazakh languages of instruction will be conducted in three languages. In schools with languages of instruction of ethnic groups of Kazakhstan, i.e. in schools with Uzbek, Uygur and Tajik languages of instruction - in four languages (including mother tongue).

Such an innovation, of course, requires great managerial, organizational and pedagogical efforts in the schools themselves. Effective innovative management of trilingual education is required.

Management and management of multilingual education in schools, in our opinion, is the most urgent problem of the implementation of the "Roadmap" of the transition to a trilingual education at the secondary school scale. From the effective planning, organization, control and evaluation of the effectiveness of the process of trilingual education, its quality is largely determined.

#### **MAIN PART**

In this article, we use the term "multilingual education", due to the fact that in schools with national languages of instruction in our country, instruction will be introduced in four languages - Kazakh (state), Russian (official), English and native languages. Multilingual education is the basis for the formation of a multilingual personality, the level of formation of which largely determines the positive nature of personal self-realization of a person in modern conditions of social relations, his professional competitiveness and social mobility [2].

In modern conditions, Kazakhstan's society is going through a stage of its qualitative renewal, in which human capital of market content is one of its priorities. Transformations in the system of social

relations have an impact on education and require an adequate response to the realities of the new historical stage. Education must meet the needs of the development of the economy and society. In his interactive lecture "Kazakhstan on the way to the knowledge society", President N.A. Nazarbayev cites one of the slogans of Harvard University, which states that "lifelong learning is no longer an alternative, but an imperative." In this regard, he notes that the quality education that current students receive is "only a starting intellectual capital" and calls for "continuously work on yourself, improve your education, professional competencies" [1].

According to the regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan, the goals of modern higher education are not limited to the training of narrow specialists for a specific area of activity, but to the development of the personality of each person and the enhancement of his professional competence. Thus, even in the State Program for the Development of Education in the Republic of Kazakhstan for 2005–2010, it was stated that in a rapidly changing world and an increase in the flow of information, fundamental subject knowledge is the mandatory, but not sufficient, goal of education. Students should not just master the amount of knowledge and skills that the Kazakh education system (knowledge-centrism) is aimed at. It is much more important and more difficult to instill in students the ability to independently extract, analyze, structure and use information effectively for maximum self-realization and beneficial participation in society (competence) [2].

The sphere of educational management in the implementation of multilingual education is not only the administrative and economic level of management of the educational institution, but also the whole pedagogical process as an integral technological system.

Our observations show that the comprehensive school can work in the following modes: - simple functioning;

- development, implementation of innovations, promotion.

In the first case:

The Department provides program-methodical, personnel, material, technical and regulatory conditions of the educational process;

In the second case:

The tasks of management are innovations, changes in the content, methods of educational work with the aim of increasing its efficiency, more fully meeting the new needs of the individual, society and the state.

For targeted and consistent implementation of multilingual education, the following general management principles should be implemented:

- definition of management goals and objectives;
- development of specific measures to achieve them;
- separation of tasks into certain types of operations;
- distribution of work between the performers;
- coordination of the interaction of various departments within schools;
- optimization of the decision-making process;
- improvement of relationships, communication between employees;
- search for incentives for motivation, effective leadership styles.

To ensure the quality of multilingual education you need:

- 1. Define and concretize the goals of multilingual education, with possible accuracy to predict its future results. To design, model the competencies of a graduate school that the school intends to receive, "at the exit" of the educational process, i.e. determine in advance the future quality of multilingual education. Thus, first of all, you need to strictly adhere to one of the main rules of modern management: to lead is to foresee.
- 2. Systematically at all stages and levels of the educational process of introducing multilingual education to support, to ensure steady progress towards the goals, constantly checking and correcting the entire set of educational processes.

These processes should include: the process of conducting studies, monitoring the quality, developing the language competencies of teachers and students, examinations and tests, presentation of library services that may seem secondary, but in fact have a significant impact on the overall result.

3. Make the necessary adjustments to the process of multilingual education (adjustment of goals and objectives in accordance with the changing requirements of consumers, external customers throughout, as a rule, a lengthy learning process.

Consequently, a qualitative result will be achieved only if not only the functioning of the school is ensured, but also its development. That is, when the educational process will be innovative.

4. It is necessary to thoroughly check, if possible, objectively evaluate the achieved result, the actual monitoring of the quality of multilingual education, its compliance with the goals and standards set.

Thus, the transition to multilingual education will be successful if the school carries out effective innovation management, taking into account the specifics of the problems of its organization. Only with effective management and leadership within the school can all the key issues of multilingual education be systematically solved - the creation of regulatory frameworks, the provision of teaching staff, scientific and educational support, institutional support, cooperation and a wide exchange of experience.

Nedbaev D.N. highlights the following competencies of an education manager:

- 1. Knowledge of the features of educational activities; personnel management features; legal aspects of personnel work; information bases of management; safety fundamentals;
- 2. Management decision making skills; the organization of its activities; staff labor organizations; alignment of communicative interaction; conflict prevention;
- 3. Personality traits, communicative tolerance; self-confidence, spontaneity; reflexivity; empathy; sociability; motivation; independence; proper attitude [9]

Competences today are used to characterize a specialist's potential to gain employment in the labor market. In the modern world, they include "literate" level of language proficiency, computer literacy, problem solving skills, flexible and innovative thinking, inclination and the ability to continue education.

To improve teacher training, current requirements are personification and subject invitation of professional and pedagogical training of students, the formation of their readiness for creative pedagogical activity, and the ability to make qualitative changes in the professional sphere. Therefore, to replace the traditional executive activities of the teacher, should come the activities of the problem-research, creative nature, contributing to the understanding of innovative ideas and innovative experience. One of the prerequisites of creative activity is the development of professional competence of the future teacher, which consists in the systemic unity of psychological and pedagogical knowledge, experience, personal qualities of future specialists, allowing to effectively carry out educational activities. Thus, the formation of creative pedagogical activity in the framework of vocational education implies that, on the one hand, the formation of students' psychological readiness for its implementation, their existence of a system of values and priorities that determine behavior in a particular situation, on the other hand, the formation of a system of knowledge, skills, skills and competencies that ensure the conscious mastering of pedagogical engineering and technology.

At the present stage, in various fields of knowledge, approaches have emerged that allow one to examine the essence of the teacher's creative activity, the mechanism and conditions for its development and to serve as the theoretical and methodological basis for the study. These are philosophical, psychological, pedagogical concepts of individuality, creativity, activity, personality, activity.

### CONCLUSION

Systematic and purposeful application of innovations by university teachers not only provides a complex of knowledge and skills in the field of innovation to future teachers, but also provides a personal, creative and individual orientation of the professional activities of future teachers. In the application of innovation can not be rigidly developed algorithms of actions, patterns, stereotypes, simple copying of innovations proposed by others. Each teacher, applying the innovation created by someone, interprets, adjusts it for himself, his individual abilities and qualities. Innovations provide flexibility, mobility, adaptability of innovations to the constantly changing conditions of educational activity, allow the future teacher to fill the traditional, "long-known" forms, methods and means of education with new content and influence the formation of the innovative style of professional thinking.

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# ОБРАЗОВАТЕЛЬНЫЙ ПРОЦЕСС И ИННОВАЦИОННЫЙ МЕНЕДЖМЕНТ В СОВРЕМЕННОЙ ПЕДАГОГИКЕ В ВЫСШЕЙ ШКОЛЕ

Аннотация. По мнению авторов, в мире усиливаются тенденции к изменению содержания образования, методов и форм работы со студентами, связанных с вновь формирующимися концепциями развития высшей школы. Система образования студентов переживает инновационный процесс, а качество проведенного менеджмента в современной педагогике является основным приоритетом профессиональной школы, то есть подготовка личности специалиста, профессионально грамотного, компетентного, творчески развивающегося, в которой доминируют духовно-нравственные гуманные качества. В связи с этим возрастает потребность в активизации творчества учителей в процессе использования современных педагогических технологий, которые обеспечат удовлетворение запросов современной педагогической практики. В настоящее время для будущего педагога посредственное обладания некоторого багажа знаний и умений недостаточно, необходима его постоянная готовность к изменению, готовность к творчеству.

Ключевые слова: образование, процесс, инновации, менеджмент, педагогика, высшая школа, общество

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#### ЖОҒАРЫ МЕКТЕП АРҚЫЛЫ ПЕДАГОГИКАДА БІЛІМ БЕРУ ЖӘНЕ ИННОВАЦИЯЛЫҚ БАСҚАРУ

**Аннотация.** Авторлардың пікірінше, білім беру мазмұнын өзгерту бойынша әлемдік үрдістерде, жоғары білім берудің жаңадан туындайтын тұжырымдамасымен байланысты студенттермен жұмыс істеу әдістері мен формалары артып келеді. Студенттердің білім беру жүйесі инновациялық үдерісті бастан кешіріп отырады және қазіргі заманғы педагогикадағы менеджмент сапасы кәсіби мектептің басты басымдығы болып табылады, яғни кәсіби тұлғаны дайындау, кәсіптік құзыретті, құзыретті, шығармашылық дамып, рухани және моральдық адамгершілік қасиеттердің үстемдігі. Осыған байланысты заманауи педагогикалық технологияларды қолдану барысында мұғалімдердің шығармашылығын күшейту қажеттілігі туындап отыр, бұл қазіргі заманғы педагогикалық тәжірибенің талаптарын қанағаттандыруды қамтамасыз етеді. Қазіргі уақытта, болашақ мұғалімге білім мен дағдылардың кейбір багажын жеткіліксіз меңгеру жеткіліксіз, оның өзгеруіне тұрақты дайындығы, шығармашылық дайындығы қажет.

Түйін сөздер: білім беру, процестер, инновациялар, басқару, педагогика, орта мектеп, қоғам.

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# MANAGEMENT OF INNOVATIVE DEVELOPMENT OF FOOD INDUSTRY ENTERPRISES IN RK

**Abstract.** Managing the innovative development of food industry enterprises in the Republic of Kazakhstan is a very relevant topic, since innovation is a system of measures to use scientific, scientific, technical and intellectual potentials to obtain new or improved products. From a financial point of view, this process can be viewed as investing, developing and distributing a newest product or service. In this case, it acts as an innovation project, considered as a special case of an investment project. In this connection, the introduction of innovations in the food industry is a major factor in improving the efficiency of enterprises. According to the authors, the introduction of scientific and technological advances into food production ensures the transition to the use of progressive technological processes.

Keywords: management, innovation, development, food industry, efficiency, new product.

#### **INTRODUCTION**

The food industry is one of the strategically important links in the national economy of each country. It is designed to provide the population of the country with a diverse range of food products that meet the needs of various groups of the population. Produced food products must be of high quality and competitive both in the domestic and foreign markets. To produce a sufficient amount of food in the country lacks good quality raw materials. The main reason for this is the predominance of small-scale agricultural production in the country. In particular, over 90% of all milk is collected at private farms, which adversely affects the competitiveness of our dairy products. For comparison, in Belarus, large dairy farms produce 90% of production, in Russia - 40%. Thus, the priority task for processing enterprises is to provide the necessary amount of high-quality raw materials [2].

### MAIN PART

The problem of assessing and managing the competitiveness of food industry enterprises in Kazakhstan is complicated by problems of a general decline in production, a lack of a market for information on the characteristics of competing enterprises. The bulk of enterprises in the first place there is a problem of survival, overcoming financial difficulties, many enterprises face bankruptcy procedures. In these conditions, on the one hand, it is rather difficult to assess the competitiveness of an enterprise, on the other, to achieve a high level of competitiveness, it is necessary to evaluate its potential by analyzing all the factors of an enterprise's competitiveness, without which it is impossible to develop a strategy for the future development of an enterprise. In this regard, the creation of a competitiveness management system becomes the most important condition for the continued existence of enterprises.

As can be seen in the figure, from 2015–2017, there is an annual growth of almost 10% not only of exports, but also of imports of food products.

The food industry is one of the main sectors of the agro-industrial complex. In this connection, the introduction of innovations in this area of production is one of the important factors for improving the efficiency of enterprises. The introduction of scientific and technological advances into food production provides a transition to the use of progressive technological processes. During the implementation of innovation, many problems of food production in the Belgorod region will be solved. This is, firstly, ensuring the safety of food raw materials, food products, environmental protection in the production of food products. Secondly, it is the processing and storage of agricultural products. Thirdly, this is an

increase in the quality of food products, which is very important for consumers. n order to further increase production and reduce food imports, a draft program for the development of the food and processing industry was developed, which identifies priority areas, for each of which a detailed analysis of their current condition was made, project maps were drawn up, a list of existing and planned enterprises was specified, their capacities, plans for construction and modernization, mechanisms of their state support are worked out and the need for funds is calculated.

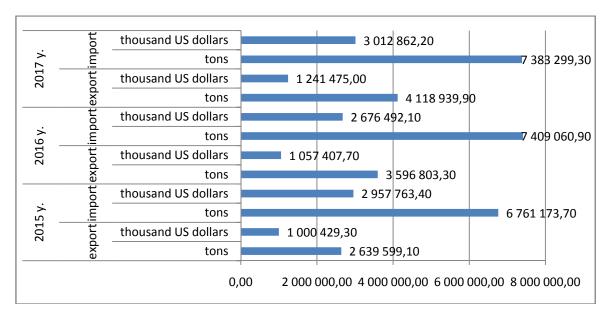


Figure -1 Export and import of food products for 2015-2017.

As a result, for the development of the food industry for the period from 2015 to 2019, total subsidization of the industry through investment subsidies, cheapening of interest rates on loans for fixed and current assets will require about 261.8 billion tenge.

The need for lending for the replenishment of working capital, modernization, renewal and purchase of fixed assets is estimated for the entire period from 2015 to 2019. in the amount of 2 trillion, tenge

In addition, the program has identified other problems hindering the development of the food and processing industry, as well as developed measures to address them:

Taxation problems - the tax code should be amended in terms of solving the problem of the "first" VAT, taxing the personal income tax of personal subsidiary farms, returning VAT on export, expanding the list of areas covered by tax privileges;

High cost of packaging and packaging - it is necessary to take measures for the development of domestic companies engaged in the production of packaging, packaging products;

Limited sales markets - the need to expand the retail space of the modern format, shopping and distribution centers, as well as the creation of conditions for access to them;

Low consumption culture - need widespread media coverage of the usefulness of fresh and natural food:

Imperfection of technical regulation - it is necessary to develop standards and methods, expand the network of testing laboratories, equip them with appropriate equipment;

Imperfect trade regulation - it is necessary to ensure the monitoring of the product distribution of food and processing industries, to develop proposals for the application of measures to regulate foreign trade activities;

Imperfect accounting of goods turnover - you need to make changes to the methodology of statistical observations of the production of food products in order to ensure their completeness and reliability.

The development of the food industry requires the creation of competitive markets, the creation of favorable conditions for the emergence and entry of new participants into the markets, as well as a competitive environment; the improvement of competition development tools includes anti-monopoly

regulation measures, other protective measures, as well as regional development measures that expand opportunities and stimulate business activity Food production is of strategic importance for the sustainable development of the country's economy, designed to ensure a sustainable supply of the population with the necessary in quantity and quality food. The food industry includes more than 30 specialized industries, sub-sectors and individual industries. The impact of the food industry on the economy of the republic is primarily manifested through ensuring the food security of the country and exerting a direct impact on raising the living standards of the population. Providing the population with quality food at affordable prices directly affects the health of the nation as a whole. The development of the industry contributes to the development of agriculture, food engineering, packaging, power generation, transport, employment, thus affecting the economy through the creation of a high multiplier effect. In the food industry of Kazakhstan there are more than 5 thousand industrial enterprises and industries, among which a large part is accounted for by small and medium enterprises. The main segments of the food industry are production of beverages, flour-and-cereals products, vegetable and animal oils and fats, meat and meat products, dairy products, processing of fruits and vegetables. In the Republic of Kazakhstan there are areas with a different ratio of the size of the innovation potential and the level of its use. For example, in the Almaty region, where the highest innovative potential is confirmed by the issuance of patents and certificates, the number of organizations, scientists and staff, there is an incomplete level of its use, that is, the implementation of scientific research in practice. At the same time, in Almaty and in some other areas, the existing insignificant innovative potential is used much better.

#### **CONCLUSION**

Thus, the successful implementation of the strategy of innovation development should facilitate the implementation of qualitative changes in the structure of the economy of Kazakhstan, which will lead to its sustainable growth based on the effective use of human, produced and natural capital, Kazakhstan's entry into a new level of social development and society structure. Based on contemporary challenges of globalization and financial instability, increased competition in world markets, the increasing role of science and innovations, and human development, the macroeconomic policy of the Republic of Kazakhstan should be built [9]. For the good of the people of Kazakhstan, it is necessary to focus not on the ideals of individual and mass consumption, but on the preservation of family traditions and national characteristics of social relations. This is the main key to building a civil legal society in the Republic of Kazakhstan [10]. Today, Kazakhstan needs to look for new directions of economic development. To increase the country's competitiveness in the global market, it is necessary to actively develop high-tech industries and build an effective national innovation system on their basis.

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# УПРАВЛЕНИЕ ИННОВАЦИОННЫМ РАЗВИТИЕМ ПРЕДПРИЯТИЙ ПИЩЕВОЙ ПРОМЫШЛЕННОСТИ В РК

Аннотация. Управление инновационным развитием предприятий пищевой промышленности в РК является весьма актуальной темой, так как инновационная деятельность — это система мер по использованию научного, научнотехнического и интеллектуального потенциалов для получения новых или улучшенной продукции. С финансовой точки зрения этот процесс можно рассматривать как инвестирование, разработку и распространение новейшего продукта или услуги. В таком случае он выступает в качестве инновационного проекта, рассматриваемого как частный случай инвестиционного проекта. В связи с чем, внедрение инноваций в область пищевой промышленности является основным фактором повышения эффективности деятельности предприятий. По мнению авторов, внедрение в пищевое производство научно-технических достижений обеспечивает переход к применению прогрессивных технологических процессов.

Ключевые слова: управление, инновации, развитие, пищевая промышленность, эффективность, новый продукт

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#### ҚР АЗЫҚ-ТҮЛІК ӨНЕРКӘСІБІ КӘСІПОРЫНДАРЫНЫҢ ИННОВАЦИЯЛЫҚ ДАМУЫН БАСҚАРУ

Аннотация. Қазақстан Республикасында азық-түлік өнеркәсібі кәсіпорындарының инновациялық дамуын басқару өте маңызды тақырып болып табылады, өйткені инновация - жаңа немесе жетілдірілген өнімді алу үшін ғылыми, ғылыми, техникалық және интеллектуалды әлеуетті пайдалану жөніндегі шаралар жүйесі. Қаржылық тұрғыдан алғанда бұл процесті инвестициялау, жаңа өнім немесе қызметті дамыту және тарату ретінде қарастыруға болады. Бұл жағдайда ол инвестициялық жобаның ерекше жағдайы ретінде қарастырылатын инновациялық жоба ретінде әрекет етеді. Осыған байланысты, тамақ өнеркәсібінде инновацияларды енгізу кәсіпорындардың тиімділігін арттырудың негізгі факторы болып табылады. Авторлардың пікірінше, азық-түлік өнімдеріне ғылыми-технологиялық жетістіктерді енгізу прогрессивті технологиялық процестерді пайдалануға көшуді қамтамасыз етеді.

Түйін сөздер: менеджмент, инновация, дамыту, тамақ өнеркәсібі, тиімділік, жаңа өнім.

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# DEVELOPMENT AND FORMALIZATION STRATEGY OF LABOR MARKET IN KAZAKHSTAN UNDER THE CONDITIONS OF DIGITALIZATION

**Abstract.** The paper is aimed at developing the main trends of labor market and employment development under the digitalization of Kazakhstan economy.

A variety of methods, combined by a systematic approach to the study of the labor market and the employment of human resources were applied for the research.

Based on the historical analysis, the article analyzes the features of the integration of the Kazakhstan labor market into the international markets. An important point of this analysis is that the existing trends in the development of international labor migration are revealed through the prism of the laws of Gravity. Based on the features of the digitalization development, the work substantiates the need to use new tools for employment registering, in particular, the introduction of biometric registration of migrant workers. In addition, the article pays special attention to the development of outsourcing and a globally-individualized labor market.

The author has developed some strategic trends for development and formalization of the labor market in Kazakhstan under digitalization process. Recommendations on the formation of international integrated databases on labor migration and the development of the Concept of human resources employment in Kazakhstan are proposed.

Key words: human resources, labor market, labor migration, IV industrial revolution, digitalization.

# Introduction

One of the principal and main factors of social and economic development of the Republic of Kazakhstan under IV industrial revolution or digitalization of the country economy will be its human resources. We do not belittle the role of production, processing industry, agricultural sector etc. for the economic development of the country where Kazakhstan has absolute and competitive advantages. At the same time, its development is impossible without effective utilization of human resources of the country. Human resources meaning in its contemporary context is beyond any individual country. In many cases, human resources meaning also includes foreign labor force working within transnational corporations and migrant workers coming to a country for seasonal works under a long-term or short-term contracts.

It should be noted that under globalization conditions the human resources of the country should be developed and utilized in intensive and extensive directions. This is especially critical under IV industrial revolution, development of IT technologies, outsourcing when the national labor market becomes an integrated part of the international, global labor market, when the problems of physical border crossing will vanish, when employment will be determined in its temporal, not spatial content.

The strategy and main trends of development and formalization of labor market and employment of human resources in Kazakhstan under forming of IV industrial revolution, integration into the international and global labor markets and employment forms cannot be imagined and understood without understanding of the main provisions of economic theory of the country development in whole, and separate individual in particular, without understanding of general economic laws ma development, without retrospective analysis of its functioning during previous periods as informational and practical base for prospective planning. As result, the main research statements are described below in two parts.

The first part describes and shows the main typical features of Kazakhstan integration process into the international and global labor markets and employment forms in its historical retrospective content. This analysis is represented in its interconnection and along the lines of general and specific laws of economic and physical development.

The second part reveals the main trends of development and formalization of labor markets and employment in Kazakhstan under its integration into the international and global labor markets and forms of employment. These trends are revealed and based on specific features of transformation of the international and global labor markets and employment forms while forming of digital economy in Kazakhstan.

# Spatial and temporal features of development of migration, international and global labor markets in Kazakhstan in 2001 – 2017

Common laws of societal development (law of time economy, law of rising wants, law of increasing labor efficiency, law of work distribution) at contemporary stage show that people, to increase the level of their welfare, migrate to that places where the efficiency of their work is higher. Development of industry in cities, concentration of human resources in them resulted in higher living standards and higher efficiency of human labor. In this regard, the world urbanization processes are logical processes as consequence of operation of the mentioned above common laws of development (law of time economy, law of rising wants, law of increasing labor efficiency, etc.).

At the current stage, under industrial and innovative development, forming of IV industrial revolution, the agricultural type of production, due to adoption of new technologies, encounters not only with employment problems in rural areas, but restrains, to some extent, more effective utilization of human potential. Concentration of industrial production and human resources in cities, and, as consequence, development of service field, increase of employment opportunities, availability and growth of more diverse, flexible forms of employment are the main reasons of human resources migration to cities.

The global tendencies of migration processes development, also available in Kazakhstan, show onrush development of urbanization. This is stipulated not only by technological innovations in the field of transport and communications, but revolutionary (not evolutionary) development of human potential, more and more increasing necessity on its effective utilization for a human itself.

In Kazakhstan, the same as in other countries, urbanization exhibits in growth of cities population.

It is necessary to note that immigration to cities, urbanization, and industrialization along with positive sides has negative effect on birth rate. Urbanization and closely connected with it industrial production are mainly connected with poor population birth. But agricultural type of production is mainly connected with extensive, large population birth. And if 3-4 and more children in a family in rural areas is usual, in cities, due to limited dwelling-space and necessity to give children qualitative education, etc. this number of children creates additional problems. Gradually the country encounters with population ageing. This is clearly seen in developed countries where urbanization of population is quite high.

In Kazakhstan, with the country development oriented on industrial and innovative society, and, as a consequence, forthcoming decrease of population growth owing to natural birth (reasonably stipulated physiologically limited time lag on human birth, development of urbanization, emigration) and simultaneous wish to become one of the advanced counties of the world, and significance of population growth due to mechanical growth or immigration including labor immigration should not cause doubts.

Kazakhstan has already some experience on attracting foreign labor force. From 2001 to 2017 there were about half million working people, and as of June 30, 2017 – 485.1 thousand people. Foreign labor force was from more than 150 world countries (Figure 1).

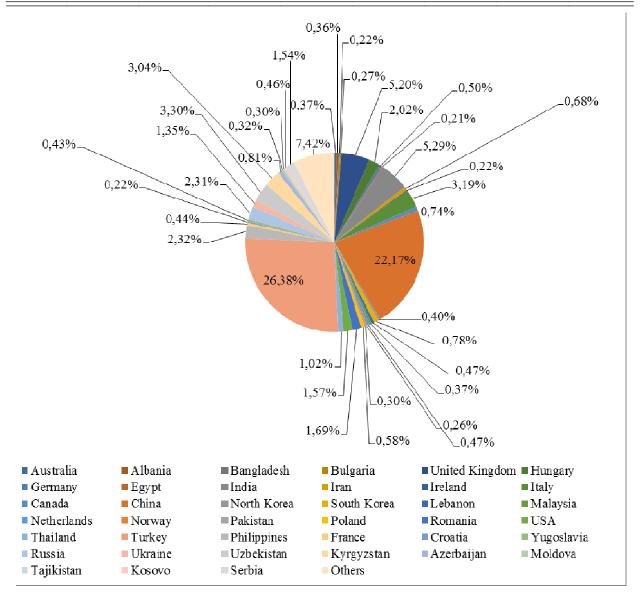


Figure 1 – Foreign labor force in Kazakhstan by countries

Figure 1 shows that leading positions for foreign labor force in Kazakhstan belong to Turkey and China. At the same time, among attracted foreign labor force there were representatives from such exotic countries as Vanuatu, Fiji, Maldives, etc.

The analysis of the international labor migration from 2001 to 2017 showed that Kazakhstan labor market is quite closely integrated into the international and global labor markets. And this occurred and continues to occur in spatial-temporal and professional contexts. In particular, supply and demand for foreign force appeared at primary (highly professional) and secondary (low professional) labor markets. At the primary labor market representing the international (within EurAsEC) and global (with foreign countries) markets, the foreign labor force works, mainly, officially. Foreign employees work in the field of education, construction, industry, trade, and financial sectors.

The research studies implemented by Oklahoma State University (USA), S. Demirel University, and Nazarbayev University (Kazakhstan) showed that migration processes including international labor migration are subjected to common gravitation laws.

It should be noted that gravitation theory, its theoretical bases are used in many cases by economists, geographers, and sociologists. Its conceptual base is often used and applied for studies of intranational and

international migration flows [1-3]. Its mathematical formalization is shown below. According to 2008 Nobel prize winner on economics, Paul Krugman, this formula is analog of Newton law [4].

$$F = \frac{R1 * R2}{D}$$

where F – gravitation force or migration flows between 2 regions (countries);  $R_{1}$  – population of region (country)1, people;  $R_{2}$  – population of region (country)2, people; D – distance between regions (countries)1 and 2, km.

The above formula shows that intensity of migration processes force between two countries is positively connected with its population number and negatively with distance between them.

It should be noted that gravitation force in migration processes is also closely connected with another factor – cultural affinity. Paul Krugman notes that the gravitational model of economic relations has definite anomalies based on cultural affinity.

Operation of the above mentioned gravitation law in terms of culture and space exists also in Kazakhstan. This can be observed in ethnical migration [3], and labor migration development.

Figure 2 shows that official labor migrants from Kyrgyzstan mainly find jobs at nearby regions, and regions of economic growth (Astana city).

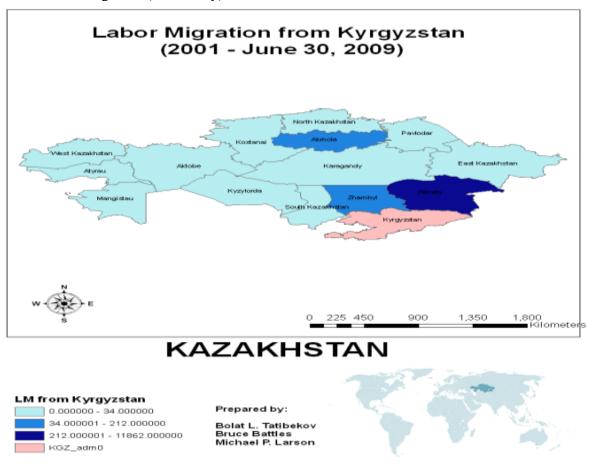


Figure 2 – Labor migration from Kyrgyzstan to Kazakhstan

This regularity was also observed in temporal terms. After financial crisis of 2007, labor migrants from Kyrgyzstan migrated mostly to adjacent Almaty region, Almaty city, and regions of economic growth to make money.

The same is observed for Uzbekistan, Turkmenistan, Russia, and China.

The revealed regularity of the international migration processes can, in our opinion, become a base for creation of individual blocks under digitalization of the international labor migration. The distributed ledger technology known as blockchain technology, in our opinion, is applicable also for the analysis of the international labor migration. In this case, the main blocks of analysis can be not only professional context, but spatial-temporal too based on the migration theory.

The mentioned above analysis for 2001 – 2017 is based on official data, and therefore it shows only visible part of the international labor migration in Kazakhstan in its spatial-temporal and mathematically formalized content.

The invisible part, informal employment of labor migrants, their employment and settling regions have not been revealed yet completely and represent one of the main tasks and problems of any State tending to build constitutional civilized State.

It is necessary to note that formalization of economic processes including employment and labor markets, mostly, if not completely, are connected with digitalization, mathematical formalization of huge information flow of almost all social and economic processes, implementation of Big Data analysis concept (analysis and processing of huge data volumes).

The strategy of development and formalization of labor markets and human resources employment in Kazakhstan under digitalization process and integration into the international and global labor markets.

Revealing the main trends of development and formalization of labor market and employment of human resources in Kazakhstan under digitalization process and integration into the international and global labor markets, below is brief description of digitalization main bases, features of its exhibition, and then its influence on labor markets and employment forms.

First of all, note that all information can be formalized in two digits – 1 and 0, i.e. if energy impulse exists or not. In philosophy context this sounds as one of the development principles – a principle of unity and struggle of opposites. Namely the combination of these two digits can formalize and formalizes the huge amount of information that already exists and will increase in our nearest future. The era of so called Big data is coming.

Huge flows of information are processed and will be processed in more amounts by computers, mobile phones, different navigation systems operating in real time mode like GPS – Global Positioning System, etc. (Next in turn is manufacture of quantum computers able to process almost all information available on the planet in real time mode – China, USA).

In whole, the implementation of Big data digitalization concept is connected with so called 4V abbreviation – Volume (huge Volume), Velocity (high Velocity), Veracity (high Veracity), Variety (huge Variety).

The digitalization and related changes will influence on all aspects of our life – computer controlled vehicles, smart houses, flying drones, etc. Human activity, his employment, labor markets in most cases will be subjected to informational processing, will be mathematically formalized, and as result, coded or digitized with 0 and 1 combination.

Revealing the main trends of development and formalization of labor markets and human resources employment in Kazakhstan under digitalization and integration into the international and global labor markets, we would like to note that the strategy of Big data digitalization in terms of 4V is closely interconnected with IV industrial revolution.

After Davos Economic Forum 2016, and especially after report of its chair, the concept of IV industrial revolution is discussed and argued quite broadly and from different perspectives. Without revealing polemics around this concept, we would like to show below some statements that, in our opinion, will have strong effect on operation of labor market and employment, and in particular, on Kazakhstan labor market and employment.

First of all, the digitalization and closely connected with it accuracy and transparency of data will reflect on employment formalization. A lot of currently informally employed employees will be mostly

formalized in its digital content. And its movement from one employment form to another or another job will be tracked and added by the spatial-temporal and professional history of movement. For this purpose, there are already technical opportunities and means (mobile phone, personal computer, social and professional networks, etc.).

As noted above, human resources of Kazakhstan is not only Kazakhstan citizens, but foreign employees. And these employees, under digitalization conditions and developing IV industrial revolution will not only pass the national border, but will be able to work without its crossing, particularly in such form as outsourcing.

One of the typical examples of outsourcing (in the international business) is hiring of Indian highly qualified specialists by American hospitals to establish a diagnosis of a disease related to analysis of X-ray fluorography, cardiogram and other information transmitted via the Internet [5]. This form of employment allows increasing labor quality, decrease costs of production, use labor force from abroad, effective utilization of time in its global meaning. For instance, the above mentioned example shows that if a task to establish a diagnosis was given in the evening of American time, then it will be implemented in the morning by Indian time, and American patient will receive the analysis results (diagnosis) not in the evening of the next day if it would be done in America, but in the morning.

Of course, not all employment forms, especially those that use foreign labor force will be implemented in this form. Utilization of foreign labor force in its physical understanding will continue. However, its utilization under digitalization conditions will be more systematized, classified, subjected to transparency and, as result, to accuracy. One of the instruments for realization of this trend is registration of foreigners by their biometric data. It is necessary to note that registration of foreigners by their biometric data should be supported by well elaborated legal base. At the present time in Kazakhstan there is a Law "On personal data and its protection" issued on May 21, 2013, #94-V. According to this Law and Article 1 the biometric data term covers the following: biometric data – personal data characterizing physiological and biological features of personal data subject basing on which his personality can be identified.

Despite already available legal definition, its practical utilization (biometric data) in Kazakhstan is not widely distributed. In particular, it is not used neither while invitation of foreign workers, nor during the border crossing by labor migrants from neighboring countries.

Currently, the registration by biometric data is mainly applied by industrially developed countries.

It should be noted that digitalization of the country's economics is closely connected with a human individualization. The more digitalization is developed, the more a human behavior, his skills and preferences, his physical potential and mental to some extent will be digitized [6]. In essence, on the base of digitalization, the implementation of global economic laws of distribution on labor, law of increasing efficiency of labor in its individual context will be more prominent and widely used.

Basing on individualization of a human, under digitalization conditions, the operation of labor markets will change completely. In many cases, the labor market will be professionally qualified and directed individually. The supply and demand for labor will be visible and accessible not only in general format, but from the position of every person basing on his professional interests. This will be implemented, and is already used to some extent.

Despite that the digital economy is introducing and will introduce major transformations into different employment forms and labor markets, according to the Nobel Prize winner Christopher Pissarides, the physical monotonic unqualified labor will be used for a long time more in the world. However, the so-called secondary labor market and, in our opinion, the informal employment will be more widely tracked using, for instance, social networks of via chronological analysis of funds movement, and in the case of informal labor migrants – by their international remittances.

#### Conclusion

Basing on the stated above, it can be concluded that the formation of digital economy in the field of labor markets operation and different employment forms will accompany the individualization of an employee. Individualization of an employee will pass along with determination of his physical and

intellectual inclinations and abilities. Large transformations will be in the field of statistics and human resource employment registration, first of all, these will relate not only to usual identification of an employee (name, surname, profession), but also biometric data will be recorded. New opportunities of biotechnologies, nanotechnologies, data processing systems will change completely the consciousness of a human and his attitude to labor.

In whole, in our opinion, the main strategic trends of development and formalization of labor market and human resources employment in Kazakhstan under digitalization and integration into the international and global labor markets and employment forms for the nearest future should be the following:

- 1 Adoption of biometric monitoring of migration processes and employment including the international labor migration.
  - 2. Adoption of monitoring should be accompanied by adoption of health insurance, social insurance.
- 3. It is necessary to develop further the database on the national labor market available at the Ministry of Labor and Social Security of the Republic of Kazakhstan (in particular, integration with databases of the departments on human resources at enterprises, national companies, HR analytics, data science, etc.).
- 4. The processes of human resources employment formalization and labor migration should be implemented using wide involvement of mass media (including the nation-oriented social networks)
- 5. In future it is necessary to form the international integrated databases on labor migration (EAEU with Central Asia countries, etc.)
- 6. It is necessary to note that under IV industrial revolution, it is necessary to develop a "Concept of human resources employment in Kazakhstan" to highlight the national policy in the field of development and formalization of labor migration, employment processes, and operation of the national labor market. The Concept should not only list the mentioned above trends, but show different blocks on its implementation, such as legal, organizational, financial, social, etc.

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### СТРАТЕГИЯ РАЗВИТИЯ И ФОРМАЛИЗАЦИИ РЫНКА ТРУДА КАЗАХСТАНА В УСЛОВИЯХ ЦИФРОВИЗАЦИИ

**Аннотация:** Целью статьи является разработка основных направлений развития рынка труда и сферы занятости в условиях цифровизации экономики Казахстана.

В ходе исследования использованы различные методы, объединенные системным подходом к изучению рынка труда и занятости человеческих ресурсов.

Исходя из исторического анализа, в статье анализируются особенности интеграции казахстанского рынка труда в международные рынки. Важным моментом этого анализа является то, что имеющиеся тенденции развития международной трудовой миграции раскрываются через призму действия законов Гравитации. Основываясь на особенностях развития цифровизации, в работе обосновывается необходимость

использования новых инструментов регистрации занятости, в частности, введение биометрической регистрации трудовых мигрантов. Кроме того, в статье уделено особое внимание развитию аутсорсинга и глобально-индивидуализированного рынка труда.

Автором разработаны стратегические направления развития и формализации рынка труда в Казахстане в условиях цифровизации. Предложены рекомендации по формированию международных интегрированных баз данных по трудовой миграции и разработке Концепции занятости человеческих ресурсов Казахстана.

**Ключевые слова:** человеческие ресурсы, рынок труда, миграция трудовых ресурсов, IV промышленная революция, цифровизация.

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### ЦИФРЛАНДЫРУ ШАРТТАРЫНДАҒЫ ҚАЗАҚСТАННЫҢ ЕҢБЕК НАРЫҒЫН ДАМЫТУ ЖӘНЕ ФОРМАЛИЗАЦИЯЛАУ СТРАТЕГИЯСЫ

**Аннотация.** Мақаланың мақсаты Қазақстан экономикасын цифрландыру шарттарында еңбек нарығы мен жұмысбастылық сферасын дамытудың негізгі бағыттарын әзірлеу болып табылады.

Зерттеу барысында еңбек нарығын және адами ресурстарды зерттеуге түрлі әдістерді біріктірген жүйелік әдіс пайдаланылған.

Тарихи талдауға негізделе отырып, мақалада қазақстандық еңбек нарығын халықаралық нарықтарға ықпалдасуының ерекшеліктері талданған. Бұл талдаудың маңызды сәті келесіде жатыр: халықаралық еңбек көші-қонының қазіргі кездегі даму үрдістері Гравитация заңдарының әрекет ету призмасы арқылы ашылады. Цифрландыруды дамыту ерекшеліктеріне негізделе отырып, мақалада жұмысбастылықты тіркеудің жаңа құралдарын қолдану, жеке алғанда, еңбек мигранттарын биометрикалық тіркеуді енгізу қажеттілігі түсіндіріледі.

Одан басқа, мақалада аутсорсинг пен жаһандық-индивидуумдық еңбек нарығының даму ерекшеліктеріне аса көңіл аударылған.

Автормен цифрландыру шарттарында еңбек нарығын дамыту және формализациялау бойынша стратегиялық бағыттар әзірленген. Еңбек көші-қоны бойынша халықаралық ықпалдасқан мәліметтер базасын қалыптастыру және Қазақстанның адами ресурстарының жұмысбастылығы тұжырымдамасын әзірлеу бойынша рекомендациялар ұсынылған.

**Түйін сөздер:** адами ресурстар, еңбек нарығы, еңбек ресурстарының көші-қоны, IV өнеркәсіптік революция, цифрландыру.

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# MARKET MECHANISMS OF DEVELOPMENT OF THE MINERAL RESOURCE COMPLEX OF KAZAKHSTAN AT THE PRESENT STAGE

Abstract: This article considers the theoretical concepts of the use of market mechanisms for the development of the mineral resource complex of Kazakhstan at the present stage. It defines the features of the formation of the market of mineral resources in Kazakhstan, taking into account the mining and geological, natural resources and socio-economic features of the extraction of mineral raw materials and raw materials at the present stage. The first feature of the development of the mineral resource complex is the difference between the production factor "earth" and other natural resources. The second feature is that the mineral and raw materials production is carried out in the conditions of the natural environment. The third feature in the extraction of mineral resources is the state of working conditions and their effects on the human body. The fourth feature, objectively affecting the rise in the cost of mineral raw materials, will be a large variety of technical means necessary for its production. It has been established that the study of the market for mineral raw materials should be based primarily on a theoretical understanding of macroeconomic processes with developed market relations, taking into account the factor of globalization and the activation of the innovation component of production.

**Key words:** mineral and raw materials market, features of mineral and raw materials production, innovative development of the mineral and raw materials complex.

**Introduction.** The mineral resource market belongs to the category of the main backbone elements of the market system. The raw structure of the economy in Kazakhstan is not able to ensure the sustainable development of the state. The growth of the economy is achieved through the export of mineral resources, and it accounts for a significant proportion of total exports. This imposes a special responsibility on the process of the formation of the mineral and raw materials market and implies a thorough study of the peculiarities of this process.

Natural resources - the most important components of the human environment, used to meet the material and cultural needs of society. They are very diverse, as are the possibilities of their use by humans.

In domestic science has accumulated some experience in the development of methodical approaches and practical recommendations on the economic assessment of certain types of natural resources.

Proper use of natural resources, and also possession of ways of their use in productions processes is still the main subject of economic researches. The natural resource factor determines the structure of distribution of branches of production on a territorial basis, also affects the specialization of the economy and determines the nature of the use of investment resources. In addition, the final performance of the use of natural resources is determined not only by the total amount of resources consumed, but also depends on their socio-economic assessment, the level of justification for the degree of rationality of their operation.

**Methods of research.** The theoretical and methodological basis of the research is the classical theory of reproduction, the theory of subsoil use and the theory of market formation, and, consequently, the work of domestic and foreign economic scientists in this direction, as well as scientific and theoretical materials in scientific monographs and periodicals.

In preparing this article the systematic approach, methods of comparative analysis, as well as factor analysis and generally accepted methods of economic research were used.

**Results obtained.** The specifics of the mining sector of the economy were noted by many researchers of mining science, pointing to the difficulties of mining production [1-4]. However, not only the production features take place during the development of the mineral and raw materials market, but also the features of the processes of commodity and money circulation. Based on the fact that one of the decisive factors for the existence and development of the market is the cost value, and for society - the compliance of prices with socially necessary labor costs, we will consider the particularities of the formation of this market from this point of view. The first feature is the difference between the production factor "land" and other natural resources.

It is known that the earth is a universal means of production, and in a broader sense, the whole natural environment. At the present stage of development of society, the nature of the relationship of production with nature is changing. The latter ceases to be something higher in relation to production. The task of the reproduction of natural resources, the more complete and rational use of their non-renewable components, and the protection of the natural environment are becoming more and more acute.

Revealing further this difference it should be noted its spatial, territorial value and the fact that it is both a place of production and a place of work. Let's consider the manifestation of the multilateral phenomena of this feature from an economic point of view.

The extraction of mineral resources is realized only through the continuous investment of significant capital. Thus, four stages are clearly distinguished in the industrial development of mineral deposits: geological exploration of a deposit, design of enterprises for its development, construction of enterprises and their operation.

Geological survey establishes the degree of difficulty in operating a field. The effectiveness of the subsequent stages of development depends on the reliability of its data.

Designing mining enterprises with the probabilistic nature of the initial information can lead to the adoption of erroneous design decisions, the consequences of which are manifested only during construction or operation. So, when determining the place of laying of trunks or chambers, as well as when tracing the opening and prepared workings, certain difficulties are created due to insufficient knowledge of the structure of the mine field. In some cases, shafts and large chambers due to insufficiently complete knowledge of tectonics are laid in the zone of the displacer in the massaged rocks. In this case, large amounts of money are spent on their penetration and maintenance.

Poor knowledge of the hypsometry of the formation at the time of the design may lead to the wrong choice of the development system. Errors in determining the thickness of the reservoir can lead to the wrong choice of the type (type) of coal mining mechanization.

In this regard, the invested capital pays off, as a rule, only in 3–5 and sometimes more years, depending on the geological conditions, etc. This complicates the turnover of capital. In turn, low capital turnover increases production costs. After all, the classical economic theory in the cost of production includes not only the costs of raw materials, equipment, labor, but also the percentage that a firm could receive on its capital if it applied it elsewhere. As a rule, this comparison is carried out with bank interest on capital. In addition, a long period of capital circulation forces us to abandon today's benefits in favor of the future, which also in modern inflationary processes is not in his favor.

The second feature is that the mineral and raw materials production is carried out in the conditions of the natural environment. This feature determines:

- a) the general dependence of production on mining and geological conditions. At the same time, the production of mineral resources is limited to a certain list of them, for which these particular environmental conditions are optimal, and therefore, under these conditions they will give the greatest effect.
- b) a certain dependence of the production of mineral resources with environmental degradation. This objectively affects labor productivity and production efficiency.

The technology and technology of mining production now and in the future is objectively related to the change in all components of the natural environment.

A large variety of geological, industrial and climatic conditions in which coal mining and processing enterprises operate, require complex technical issues and an individual approach to the problem of environmental protection.

At present, the industry is faced with the task of not only reducing the amount of by-product components that are extracted daily from the subsoil simultaneously with coal, but also of not increasing the already established level of pollution.

Coal mining is accompanied by the release of a significant amount of waste. In this regard, the priority environmental measures in the coal industry include:

- land its rational use, as well as the restoration of land disturbed by mining, development and removal of natural dumps;
- water purification and utilization of coal mining and coal processing wastewater for own needs of enterprises of the basin and in other industries;
  - atmosphere pollution prevention, creation of methods and means of protection;
- subsoil an increase in the degree of extraction of minerals, integrated processing of mineral raw materials;
- production wastes ways of utilization and use, creation of low-waste and non-waste technologies.

As noted environmental measures require, significant investments.

It follows that the protection of the environment is not only an important social task, but also a serious factor in increasing production efficiency. Environmental pollution leads to a decrease in the impact of all types of productive resources of the national economy. There is an economic damage from environmental pollution due to deterioration of public health, violation of working and rest conditions in polluted areas, and a drop in the productivity of land and water resources.

The costs of protecting the environment from pollution should be assessed not only in terms of social efficiency, but also from the point of view of the economic effect they bring. In this case, environmental activities become a tangible factor in production efficiency.

And finally, it is necessary to note the intense wear of mining equipment. If the technical means of the manufacturing industry are in the room, they do not get wet, there is a constant temperature, then mining machines and tools operate at high humidity, often in an aggressive environment, with large temperature differences. All this causes their accelerated depreciation, and hence higher costs than in the manufacturing industry, for repair, maintenance and restoration. Naturally, this factor also affects the costs in the production of mineral resources.

The third feature in the extraction of mineral resources is the state of working conditions and their effects on the human body.

Working conditions have a huge impact on the main economic indicators of enterprises. On the one hand, each enterprise requires certain costs for the implementation of measures to improve working conditions and labor protection, prevention and compensation of the influence of adverse factors. On the other hand, the working conditions and productivity of their labor depend on the state of working conditions, the degree of their impact on the workers' organism, on the relevant parameters of the production process.

The fourth feature, objectively affecting the rise in the cost of mineral raw materials, will be a large variety of technical means necessary for its production.

Raising the technical level of production with all the diversity of specific areas of scientific and technological progress in various sectors of the national economy has a number of common features. However, depending on the industry, they manifest themselves in different ways, and, perhaps, more than in other sectors in the extractive industry. First of all, it should be noted that the mining industry as one of the most important sectors of the national economy belongs to labor-intensive industries and is characterized by its specific features.

Thus, the conditions of development of coal seams affect the development of the production forces of the industry, as in the coal industry the means of production and labor are specialized not only in technical processes, but also in mining and geological conditions, which are sharply differentiated. The requirement for additional specialization of the production forces constrains their planned character, almost eliminates

interchangeability, which slows down the identification of merits and demerits of new means of production, organizational forms of labor, and with it their improvement.

Besides branch features of introduction of technical progress, there are also regional features. Differentiation of natural factors of coal mining by basins, fields, and mine fields causes different possibilities for introducing new equipment and the intensity of its use. For example, gently sloping seams of medium thickness with quiet occurrence represent the most favorable natural conditions for the renewal of excavation machines, and, consequently, for the improvement and intensification of production. At the same time, for enterprises working off steep as well as gentle seams, the means of producing cleaning work have not undergone significant changes.

The specifics of coal industry production are also objectively inherent in social features. First of all, the conditions of the coal mining industry themselves present increased and special requirements:

- to the physical ability and psychological capabilities of a person, because not only the results of the activities of many other team members, but sometimes life and their health depend on the behavior of an individual worker in the mountains;
- to the level of training and practical experience, in particular, to the selection, training and placement, taking into account their individual capabilities.

The conditions of mining production exclude the use of female labor, which has a significant impact on the socio-demographic structure of the production team and a number of social and everyday characteristics inherent in the development of coal regions. The variety of mining and geological conditions, determining the characteristics of technological systems of production and the level of technical equipment, is directly related to the features of the professional and qualification structure of a specific team. This feature in each case determines the specific quantitative and qualitative composition of workers. At the same time, it should be noted that the degree of differentiation in the conditions of the coal industry, unlike other industries, is objectively limited, since mines produce only one type of product.

In the coal industry, social factors are strongly influenced by mining and technological factors, the equipment and technology used, and the need to maintain high coal output for industry and everyday needs. Natural factors, the influence of which is dominant, in the underground method of coal mining cause a small amount and mobility of the working space of the main production processes, lack of amenities in the workplace, greater depth of work from the surface, significant rock pressure, the possibility of accidents such as fires, explosions, dynamic phenomena, collapse of lateral rocks and coal.

The conditions of production and labor are exacerbated by the lack of natural light, weak uneven illumination, high dust content, gas pollution, humidity, and air temperature.

The complexity of creating for these conditions of production and labor of modern technology and its use leads to an insufficient level of mechanization and automation of work, and consequently, contribute to an increase in the proportion of manual labor. Due to insufficient mechanization, the greater laboriousness of manual work, in turn, contributes to an increase in the influence of adverse factors on a significant number of workers. In cases of a complex influence of natural factors, working conditions, as a rule, need to be improved.

In market conditions of management, the primary task in the justification of new ideas and the dynamics of economic development is the search for specific areas of economic reform, the development and evaluation of appropriate forecasts [5].

Especially important are the issues of economic dynamics in relation to one of the basic and most complex production and economic systems - the coal industry. Significant amounts of coal mining and high costs associated with multiple processes, combined by the concept of "coal mining", the presence of competing energy carriers (such as oil, gas and nuclear fuel), the need to improve technologies related to mining, processing and, especially, the use of coal, issues ecology, provision of competitive reserves for the future - all this makes it very important to consider the future of the coal industry, determining its place in the fuel and energy complex (FEC) and in the national economy.

Under the conditions of the administrative-command system, there were a rather simplified system, when all questions of the extraction, sale and consumption of coal products were decided by a purely centralized way of determining the limits and standards both in the sectoral and in the regional context. This limited the freedom of choice of partners for the sale.

The process of transition to a market economy involves the study of the laws governing the formation of the coal market. First of all, nowadays, there is a greater need for the development and concretization of existing points of view on various aspects of the market category, in an additional study of a number of poorly studied and debatable problems on this issue.

The market economy has proven that it has no alternative in solving basic economic problems.

Firstly, the market has ensured the interrelation of production and consumption. It performs this function through the establishment of compliance of the offer with the volume of effective demand.

Secondly, it guarantees a public assessment of the performance of individual producers. The mechanism of such an assessment is simple, effective and objective. It consists of one thing: whether the sale took place or not.

Thirdly, the market creates conditions for high production efficiency. This contributes to the universality of competition, which "separates" those who lag behind the previous ones. The winner is the one who better guessed the changes in consumer demand, quickly applied new equipment, reduced production costs. This is the premise of high performance.

In domestic and foreign economic literature, we can meet a large number of concepts of the market. They can be summarized in three groups of market definitions:

- as a set of existing and potential buyers of goods and their interaction with producers of goods;
- as a system of socio-economic relations in the sphere of circulation, through which the realization of goods is carried out;
  - as a set of conditions and requirements for the production and sale of goods [6, p. 10].

In the work [7, p. 90] the market is called the sphere of exchange.

These definitions complement each other, but do not fully reveal the essence of the concept of the market, the conditions and prerequisites for creating a market environment. The role of the market in the performance of intraregional and interregional integration functions is not considered at all.

In the work [8], the market is viewed as a system of institutions consisting primarily of producers, intermediaries and consumers, and each of these groups acts not as an abstract unity, but as a changing moving structure, including certain subgroups in their relationship and interaction. The process of distribution along with the three main agents (producer, consumer, intermediary) requires the participation of a number of infrastructure elements.

The commodity market is not only a mechanism for the movement of goods and working capital, but also a mechanism for transmitting information, a mechanism for coordinating supply and demand, and therefore a mechanism for forming and defining public consumers, which are the basis for production planning.

In all the above definitions, the market is considered in isolation from the problems of the reproduction process that serves its interphase relationships and dependencies. In the work [9], the market is considered as a territorial organization of the sphere of circulation, where the interests of producers and consumers are coordinated, i.e. from the perspective of the reproduction process.

This concept of the market determines a wider range of issues to be investigated. This is a study of the totality of market relations, the conditions for the formation of effective intra-regional and inter-regional relations.

If in the market, for example, the demand for bulk goods is either relatively constant or is a function of income (for example, the demand for non-essential goods), then on the FER market, the size and structure of demand are much more subject to fluctuations under the influence of climatic conditions, conjuncture, economic opportunities and other reasons.

Only by examining various markets from the point of view of the reproduction process can, in general, be given reliable and economically justified interpretations and explanations for various processes of functioning and development. The study of market relations is impossible without knowledge of the laws of the reproduction process and its inherent contradictions, and, above all, its main contradiction - the contradiction between social needs and the material prerequisites for their satisfaction [10]. The essence of this contradiction predetermines the essence of other contradictions of the reproduction process in the conditions of market relations. It should be borne in mind that the constant growth in the need for reproduction resources implies a corresponding change in their structure and qualitative parameters, which can cause shifts both in the structural policy of the economy and in inter-branch production and economic

relations. At the same time, due to the open nature of the regional reproduction process, the requirements for qualitative indicators of inter-sectoral and interregional exchange and production and technical interaction are increasing.

The resolution of the contradiction between the need for reproduction resources and the possibility of their satisfaction depends on the level of development of production, on the one hand, and on the maturity of market relations, on the other. At first glance, the relationship of supply and demand develops between individual subjects of market relations. However, in reality they are influenced by the most important proportions that ensure the integrated development of the economy and an adequate social mechanism that guarantees a certain standard of living of the population and the resolution of contradictions between market relations and social interests.

**Conclusion.** Thus, market research should be based primarily on a theoretical understanding of macroeconomic processes with developed market relations, taking into account the globalization factor [11, 12] and the activation of the innovation component of production [13-15].

The reproductive approach is focused on the constant resumption of production of goods to meet the needs of a particular market with a lower total cost per unit of effect compared with the best similar object in this market. The reproduction approach includes: applying a forward comparison base when planning to upgrade an object that ensures its competitiveness at the time of sale, and not at the time of production of the object in the relationship and dynamics of reproduction cycles of the designed and prospective model of the object; monitoring of environmental parameters in order to develop assumptions to ensure the proportionality of their development and reproduction.

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### РЫНОЧНЫЕ МЕХАНИЗМЫ РАЗВИТИЯ МИНЕРАЛЬНО-СЫРЬЕВОГО КОМПЛЕКСА КАЗАХСТАНА НА СОВРЕМЕННОМ ЭТАПЕ

Аннотация. Рассмотрены теоретические концепции применения рыночных механизмов развития минерально-сырьевого комплекса Казахстана на современном этапе. Определены особенности формирования рынка минерально-сырьевых ресурсов в Казахстане, с учетом горно-геологических, природно-ресурсных и социально-экономических особенностей минерально-сырьевого производства на современном этапе. Первая особенность развития минерально-сырьевого комплекса заключается в отличие фактора производства «земля» от других природных ресурсов. Вторая особенность заключается в том, что минерально-сырьевое производство осуществляется в условиях естественной среды. Третьей особенностью при добыче минерально-сырьевых ресурсов является состояние условий труда и их воздействия на организм человека. Четвертой особенностью, объективно влияющий на удорожание минерально-сырьевой продукции, будет большое разнообразие технических средств, необходимых для её производства. Установлено, что исследование рынка минерально-сырьевой продукции должно строиться, прежде всего, на теоретическом осмыслении макроэкономических процессов при развитых рыночных отношениях с учетом фактора глобализации и активизации инновационной составляющей производства.

**Ключевые слова:** минерально-сырьевой рынок, особенности минерально-сырьевого производства, инновационное развитие минерально-сырьевого комплекса.

#### Ж.Г. Шугаипова

# ҚАЗІРГІ КЕЗЕҢДЕ ҚАЗАҚСТАННЫҢ МИНЕРАЛДЫ-ШИКІЗАТ КЕШЕНІН ДАМЫТУДЫҢ НАРЫҚТЫҚ МЕХАНИЗМДЕРІ

Аннотация. Қазіргі кезеңде Қазақстанның минералдық-шикізат кешенін дамыту үшін нарықтық тетіктерді қолданудың теориялық тұжырымдамалары қарастырылады. Қазіргі кезеңде минералды-шикізат өндірісінің геологиялық, табиғи және ресурстық және әлеуметтік-экономикалық ерекшеліктерін ескере отырып, Қазақстандағы минералды-шикізат нарығын қалыптастырудың шарттары анықталды. Минералдышикізат кешені дамуының бірінші ерекшелігі өндіріс факторы ретіндегі «жердің» басқа табиғи ресурстардан айырмашылығын ескеруден туындайды. Екінші ерекшелік ретінде минералды-шикізат өндірісін жүргізу тек қана табиғи жағдайларда жүзеге асатыны қарастырылған. Үшінші ерекшелік ретінде минералды-шикізат ресурстарын өндіру кезінде адамның жұмыс жағдайын бақылау мен оның ағзасына тигізетін әсерін толық ескеру қажеттігі қарастырылған. Төртінше ерекшелік болып, минералды-шикізат өнімдерінің қымбаттауына объективті әсер ететін және оларды өндіру үшін қажетті техникалық құралдардың алуан-түрлілігі табылады. Минералды-шикізат нарығын зерттеу, ең алдымен, жаһандану факторы мен өндірістің инновациялық құрамдас бөлігін ескере отырып, дамыған нарықтық қатынастардағы макроэкономикалық үдерістердің теориялық түсіндірілуіне негізделуі керек.

**Түйін сөздер:** минералды-шикізат нарығы, минералды-шикізатты өндіру ерекшеліктері, минералды-шикізат кешенінің инновациялық дамуы.

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## TOTAL MANAGEMENT IN THE SPHERE OF TOURIST SERVICES

**Abstract.** Total management of tourist services, as a rule, is based on the participation of all members of the tourism organization, as it aims to achieve long-term success, bringing benefits to all stakeholders in accordance with international standards. Ensuring the quality of tourist services involves a regular check of the progress in achieving the goals in accordance with certain requirements for quality. The quality of tourist services is assured based on a previously approved quality plan, process maps, checklists and other quality documentation, as well as data on the quality of tourist services obtained as a result of monitoring and testing. In each case, it is necessary to find the optimal combination between the types of control, which depends on the nature of production and the contingent of tourist industry workers. The authors cited the wording of the ISO-9000 family of standards and the provisions of the TQM concept, which have differences.

Keywords: total management, tourist services, industry, travel agent, improvement, quality.

#### Introduction

Quality is a complete set of characteristics of an object, related to its ability to satisfy established or perceived needs [1; 473].

Needs are usually formulated using characteristics based on established criteria. Requirements may include, for example, performance, functional suitability, reliability (availability, dependability, maintainability), safety, environmental impact, economic, aesthetic and cultural-historical requirements.

The concept of "quality" should be distinguished from the concept of "gradation" (grade, class)." Under the latter category or category assigned to objects having the same functional application, but different quality requirements.

In project management, it is customary to distinguish four key aspects of quality [2; 608, 609]:

- 1. quality due to compliance with market needs and expectations. Achieved through the definition and updating of the needs and expectations of the consumer in order to meet them, as well as through an accurate analysis of market opportunities;
- 2. quality of project development and planning. Achieved through careful development of the project and its products;
- 3. quality of work on the project in accordance with the planning documentation. It is provided by maintaining the compliance of the project implementation with its plan and ensuring the developed characteristics of the project's products and the project itself;
- 4. the quality of the logistics of the project. It is achieved by means of material and technical support of the project throughout its entire life cycle.

These four aspects of the quality of tourist services are sufficient to manage the traditional ones, i.e. terminal projects.

#### MAIN PART

As noted in [1; 474], the modern concept of quality management is based on the following fundamental principles:

• - quality is an integral element of the project as a whole (and not some independent management function);

- quality assessment is how the consumer assesses, not the manufacturer;
- responsibility for quality should be targeted;
- for real quality improvement, new technologies are needed;
- - quality can be improved only by the efforts of all employees of the enterprise;
- - to control the process is always more effective than the result (product);
- The quality policy should be part of the overall policy of the enterprise.

These principles underlie the most popular and methodologically strong direction in quality management - Total Quality Management (hereinafter referred to as TQM)], whose constituent parts are called "total quality" (CWQC). - "company-wide quality management"), TQC (total quality control), etc. In the process of developing quality management systems, the focus of management was consistently on quality control, then the product under development, the process of its creation and, finally, with TQM, the entire system.

According to the definition given in ISO 9000: 2000, total quality management (management) is quality management covering the entire organization. That is, total quality management should be based on the participation of all members of the organization and is aimed at achieving long-term success, bringing benefits to all stakeholders.

The name "Total Quality Management" (TQM) was given to the system of practical implementation in industry and services 14 of the postulates of Edward W. Deming (1900-1993), the patriarch of TQM. The basic principle of TQM is that relations within the company are built based on cooperation: "My company is my family", as a result of which the company's management system changes completely, becoming a system of comprehensive quality management. In such an environment, taking care of the quality of products and the prestige of their company becomes the business of each employee.

The TQM philosophy is revealed in its most important elements [4; 14]:

- - to focus all the company's activities on the needs and wishes of both external and internal consumers;
- - provide opportunities for the real participation of each employee in the process of achieving the main goal customer satisfaction;
- - focus on the processes, considering them as the optimal system for achieving the main goal maximizing product value for the consumer and minimizing its cost for both the consumer of tourist services and the producer of tourist services;
  - - continuously and continuously improve the quality of the product;
  - - base all company decisions on facts.

The idea of TQM was proposed by Deming to transform post-war Japan with its exhausted economy. The main merit in the practical development of the TQM methodology belongs to Japan, who implemented this idea in the early 1960s. and came to the forefront in the world in a number of industries. Currently, the TQM methodology is used in all the leading countries of the world, both at the level of individual enterprises and their associations (holdings, etc.), and at the level of regions, industries, transnational companies, countries. The TQM methodology is important and applicable both in times of crisis, as it was in Japan, and at the stage of economic recovery, as it is now in many countries around the world.

In world practice, the TQM methodology has been introduced through the wide dissemination of international standards for the management systems of the new generation of tourist services. First of all, these include international standards of the quality management system ISO 9000 (MS ISO 9000: 2000). It is considered that these standards (especially their latest version, which appeared in 2000) most closely reflect the philosophy of TQM.

However, there are a number of differences between the formulations of the ISO-9000 family of standards and the provisions of the TQM concept, some of which are given in Figure 1.

Types	Standard	Details
Guidelines	ISO 9000	Quality Management and Quality Assurance Standards - Guidelines for Selection & Use
	ISO 9004	Quality Management and Quality System Elements - Guidelines
Quality	ISO 9001	Quality Systems - Model for Quality Assurance in Design/Development, Production. Installation and Servicing
Assurance Model	ISO 9002	Quality Systems - Model for Quality Assurance in Production and Installation
	ISO 9003	Quality Systems - Model for Quality Assurance in Final Inspection and Test

Figure 1 - The wording of the ISO-9000 family of standards and the provisions of the TQM concept

The main difference between the ISO-9000 standards and the TQM concept is that the standards are primarily aimed at reducing the likelihood of doing something wrong, while TQM is the pinnacle of modern quality management methods and is aimed at further improving the quality of products of tourist services, when a certain level of quality has been reached.

1. Planning the quality of tourist services - identifying requirements for the quality of the project and the project's products, as well as identifying ways to satisfy them.

To start the planning process, it is necessary to have information about the project's policy in terms of the quality, content (subject area) of the project, product description (preferably in the form of specific specifications received from the consumer), standards and requirements for the quality of products, services, information and implementation of technological processes, quality system documentation.

2. Ensuring the quality of tourist services involves a regular check of the progress of the project in order to establish compliance with previously defined quality requirements.

The quality of tourist services is assured based on a previously approved quality plan, process maps, checklists and other quality documentation, as well as quality data obtained as a result of monitoring and testing.

Quality assurance is carried out by scheduled and unscheduled inspections, inspections and other control and test activities with subsequent quality assessment and identification of the status of control and testing. The status of control and testing is the basis for improving the quality of the project or its products..

3. Quality control of tourist services - tracking specific results of project activities in order to determine their compliance with quality standards and requirements and identify ways to eliminate the causes of real and potential nonconformities.

For the analysis of the results of quality control, methods of statistical quality control (SQC) are widely used. The most famous among them were the "seven quality control tools", which were first widely used in quality circles in Japan, and then in other countries, due to their efficiency and accessibility for some employees of enterprises. The structure of these "seven instruments" includes: the method of stratification, graphics, scatter diagram, Pareto diagram, cause-and-effect diagram, control charts, histograms [6; 104].

The main problems in the implementation of the concept of "Total Quality Management" usually arise in the field of personnel management. Any organization that has decided to pursue quality improvement faces at least four obstacles.[3; 48]:

- 1) staff resilience to innovations;
- 2) limited understanding by managers of different levels of the relationship between product quality and organizational performance;
  - 3) approach to the improvement of quality as a one-time event or another new-fashioned campaign;
  - 4) giving the improvement of the quality of the status is not a managerial, but a statistical measure.

The introduction of quality improvement procedures often requires a fundamental change in the corporate culture. Particular attention should be paid to middle managers, their qualifications and adherence to the TQM concept. It is from this managerial level that it depends whether or not the ordinary employees of the organization can be involved in the process of comprehensive production improvement and quality control, to introduce into the minds of ordinary workers an understanding of the inverse relationship between quality level and cost level.

#### **CONCLUSION**

In general, to ensure the effectiveness of control over the provision of tourist services, besides the use of specific methods, it is also not necessary to keep in mind two general rules.

First, it is necessary that control cover all stages of work - from research and design to testing of finished products and supervision of their operation.

Secondly, it is important that the bulk of the control is carried out in the form of self-control, when the performers are interested in controlling themselves and themselves can eliminate the defects found. At the same time, independent control should also be maintained - for inspection, testing and acceptance of finished products.

In each case, you need to try to find the optimal combination between these two types of control, which will depend mainly on the nature of production and the number of employees. It is necessary to act here carefully, having first convinced of the effectiveness of self-control, so that the reduction of expenses on the maintenance of OTC controllers does not lead to an increase in losses from marriage and claims.

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#### ТОТАЛЬНЫЙ МЕНЕДЖМЕНТ В СФЕРЕ ТУРИСТСКИХ УСЛУГ

**Аннотация.** Тотальный менеджмент туристских услуг, как правило основывается на участии всех членов туристской организации, так как нацелен на достижение долгосрочного успеха, приносящего выгоды для всех заинтересованных сторон в соответствии с международными стандартам. Обеспечение качества туристских услуг предполагает регулярную проверку хода достижения целей в соответствии с определенными требованиями к качеству. Обеспечение качества туристских услуг происходит исходя из ранее утвержденного плана качества, технологических карт, проверочных листов и иной документации по качеству, а также данных о качестве туристских услуг, полученных в результате контроля и испытаний. При

этом в каждом конкретном случае, необходимо изыскать оптимальное сочетание между видами контроля, которое зависит от характера производства и контингента работников турбизнеса. Авторы привели формулировки стандартов семейства ISO-9000 и положения концепции TQM, которые имеют различия.

**Ключевые слова**: тотальный менеджмент, туристские услуги, индустрия, турагент, совершенствование, качество

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#### ТУРИСТІК ҚЫЗМЕТТЕР САЛАСЫНДАҒЫ МҮЛТІКСІЗ МЕНЕДЖМЕНТІ

Андатпа. Туристік қызметтерді мүлтіксіз менеджменті, әдетте, туристік ұйымның барлық мүшелерінің қатысуымен негізделген, өйткені ол халықаралық стандарттарға сәйкес барлық мүдделі тараптарға пайда әкеледі, ұзақ мерзімді табысқа жетуге бағытталған. Туристік қызметтің сапасын қамтамасыз ету сапаға қойылатын белгілі бір талаптарға сәйкес мақсаттарға қолжеткізудегі прогресті жүйелі тексеруді қамтиды. Туристікқызметтердіңсапасыбұрынбекітілген сапа жоспары, процестердің карталары, бақылау тізімдері және басқа сапа құжаттары, сондай-ақ мониторинг және тестілеу нәтижесінде алынған туристік қызметтердің сапасы туралы деректер негізінде қамтамасыз етіледі. Әржағдайда, өндірістің сипаты мен туристік бизнес-қызметкерлердің контингентіне байланысты басқару түрлері арасындағы оңтайлы үйлесімділікті табу керек. Авторлар ИСО-9000 стандарттарының отбасының тұжырымдамасына және ТQМ тұжырымдамасының ережелерімен ерекшеленді.

Түйін сөздер: мүлтіксіз менеджменті, туристік қызметтер, өнеркәсіп, турагент, жақсарту, сапа

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## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# THE ISSUE OF METHODOLOGICAL ASPECTS OF ASSESSMENT OF LAND RESOURCES

Abstract. Basis of formation of effectively functioning agricultural production is improvement of the land relations and formation of system of land use, "adequate market economy". Society hasthe great need in transition to essentially new type of economic growth - to the intensive growth of resource-saving type, based on careful use of natural resources, on achievement of ecological equilibrium. In life of society the earth has special, outstanding value. It is the most important condition of existence of mankind, irreplaceable means of satisfaction of the most different requirements: economic, social, esthetic, etc. However, speaking about use of the earth, usually mean its functioning in the sphere of production. Rational use of land resources has the great importance in rural economics and the countries, all over the world. In the spheres of production activity of the person the role of the earth isn't identical. In the industry, transport and cities constructions wereused the base, spatial operational basis for the production placement. More particularly important the earth becomes in mining industry, where it serves as a raw materials source. The process of production and receiving results of production don't depend on the quality of the soil, relief and many other properties, inherent in the earth.

**Keywords:** earth, land turn, market earth, authorized capital, land plots, alienation of lands, land registry, land use, market economy, ecological equilibrium.

The land capability evaluation characterizes and appraises <u>land development</u> units from a general point of view without taking into consideration the kind of its use. This classification is useful as some soils can be suitable for specific crops and unsuitable for another's; therefore precision of land utilization types is necessary. It cloud be expressed not only in terms of types of <u>crop productions</u>, but also how these specific crops are produced. Land suitability refers to the ability of a portion of land to tolerate the production of crops in a sustainable way. Its evaluation provides information on the constraints and opportunities for the use of the land and therefore guides decisions on optimal utilizations of resources, whose knowledge is an essential prerequisite for <u>land use planning</u> and development. Moreover, such a kind of analysis allows identifying the main <u>limiting factors</u> for the <u>agricultural production</u> and enables decision makers such as land users, land use planners, and agricultural support services to develop a crop management able to overcome such constraints, increasing the productivity. Land could be categorized into spatially distributed agriculture potential zones based on the soil properties, terrain characteristics and analyzing present land use.

Production could be met through systematic survey of the soils, evaluating their potentials for a wide range of land use options and formulating <u>land use plans</u> which were economically viable, socially acceptable and environmentally sound.

To reduce the human influence on natural resources and to identify an appropriate land use, it is essential to carry out scientific <u>land evaluations</u>. Such kind of analysis allows identifying the main <u>limiting factors</u> for the <u>agricultural production</u> and enables decision makers to develop crop managements able to increase the land productivity. Objectives of this study were to develop a <u>GIS</u> based approach for land use suitability assessment which will assist land managers and land use planners to identify areas with physical constraints for a range of nominated land uses. Georeferenced <u>soil survey</u> data and field work observations have been integrated in a GIS based land use suitability assessment for agricultural planning in the different foreign countries, including India. Also, GIS has been used to match the suitability for main crops based on the requirements of the crops and the quality and characteristics of land. Different

land quality parameters, viz. <u>soil texture</u>, depth, erosion, slope, flooding and coarse fragments under various land units were evaluated for the crops. Subsequently all of them were integrated using a sequence of logical operations to generate land suitability and capability maps. Suitability and capability maps for each land use were developed to illustrate these suitability degrees and display the spatial representation of soils suitable for agriculture. It was also found that better land use options could be implemented in different land units as the conventional land evaluation methods suffer from limitation of <u>spatial</u> analysis for the suitability of various crops.

Lands are utilized for multiple purposes. They are mainly used for agriculture, pastures and forestry. Depending on the nature and properties of soils, they are suitable for one or other uses. Based on the capability or limitations, the lands are grouped into eight classes. Among them, the first four classes of lands are used for agriculture or cultivation of crops. These four classes are differentiated based on the extent of soil slope, erosion, depth, structure, soil reaction and drainage. The classes from V to VIII are not capable of supporting cultivation of crops. They are for growing grasses, forestry and supporting wild life. The last four classes are delineated based on problems like stream flow, flooding, ponding, rocky nature, short growing season, snow cover etc.[1, P.3].

<u>Land evaluation</u> is the process of estimating the potential of land for alternative kinds of use. Its basic features are the comparison of the requirements of land use with the resources offered by the land. Land evaluation involves the collection and interpretation of very large amounts of data. Also, land evaluation predictions will be changed with the changes in technology and economic factors. Thus, data concerned with land evaluation must be stored in a way that re-evaluation can readily be made when any or all of these factors change significantly, as techniques improve, and more data become available. In this connection, the approach for land evaluation in the studied area is carried out through two steps; diagnose and rate land limitations and applying the system in view of type, number and degree of limitations.

Finger millet is a promising and well adopted crop for the area. It is highly drought tolerant crop and can be grown throughout the year in India where the temperature is above 15 °C with rainfall ranging from 400 to1000 mm or even more. It can be cultivated in all types of soils ranging from poor to highly fertile soils, though it performs well in fertile and well drained loamy red and lateritic soils. Even alluvial and black soils are suitable if drainage is not a problem. It is highly salt tolerant and can be grown even in strongly alkaline soils [2].

It is the traditional and number one oilseed crop of India as well as the world. It is predominantly a crop of tropical and sub-tropical climates. It comes up well in tracts receiving 625-1250 mm of fairly well distributed rainfall. Alternate spells of dry and wet weather are ideal for this crop. Loose/friable soils facilitate good pod development. Therefore sandy and loamy soils with fairly rich in organic matter are very well suited for this crop. Waterlogging, alkalinity and soils poor in lime greatly affect the pod filling. Rice is a major food staple and a mainstay for the rural population and their food security. It is mainly cultivated by small farmers in holdings of less than 1 hectare. Rice is also a wage commodity for workers in the cash crop or non-agricultural sectors.

Land suitability assessment for agriculture is very important for agriculture development and future planning. Based on that, a land suitability assessment for agriculture purpose has been conducted in order to help decision makers and agriculture development planners. The results showed the suitability of the district for deferent crops in the study area. A suitability map for each land use was developed to illustrate the various degrees of suitability and their spatial representation in the area.

The most important <u>limiting factors</u> in the area are soil texture, gravel, lime, <u>gypsum</u>. In recent years, these attributes have had influence on the land suitability and resulted in changing their moderately suitable class to marginally suitable class. Slope, an important element of landform, plays an important role wherever mechanization is concerned. In order to avoid <u>soil erosion</u> and other problems derived from the use of machinery, only land with slopes below 8° should be used. Fortunately, most of the study area was found suitable with respect to topography; only 10.06% had the steepest slope category and was therefore unsuitable for full-mechanized cultivation [3, P.19].

Each plant species requires definite soil and site conditions for its optimum growth. Although some plants may be found to grow under different soils and extreme agro-ecological conditions, yet not all plants can grow on the same soil and under the same environment. The conspicuous absence of Pinus species in inter-tropical and of eucalyptus in the temperate (cold) regions are examples. Since the availability of both water and plant success and/or failure of any plant species, in a particular area, is

largely determined by these factors. The deep rooted forest or <u>orchard</u> plantations respond differently to soil depth and soil texture.

Mountain societies in Kazakhstan and other Central Asian countries have transitioned from a centrally planned, Soviet mode of land use and management to a de jure and de facto, more decentralized, market-oriented system with new drivers of land degradation and greater socioeconomic, political, and environmental uncertainties. While new opportunities and challenges for sustainable land management (SLM) emerged as a result of the transition, there continues to be a lack of relevant, up-to-date, empirical, rigorously investigated, and adequately documented scientific knowledge particular to these Central Asian mountain societies. The capacity of local research institutions was undermined following the withdrawal of Soviet support, and the emphasis of international research in the past 2 decades has largely been limited to donor project requirements. Further, there are numerous barriers hindering interactions between research and action in policy and implementation domains [4, P.31].

Hard copies of local academic literature are kept in university libraries, public libraries, and the libraries of the respective Academy of Sciences. There is no comprehensive electronic archiving system and therefore no means of conducting thorough keyword searches. We therefore manually reviewed the hardcopy tables of contents of all available issues of relevant journals for the period from 1991 to 2018. As our aim was to identify the articles that were most likely to have undergone an objective peer review, we chose to focus on academic articles in multidisciplinary journals.

Analysis of the publications involved attributing the main content of each document to one type of knowledge based on the categorization of system knowledge, target knowledge, and transformation knowledge and assessing the research type (i.e. disciplinary, multidisciplinary, or trans disciplinary research). Further, the organizational affiliation of authors was analyzed to understand the degree to which collaboration was occurring between authors affiliated with local and international organizations as well as between authors from different types of organization (including academic and nonacademic organizations).

With regard to system links, the majority of all the publications reviewed focus on the impact of changes in land management decisions and practices on ecosystem properties and regimes. There is comparatively little research available on the influence of global factors on social systems and in particular on regional and local land use decisions and practices. This is despite the fact that Kazakhstan became dramatically more integrated into global structures and processes and affected by globalization trends after the collapse of the Soviet Union. There is a similarly small amount of research on global factors affecting ecological systems. Publications attributed to this link focus mainly on climate change and do not consider other drivers (e.g. biochemical, biophysical). But even the impact of climate change on ecosystem structure and properties has been investigated insufficiently, even though the Central Asian region is "particularly vulnerable to climate change" [5, P.17].

Moreover, little is known about the interactions within ecological systems. Only a few international academic publications and no local academic publications examine this link. One reason for this may be that knowledge about interactions within ecological systems requires long-term monitoring, the capacity for which was greatly reduced after the collapse of the Soviet Union. There is a comparatively large amount of research on the link between ecosystem services and human wellbeing; however, there is very little research on theoretical and methodological foundations for ecosystem service valuation. There are also few publications that look into how people respond to changes in ecosystem service provision. Specifically, little has been published on how people at various scales respond to changes in water discharge, an issue that is commonly known to be associated with social-political conflict.

While it may appear that local academic literature, which is focused on agricultural technology and often includes specific recommendations for improved land use practices, aims to help identify or achieve a desired future condition (target and transformation knowledge), the publications concerned create mainly system knowledge because the means to achieve the desired condition are developed without involvement of the intended beneficiaries. As is detailed below, the recommendations given in local academic literature have subsequently been ineffective at facilitating change. It was also found that less than 14% of all publications and none in local academic literature included participatory knowledge generation associated with trans disciplinary research. The lack of stakeholder engagement in local academic research is likely due to the absence of a tradition of trans disciplinary or other participatory research in the region. The lack of stakeholder engagement in international academic research may be due

to short timeframes and language barriers, as well as an emphasis on academic as opposed to applied outputs. As a result, potential end users are not involved in research processes and are subsequently less likely to make use of research outputs, even if they do include practical recommendations [6, P.58].

In addition, many of the technologies recommended in local academic literature were developed on experimental plots at research stations and cannot be transferred easily to farmers' fields or scaled up for implementation across larger areas. This is due to several factors: land users do not have the knowledge or skills to use the newly developed technologies; there are no extension services that can effectively train farmers to implement new technologies, and some technologies are not affordable for farmers from a financial or human resource perspective. Even if research findings are well developed and appropriate, they are not disseminated to land users, practitioners, and decision makers.

The discussion above points to many examples where there is no connection between research and application. Our analysis, however, also found many cases where institutional reforms recommended in the literature have taken place both in Kazakhstan. These reforms highlight that rates of change, especially within social systems, are still high even 2 decades after independence. In such circumstances, stakeholders often have to make decisions quickly and without recourse to a sufficient amount of valid and reliable research or other information. While we recommend improved means of generating and making accessible useful research and other knowledge for informed decision-making, we also acknowledge that many decisions will continue to be made under dynamic and uncertain conditions. Learning how to make decisions under such conditions is just as important as generating and making accessible information to reduce uncertainty [7, P.66].

No matter how advanced science and technology becomes, human beings consistently rely on natural resources for survival and living. Expansive urbanization associated with rapid industrialization places enormous pressure on the Earth's resources, and humans' requirements for resources have surpassed the planet's regeneration capacity since the 1970-s [7, P.67]. Unfortunately, the high ecological pressure in urban areas and almost fully loaded land carrying capacity are even more troublesome as cities continue to experience population expansion, consumption growth, resource overuse, waste and emission accumulation, et al [6, P.64]. Thus, it is essential to determine land carrying capacity (LCC) to ensure the safety of ecosystems and their sustainable development, or at least to slow down the degradation of natural capital.

There are several ways to calculate land carrying capacity LCC, but changing land-use patterns caused by advancing modern lifestyles have complicated the calculation procedure. Due to expansive urbanization, main industries, human population, and wealth are concentrated in city centers, and a majority of human populations occupies a small amount of land area, the locals tend to lose sight of the space and significance for non-commercial agricultural production and ecological protection [7, P.68]. Thus, the concept of agricultural sustainability was integrated into LCC. And it was suggested to improve LCC from feedback of measuring the condition of agricultural sustainability (e.g., the maximum level of sustainable exploitation of human resources) [7, P.69]. Noticing the correlation of land, population, and agriculture with environmental degradation, selected villages in our country to investigate the relationship of combating desertification and agricultural sustainability, aiming to evaluate the land conversion policy's influence on the supply-demand balance in rural communities [8, P.153]. Agro-ecological zoning methodology originated in the 1970-s and was applied as a system to evaluate land for rain-fed and irrigated agriculture, forestry, and grazing. This methodology has been developed by the United Nation's food and agriculture organization (FAO) to assist with land resource assessments for better management and monitoring of these resources. In particular, based on the land productivity potential, such systems are commonly used in developing countries in order to assure food security [8, P.154].

Ecological footprint analysis is known as an effective tool for measuring the sustainable use of natural resources and a land's ability to support human beings [1, P.5]. On the basis of different ecosystem service functions and production characteristics, land is divided into six categories [5, P.20]. Population consumption and waste emissions by corresponding land areas can be normalized so that different land types can be compared with each other. In general, EFA calculations contain two variables, including ecological footprint and bio capacity, which represent the demand and supply, respectively. This method can be used to determine the balance of ecological deficits and ecological surpluses in a time series to estimate LCC, based on which further analysis is made to examine if a city is moving toward or away from sustainability [6]. Along with pioneering studies, researchers and organizations (e.g., the World Wild

Fund for Nature) have revealed wide applications of EFA and periodically publish ecological footprint reports to determine ecological footprints' impacts on different economic zones associated with various governmental and non-governmental agencies.

In this regard there is a question: how to estimate today objectively the cost of the land plots? What factors does the earth price depend on? How to organize estimated activity of land resources?

In the modern conditions of development of national economy one of the global reasons of the organization of estimated activity is the cost of the earth in macroeconomic aspect, and also regulation of the economy in the different states. Assessment of the earth depends on itsparticular importance, management of the state and municipal ownership. The arising practice of estimated activity is economically expedient and important tool in market conditions of development of economy, which allows solving many essential problems.

It has been widely accepted that there is a close relationship between the land use type and water quality. There have been some researches on this relationship from the perspective of the spatial configuration of land use in recent years. The results indicated that there was significant negative correlation between forest land and grassland and the water pollution, and the built-up area had negative impacts on the water quality, while the influence of the cultivated land on the water quality was very complex. Besides, the impacts of the landscape diversity on the indicators of water quality within the watershed were also analyzed, the result of which indicated there was a significant negative relationship between them. The results can provide important scientific reference for the local land use optimization and water pollution control and guidance for the formulation of policies to coordinate the exploitation and protection of the water resource.

The land use within the watershed has great impacts on the water quality of rivers. The water quality of rivers may degrade due to the changes in the land cover patterns within the watershed as human activities increase. Changes in the land cover and land management practices have been regarded as the key influencing factors behind the alteration of the hydrological system, which lead to the change in runoff as well as the water quality. There have been three waves of the research that tried to reveal the effects of the land use and land cover change on the quality of surface water. The researchers have started to study the linkage between land cover and the river water quality in order to investigate the effects of morphological features of watersheds on the turbidity, dissolved oxygen and temperature of the river water since the early 1960-s. The second wave of researches on this topic emerged in the 1970-s, focusing on the analysis at the watershed scale. The third waves of these studies have started to take advantage of the remote sensing, and multivariate analysis to explore the influence of the land cover on the suspended sediment, nutrients and ecological integrity of the stream.

In the conclusion we would like to note that Landscape pattern change is mainly caused by the change in land cover and land use change. The landscape ecologists and other researchers have developed numerous metrics to investigate the effects of the landscape pattern on the ecological processes. The potential impact of the unsustainable use of land resources is increasing. Each parcel of land has a stationary geographic location, while its utilization is optional. The re-adjustment and optimization of land use patterns ought to be encouraged. Spatial reconstruction refers to the combination of various land elements, which can promote the rational and efficient allocation of land resources through a four-layer action framework: the development of unused land, urban renewal, ecological reconstruction, and spatial displacement. The feasibility and validity of these methods are illustrated by practical cases in different provinces in Kazakhstan. Land is an essential resource for humans and our means of production for existence and development. The efficient use of the Earth's finite land is becoming a matter of life or death for humankind. Land use is a complex process with a time orientation and spatial characteristics. Land use problems are identified in both spatial and time dimensions as some land conversions are found to occur at the "wrong" time and locations. People can consciously interfere and guide the evolution of the spatial structure of land use to comply with the requirements of social and economic development. The concept of spatial reconstruction is derived from the field of urban planning and is characterized by a homogeneous urban space transforming into a heterogeneous multiple-use urban space.

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#### ЖЕР РЕСУРСТАРЫН БАҒАЛАУДЫҢ ӘДІСНАМАЛЫҚ АСПЕКТІЛЕРІ МӘСЕЛЕСІНЕ

Аннотация. Адамзат тарихында жер қоғамның дамуында зор, теңдесіз рөлге ие болды және әліол қызметін атқарып келеді.Жер табиғат пен табиғи ресурс ретінде бүкіл адамзаттың және жалпы қоғамның кәсіпкерлік белсенділігінің бүкіл жүйесінде бірегей ұстанымға ие, бұл оның қайталанбайтын сипаты мен көп функциялы мақсатына байланысты. Жер қатынастары объектісі жер учаскесі болып табылады, оның шекарасы белгіленген және белгіленген тәртіппен расталған жер бетінің бөлігі.Ауыл шаруашылығында жер – әмбебап өндіріс құралы.Бір жағынан, ол еңбек құралы ретінде жұмыс істейді, екінші жағынан - бұл еңбектің пәні.Жердегі заттанған еңбек – бұл қоғамның байлығы, оның қажеттіліктерін қанағаттандыру ғана емес, сонымен қатар оның тәуелсіздігін қамтамасыз етеді. Реформаларды жүргізу барысында Қазақстан Республикасы құрылымдық трансформациямен, нарықтық экономикалық жүйені қалыптастыру мен жұмыс істеу механизмін дамытуға байланысты стандартты және стандартты емес экономикалық мәселелерді шешу қажеттілігіне тап болды.Сонымен бірге, ұзақ мерзімді экономикалық өсуді қамтамасыз ету үшін ұлттық экономикалық жүйенің мәні мен қағидаттарын, республиканың экономикасы дамуының заңдары мен үрдістерін өтпелі кезең жағдайында білу өте маңызды.

**Түйін сөздер:**жер айналымы, жерді иеленушілер, жер пайдаланушылар, жер нарығы, жерді жалдау, жер учаскесі, жерді бағалау, жердің құнарлылығы, жерді аймақтарға бөлу, жер сапасы.

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#### К ВОПРОСУ О МЕТОДОЛОГИЧЕСКИХ АСПЕКТАХ ОЦЕНКИ ЗЕМЕЛЬНЫХ РЕСУРСОВ

Аннотация. Основой формирования эффективно функционирующего сельскохозяйственного производства является совершенствование земельных отношений и становление системы землепользования, «адекватной рыночной экономике». Общество остро нуждается в переходе к принципиально новому типу экономического роста - интенсивному росту ресурсосберегающего типа, основанному на бережном использовании природных ресурсов, на достижении экологического равновесия. Особое, выдающееся значение в жизни общества имеет земля. Она является важнейшим условием существования человечества, незаменимым средством удовлетворения самых разных его потребностей - экономических, социально-бытовых, эстетических и т.д. Однако, говоря об использовании земли, обычно имеют в виду её функционирование в сфере производства. Рациональное использование земельных ресурсов имеет большое значение в экономике сельского хозяйства и страны в целом. В сферах производственной деятельности человека роль земли не одинакова. В промышленности, транспорте и градоустройстве она используется как фундамент, как пространственный операционный базис для размещения производства. Более важное значение земля приобретает в добывающей промышленности, где она служит в качестве источника сырья. Здесь процесс производства и получения продукции не зависит от качества почвы, рельефа и многих других свойств, присущих земле.

**Ключевые слова:** земля, земельныйоборот, рыночный землеоборот, уставной капитал, земельные участки, отчуждение земель, земельный кадастр, землепользование, рыночная экономика, экологическое равновесие.

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## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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# DEVELOPMENT OF INNOVATIVE INSURANCE PRODUCTS OF THE FINANCIAL MARKET

**Abstract.** Innovative insurance products of the financial market are considered. Stages of development of financial insurance derivatives are allocated. Traditional derivative financial insurance instruments - swaps, forwards and the futures which were widely adopted as tools on management and insurance of risks, and nonconventional financial insurance instruments are discussed: the percentage and credit derivatives, forward and option bonds, based on combination of securities and financial transactions. The efficiency of use in activity of the companies of the innovative insurance structured products of the financial market was proved. Opportunities, merits and demerits of traditional and synthetic securitization were analyzed. Possibilities of cryptocurrencies as innovative product of the financial market are discussed. The conclusion is drawn that today the worked concept on use of innovative potential of insurance instruments of the world financial market at strategic modeling of activity of the company is necessary. The strategic modeling which is based on innovative solutions in the field of primary activity of the company is capable to bring optimum results only under the condition of innovative solutions of the primary activity of the company, optimum connected to innovative solutions in the field of strategy hedging by financial derivatives.

**Keywords:** innovations, insurance products, financial market, insurance derivatives, traditional financial insurance instruments, swaps, forwards, futures, insurance of risks, option bonds.

Financial innovations are the tools and methods applied by the companies and financial intermediaries for the purpose of implementation of new operations with acting to assets or transactions with new types of financial assets, the financial resources of the companies and financial intermediaries and to hedge the arising risks of investment and crediting allowing using more effectively. Financial innovations should be considered in the quality of the most obvious and important tendency of modern development of the financial markets. Any of the last periods of evolution of financial institutions hasn't been noted by such variety of innovations[1, P.15]. The growing interaction between insurers and the capital markets with the purpose of transferring insurance risk to institutional investors. In this interaction, we distinguish two dimensions: financial dimension relating to the optimization of the capital structure and strength (capital rising), and more insurance-specific dimension (insurance risk transfer, resulting in capital relief).

Most of the capital market deals for insurance companies are still primarily financially driven. To strengthen their capital position, companies can raise equity or debt, and more recently also hybrid capital. The insurance sector is capable of raising substantial amounts of equity in the market. Moreover, the access to the debt markets has improved substantially for insurers over the last few years[2, P.58].

The market has gained a better insight into the credit risk for insurers. Pricing of senior debt transactions has become a more standardized practice. Overall, the credit spread of debt transactions in insurance is fairly similar to the credit spread in banking. Where in the past, insurers without a strong credit rating had to rely on reinsurance; they can today more easily issue debt in the market place [3, P.16].

Hybrid capital is being raised in all different sorts and formats, with the quality of the hybrid capital covering the broad area between equity and bonds. Hybrids make up for a large part of the primary capital market transactions in insurance. The structures of the deals are still very much governed by national

legislations and regulators. Some structures are not allowed in certain countries and similar structures can have very different tax implications, impacting the returns for issuers (and investors). National regulators and rating agencies set their rules for the level of acceptance of hybrid financing. These rules are still evolving. Generally, a 15 per cent level is accepted; however, there are examples of a higher level of acceptance. This necessitates a permanent and constructive discussion between the insurance industry, the regulators and the rating agencies.

Use of products of financial engineering - the financial innovations and innovative insurance products of the financial market leaning on derivatives and strategic hedging changes traditional idea of formation of financial resources of the companies. Financial innovations and innovative insurance products of the financial market allow shifting and diversifying risks, giving the chance to the companies to get on before inaccessible markets and allow investors and issuers to bypass the tax law. The companies thanks to financial innovations can issue of securities to occupy concrete niche in the market of the capitals and to raise funds at lower price at identical risk. Therefore researches in the market of financial innovations, innovative insurance products of the financial market and their approbation in practice are the most relevant kind of activity of financial engineering today.

Securitization in banking aims at transferring the risks linked to certain assets to the capital markets, whereas the risks to transfer in insurance are typically linked to liabilities. Through the securitization of insurance risk, an insurance company transfers underwriting risks to the capital markets by transforming underwriting cash flows into tradeable financial securities. The cash flows resulting from the securities issued are contingent upon an insurance event or risk. When an insurer underwrites a risk, he has to decide on the adequate pricing of accepting that risk. Risk acceptance has immediate consequences for the capital structure of insurance companies. Each insurer has to balance through his capital management the interests of his stakeholders (policyholders, shareholders, bondholders, regulators) and his risks with his solvency. When the insurer accepts a risk, he can decide to keep the risk on his books, or pass (part of) the risk on to his reinsurance providers (table1).

1980–1990	1990–2000	2000-2010	2010-2018
- swaps;	<ul><li>collaroptions;</li></ul>	<ul><li>hedgederivatives;</li></ul>	<ul> <li>thestructuredproducts;</li> </ul>
<ul><li>currency options;</li></ul>	- creditswaps;	<ul> <li>traditionalsecuritizationofa</li> </ul>	<ul> <li>cryptocurrencies.</li> </ul>
<ul><li>options for futures;</li></ul>	<ul><li>svoptsions;</li></ul>	ssets;	
<ul> <li>bonds with the built-in options.</li> </ul>	<ul> <li>the swaps indexed on actions;</li> </ul>	<ul> <li>syntheticsecuritizationofass</li> </ul>	
	– portfolioswaps.	ets.	

Table1 - Development of financial insurance innovations

The innovative combination of instruments of the financial market allowing to design various innovative financial products - the share and currency markets, urgent and credit, financial insurance innovations and the capital market, etc. - for the purpose of increase in profitability of the company, attraction of investment resources, increase in sales volume, insurance of possible financial and innovative risks, financial and credit ensuring strategic innovative activity of the companies, etc. As an example of such combination it is possible to allocate svoptsiona, credit swaps, traditional and synthetic securitization, leasing options, forfaiting, etc.(table1).

We will consider consistently innovative insurance products of the world financial markets. Traditional derivatives - swaps, forwards and futures were widely adopted as tools on management and insurance of risks. Securitization creates the possibility of separating the insurance policy origination function from the investment management, policy servicing and risk bearing functions, thereby enabling insurers to make a more efficient use of their capital resources. For longevity risk, an interesting case could be made for offsetting the opposite impact of mortality improvements on annuity providers and life insurance providers[4, P.44]. If longevity risk is to be traded successfully in the capital markets, market participants with opposite interests are essential. Securities based on catastrophic property, mortality and longevity risk are no redundant: the covered events are not otherwise traded in the securities markets. Securities based on these risks also are likely to have relatively low covariance with market systemic risk, making them valuable for diversification purposes. Investors can improve portfolio efficiency by adding these securities to their portfolios. But the market may continue to grow slowly as the more complicated

transactions require substantial time, cost and energy. The innovative character of the considered derivatives is connected not so much with use of share tools in practice of relationship of the companies and financial intermediaries how many with a possibility of their combination to other securities and financial transactions. It is possible to carry bonds and the credits, face value or percentage payments on which depend on prices for products, i.e. innovative combination of derivative securities and percentage agreements (percentage derivatives), association of the bank credits and derivative securities (credit derivatives) and also forward and option bonds to them [5, P.493]. Such associations allow the companies to hedge risks market, operational and credit that positively affects financial stability. For example, on forward bonds of payment of coupons and/or face value it is made in a money equivalent of market price of goods at its fixed volume. The option attached to the bond allows buying goods at the price determined in the contract in a size equal to coupon payments or face value of this bond [6, P.35]. In the conditions of instability of prices for products of the companies these mechanisms of hedging of price risks in the medium-term period are rather relevant. The combination of swaps, options, forwards with bonds, the credits and percentage agreements will allow the company not only to hedge financial risks, but also to enter the new capital markets, minimizing the cost of the attracted financing. Use of innovative tools which payments are tied to the market price of production of the company allow to improve solvency of the company and also lead to improvement of conditions of financing - a smaller rate, the repayment period is more. We will consider efficiency of schemes of innovative insurance products on the example of association of the credits and commodity swaps. We will assume, the gold mining company takes the credit in foreign bank for the sum of 264,6mln. dollars under 6,5% per annum for three years, payment conditions - equal semi-annual payments. At the same time the bank (or other financial intermediary) concludes the swap contract with the company under which within the next three years pays the companies the fixed price for the gold, and in exchange receives floating. The bank fixes the price in the swap contract at the level of 19,7 dollars for gram and semi-annual volume of gold of equal 2,5 tons. The company creates the special account on which funds from sale of gold are accumulated in bank and calculations for a swap (tab. 2) are performed. The analysis of calculations shows that the first year the bank is forced to pay in addition under the contract 24,03mln. dollars whereas two next years the bank gets profit in the sum of 25.81 mln. dollars, but it without discounting. Taking into account discounting on rates of 6,5%, losses of bank will make 1,21 mln. dollars. This innovative scheme of association of a commodity swap and credit is favorable to the company since the effective rate was 6,34% that has allowed the company to reduce the cost of the attracted capital and to hedge price risks in the gold market.

Market price of gold on LBM, US dollars	Revenue, mln. doll.	Calculations for a swap, mln. doll.	Payments for the credit, mln. doll.
14,04	35,09	14,16	49,25
15,75	39,38	9,87	49,25
20,70	51,75	2,50	49,25
20,57	51,42	2,17	49,25
21,05	52,63	3,38	49,25
26,81	67,01	17,76	49,25

Table 2 - Payments for a credit swap of the gold mining company

The innovative combination of the existing credit and financial tools can be tracked on the basis of percentage derivatives. The main difference of percentage derivatives from other derivative financial tools is that as subject of such transactions serves change of interest rates in this or that side. Percentage derivatives are types of urgent contracts for delivery in the future of certain interest rates. Use of percentage derivatives allows investors to fix profitability, according to corporate or state obligations and borrowers, to be protected from increase in interest rates. Most in the developed markets the following types of percentage derivatives were widely used: percentage swaps, agreements on future interest rate of FRA, options "cap" and "florae".

More recently, insurance companies started using risk securitization techniques for transferring insurance risk to the capital markets. In general, the capital markets have the potential to help the insurance market by providing additional capacity beyond what is available from the reinsurance market. The overall reinsurance capacity is set by the access of the reinsurers to the capital markets. The insurance risk transfer to the capital markets is still very much the market in development. Insurance securitizations are in fact complementing the traditional reinsurance [7, P.77].

Life securitization is expected to develop in the following areas: capital release through embedded value securitization, financing of new business activities, productspecific applications, mortality and longevity risk. Embedded value deals provide insurers with the opportunity to unlock the embedded profits in blocks of life insurance presently carried on balance sheet and to provide an alternative source of financing in an industry, where traditional financing mechanisms are often restricted due to regulation. The essential objective is to sell the future profit stream without going through the sale of the life book. Unlike other alternative risk transfer devices, this securitization is not essentially a risk transfer device - it is predominantly device to monetize the profits inherent in already-contracted life insurance policies. In the securitization deals that hit the market to date, the transfer of value still prevailed over the transfer of life risk.

Longevity risk - the paradoxical risk of living too long - is becoming a major challenge for insurers and pension funds. What is important is not the average life expectancy but rather the life expectancy past the age of retirement, when workers cease to be economically active. And it is among this population that life expectancy is rising fastest. While annuity providers and pension schemes have risk management tools to protect them from adverse movements in markets and rates, there are no tools to shield them from rising life expectancy.

The exact statistics of volume of the world market of percentage derivatives doesn't exist as the considerable part of bargains is concluded in the off-exchange market [8, P.227]. But in the developed markets there was already infrastructure of the financial institutions and banks providing services in hedging of percentage risks therefore at the request for financial means in foreign banks, the company can hedge the arising percentage risks through percentage derivatives. For example, the combination of the credit agreement and a caption-credit will allow the company to hedge risk of increase in a credit rate that it is relevant at the time of turbulence of the world financial markets since fixes the maximum interest rate for the credit on in advance stipulated value. It will allow the company to distribute rationally income and to amortize the credit without additional cost of percentage payments.

Overall, the effective insurance risk transfer to the capital markets is still very limited. We can say that securitization in insurance is in its experimental development phase, comparable to where the banking industry stood some 20 years ago. The limited number of transactions makes it difficult to establish a broad investor base that is sufficiently familiar with the specificities of holding insurance risk. Despite the relatively small volume of insurance securitization transactions to date, securitization has significant potential to improve market efficiency and capital utilization in the insurance industry.

According to Bank of International Settlements, as of July 1, 2017 the nominal size of the market of derivatives was 710 trillion dollars, and 48% have fallen to the share of credit swaps. Credit derivatives are trading only in the off-exchange market, at the same time about 40% of all market turnover are concentrated in London [9, P.26]. The main participants of the market of credit derivatives are banks, insurance companies, hedge funds and the pension funds.

The innovative combination of credit operations, securities and credit derivatives was most shown in the main innovative process of the world financial market of the end of the XX century - securitization which has provided superiority to share values in their immemorial dispute with the credit concerning the most favorable way of loan of financial resources: by means of share operations or through bank crediting. In practice of securitization use is allocated two basic types of securitization of assets: traditional and synthetic securitizations [10, P.57].

Traditional securitization is a process of transformation of illiquid assets in the turned securities, such as commercial papers, bills or other debt obligations. Traditional securitization assets is an innovative technology of financing at which the diversified pool of financial assets is allocated it (is written off) from balance of the company or bank, gains legal independence by transfer to specially created legal entity SPV (Special Purpose Vehicle), which carries out his refinancing in the international market of the capitals or

the monetary market by means of issue of securities. Usually carry to the assets captured by traditional securitization for the companies: leasing payments, receivables, receipts under commercial contracts and other. At the same time the list of assets which securitization is potentially productive can't be overestimated. Here any monetary income (receipts) which the company plans to take in the long term as a result of the functioning can organically fit in. It is especially necessary to note that at securitization the assets generating income are used only.

In the conclusion we would like to stress, that the analysis of innovative processes of the end of XX and the beginning of the XXI centuries in the world financial markets shows that the companies of the real sector of economy can't stand away from global processes any more that the worked concept on use of innovative potential of insurance instruments of the world financial market at strategic modeling of activity of the company is necessary. The strategic modeling, which is based on innovative solutions in the field of primary activity of the company, is capable to bring optimum results only under the condition, if innovative solutions of primary activity of the company are optimum connected to innovative solutions in the field of strategy hedging by financial derivatives. Thus, forming the financial strategy needs the special attention to pay and create of innovative schemes of attraction of innovative insurance products of the financial market.

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#### ҚАРЖЫ НАРЫҒЫНЫҢ ИННОВАЦИЯЛЫҚ САҚТАНДЫРУ ӨНІМДЕРІН ДАМЫТУ

Аннотация. Қаржы нарығының инновациялық сақтандыру өнімдері қарастырылған. Қар-жылық сақтандыру туынды құралдарын дамыту сатылары белгіленген. Дәстүрлі деривативті қаржылық сақтандыру құралдары - тәуекелдерді басқару және тәуекелдерді басқару құралдары ретінде кеңінен таралатын своптар, форвардтар және фьючерстер, сондай-ақ дәстүрлі емес қаржылық сақтандыру құралдары: пайыздық және кредиттік туынды құралдар, форвардтық және опциондық облигациялар, бағалы қағаздар мен қаржы операцияларын біріктіруге негізделген своптар талқыланады. Компанияның қызметінде қаржы нарығының инновациялық сақтандыру құрылымдық өнімдерін қолданудың тиімділігі дәлелденді. Дәстүрлі және синтетикалық секьюритизацияның мүмкіндіктері, артықшылықтары мен кемшіліктері талданады. Қаржы нарығының инновациялық өнімі ретінде крипто валютасының мүмкіндіктері талқыланады. Бүгінгі күні компанияның әлемдік қаржы нарығының сақтандырудың инновациялық әлеуетін пайдалану туралы жақсы тұжырымдамасы қажет, ол компанияның қызметін стратегиялық модельдеу қажет екендігі қорытындыланады. Компанияның негізгі бизнесі саласындағы инновациялық шешімдерге негізделген стратегиялық

модельдеу, компанияның негізгі бизнесіне инновациялық шешімдер хеджирлеу стратегиясының қаржы туындыларымен инновациялық шешімдермен оңтайлы байланысты болған жағдайда оңтайлы нәтижелерге әкелелі.

**Түйін сөздер:** инновациялар, сақтандыру өнімдері, қаржы нарығы, сақтандыру деривативтер, дәстүрлі қаржылық сақтандыру құралдары, своптар, форвардтар, фьючерстер, тәуекелдерді сақтандыру, опциондық облигациялар.

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#### РАЗВИТИЕ ИННОВАЦИОННЫХ СТРАХОВЫХ ПРОДУКТОВ ФИНАНСОВОГО РЫНКА

Аннотация. Рассмотрены инновационные страховые продукты финансового рынка. Выделены этапы развития финансовых страховых деривативов. Обсуждаются традиционные производные финансовые страховые инструменты — свопы, форварды и фьючерсы, получившие широкое распространение как инструменты по управлению и страхованию рисками, и нетрадиционные финансовые страховые инструменты: процентные и кредитные деривативы, форвардные и опционные облигации, свопционы, основанные на объединении ценных бумаг и финансовых операций. Доказана эффективность использования в деятельности компаний инновационных страховых структурированных продуктов финансового рынка. Анализируются возможности, достоинства и недостатки традиционной и синтетической секьюритизации. Обсуждаются возможности криптовалют как инновационного продукта финансового рынка. Сделан вывод о том, что сегодня необходима проработанная концепция по использованию инновационного потенциала страховых инструментов мирового финансового рынка при стратегическом моделировании деятельности компании. Стратегическое моделирование, базирующееся на инновационных решениях в области основной деятельности компании, способно принести оптимальные результаты только при условии, если инновационные решения основной деятельности компании будут оптимально соединены с инновационными решениями в области хеджирования стратегии финансовыми деривативами.

**Ключевые слова:** инновации, страховые продукты, финансовый рынок, страховые деривативы, традиционные финансовые страховые инструменты, свопы, форварды, фьючерсы, страхование рисков, опционные облигации.

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#### STATE AUDIT IN THE SYSTEM OF ECONOMIC MANAGEMENT

**Abstract:** The nature of modern management of structural economic transformations is that the problem of searching for effective economic methods, mechanisms and trajectories of managing the development of the country's potential comes to the fore. The system of public funds management, in which the state audit occupies a special place, as a strategic factor in the effective use of budget funds, as well as state property in general.

This article discusses the role of public audit in the management of the economy of Kazakhstan. The analysis of control of the main economic directions of the state audit is carried out. The bodies of state audit management in the Republic are defined. The refined definition of the concept of state audit is given. The nature of state audit is described, efficiency of use of public funds, criteria and indicators of efficiency of activity of public authorities and also features of the organization and functioning of effective system of state audit are considered. The role and place of efficiency audit in the system of state financial control are specified. It is concluded that the system of state audit is one of the main conditions for effective management of budgetary funds and national resources, a priority factor in ensuring the financial security of the state.

**Key words:** state audit system, external state audit, internal state audit, subjects and objects of audit, efficiency audit.

**Introduction.** The nature of modern management of structural economic transformations is that the problem of searching for effective economic methods, mechanisms and trajectories of managing the development of the country's potential comes to the fore. The system of public funds management, in which the state audit occupies a special place, as a strategic factor in the effective use of budget funds, as well as state property in general.

As part of the ongoing changes in the economy of the country, the current state audit has positive moments in improving the control of state assets, as well as, in particular, effective means of regulation in state users of state resources.

The functioning of an effective mechanism of state governance through the centralized accumulation of financial resources and the organization of the process of their redistribution involves the development of a clear system of state audit, which will be able to ensure the legality of the financial activities of the state and assess its feasibility and effectiveness. It should be noted that the problems of ensuring the unity of the state audit system in modern reality occupy a key place [1].

**Methodology.** The law "On state audit and financial control" provides the following definition of state audit: "State audit — analysis, evaluation and verification of the effectiveness of management and use of budgetary funds, assets of the state and quasi-public sector entities, related grants, state and stateguaranteed loans, as well as loans attracted under the guarantee of the state, including other related to the execution of the budget activities based on the risk management system [2].

The concept of the state audit nature is given by foreign and domestic scientists such as: Izmodenov A.K., Ivanova E.I., Shakhrai S. M., Kurmangaliyev B. O., Raimkulov A. S., Asylkhanov M. K.[3,4].

Stepashin S. V. in the monograph "State audit and Economics of the future" gives the following definition "State audit at this stage of development of the domestic economy is a powerful lever of influence on the activities of public authorities as users of budgetary funds. It combines, firstly, the external state audit carried out by special bodies of public administration in order to control the execution

of budgets. And, secondly, the control of the results in the field of politics, Economics, social development, ecology and spiritual sphere, obtained as a result of the activities of public authorities in the use of public resources, that is, in the field of powers of public authorities, defined by the legislation" [5].

Agreeing with the definition of S. V. Stepashin, it should be noted that his restrictive interpretation of the state audit reduces it to the type of special activities professionally carried out by employees of a special control body. A broad interpretation of the state audit is related to its understanding as a public audit of the activities of state bodies for the management of national resources.

State audit includes not only the audit of financial statements of state structures, but now its mission and main task is to ensure on behalf of the state and society independent objective public control of the activities of the authorities, to manage the public resources entrusted to them. In the implementation of the state audit, the main issues are not so much the definition of the target and legal nature of spending, but the expediency and effectiveness of management decisions taken in connection with the development and implementation of the strategic plan for regional development [6].

In the management of the national property, the accounts Committee for control over the execution of the Republican budget plays the role of one of the key elements of coordination of the real interests of society with the declared development goals and methods of their achievement. Note that the implementation of functions objectively depends on the immaculate definition of goals and means to achieve them in the field of operation of the object. The shift of emphasis to the target setting in determining the functions of the state audit is a kind of indicator of the close relationship of functions and objectives in the state audit. However, functions are not only in the process of achieving goals. They are also present at the stage of correlation with the goals, establishing possible options for managing the national heritage. The question of the effective use of public funds, in one form or another, although it has existed since the formation of States, but the mechanisms for monitoring their use did not allow to reliably assess the cost-effectiveness of the use of resources. Today, the concept of the state budget policy is focused on the transition from cost management to results management.

The complexity of the implementation of this approach in the fiscal policy of the state in comparison with the commercial sector is determined by the fact that in addition to economic efficiency, it is necessary to evaluate numerous social, scientific, environmental and other components of the efficiency of public spending. These problems flow smoothly into issues when monitoring the use of public funds. If earlier the organizations receiving funds from budgets of various levels were subjected to audit checks, today receptions and methods of control and audit work do not satisfy modern requirements of financial control. This led to the development of a new control tool—the state audit of the use of public funds.

From the above, the following definition follows: state audit – a system aimed at effective management of revenues and expenditures of state assets (funds), national resources, their assessment (public Finance and property, human resources, natural resources, intellectual capital, environment) on behalf of the state audit and financial control. In the interests of society, for the future generation with national heritage, in the field of economy, social development.

State audit at this stage of development of the domestic economy is a powerful lever of influence on the set of state audit bodies of the state audit management system in economic areas. (Figure 1.)

Taking into account foreign experience, the following economic directions are justified:

- 1. Audit of the use of public funds (Budget and extra-Budgetary Fund);
- 2. Audit of the use of state assets;
- 3. Problem-organizational performance audits;
- 4. Audit of receipt of funds in the budget;
- 5. Audit of assets by public and quasi-public sector entities.

As we can see, the state audit in economic areas is the core (basis) of this system, as it is one of the main elements of economic management. In any state, control over the formation and use of financial resources, assets and property of the state is an objective process.

Based on foreign experience, we can say that the audit of public authorities could be carried out using the following types of audit in accordance with functional responsibilities: performance audit, compliance audit and audit of financial statements. The audit of economic directions is carried out in accordance with the audit of the effectiveness of the use of budgetary funds and national resources.

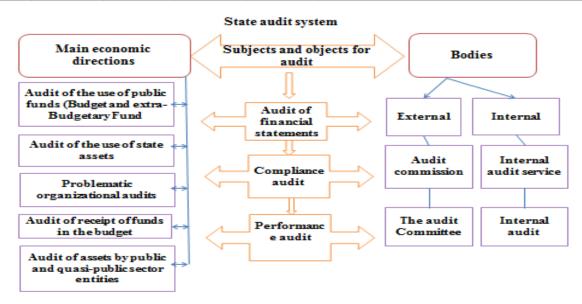


Figure 1 - The system of state audit in economic management

The state audit performs the functions of ensuring the effective management of the receipt and expenditure of state assets (funds), national resources (public Finance and property, human resources, natural resources, intellectual capital, environment), on behalf and in the interests of society, in the preservation of the national heritage, obtained as a result of the activities of public authorities, in the use of public resources.

The term "performance audit" was first defined at the INTOSAI Congress, and in 1977 was reflected in the Lima Declaration of control guidelines (The Lima Declaration of Guidelines on Auditing Precept) in article 4 defining the content of the performance audit. In this provision, along with the financial audit, the need for a different type of control is formulated, the task of which is to verify the efficiency, effectiveness and efficiency of the use of resources of the audited organization in the performance of its tasks. Performance audits are characterized by an assessment of the final results of government expenditure, including administrative and organizational systems.

Economic efficiency of use of public funds means the achievement of the auditee desired results with the least amount of costs.

This component is determined by comparing the money spent and financial resources with the same indicator of the previous period or with similar indicators of other organizations. A typical example of effective use of public funds is to ensure the reduction of budget expenditures for the purchase of goods and services through competitions[7].

Thus, the use of public funds will be effective in the event that the cost per unit of output and services rendered, or the volume of products and services per unit of cost, will be equal to or less than planned (if appropriate standards are available). If there are no such standards, then the actually obtained ratios between costs and results can be compared with similar ratios between costs and results in other economic entities engaged in such activities.

The adoption of all necessary by-laws and the preparation of a methodological framework for state audit and financial control in accordance with international standards will improve the transparency and efficiency of budget spending.

Government audit includes performance, compliance and financial statement audits. At the same time, the efficiency audit is understood as the assessment and analysis of the activity of the object of state audit for efficiency, efficiency, productivity and effectiveness.

The subject of the Law regulates public relations related to the state audit and financial control, defines the powers and organization of the activities of the state audit and financial control bodies. In the implementation of the law, the Accounts Committee has already developed and adopted 24 regulatory legal acts, in the period from 2016 to 2021 it is planned to develop more than 30 documents.

The system of state audit of the consensual law is presented as the main economic directions of audit and bodies of state audit and financial control. Depending on the subject, the state audit is divided into external and internal.

The system of external state audit and financial control bodies is represented by the accounts Committee and audit commissions, internal – by the financial control Committee of the Ministry of Finance, as an authorized body for internal audit by the Government, and internal audit services of Central state bodies and their departments, as well as akimats.

The authorized bodies of external state audit and financial control are the accounts Committee and audit commissions, and the bodies of internal state audit and financial control are the authorized body for internal state audit and internal audit services.

The main task of the external audit is to analyze, evaluate and verify the effective and legitimate management of national resources to ensure the quality of life of the population and national security of the country.

In accordance with the Law, the accounts Committee will audit efficiency in 14 directions. The audit of the efficiency of planning and use of the Republican budget funds is carried out on revenues, expenditures and budget deficit and sources of its financing, including the efficiency of tax and customs administration[2].

As well as the Committee will audit the effectiveness of the use of state assets and asset management of the quasi-public sector.

In addition, the Law provides for performance audits on certain issues and topics, in particular, pricing issues, the impact of the activities of quasi-public sector entities on the development of the economy or a particular sector of the economy, as well as in the field of environmental protection and information technology.

The audit commissions carry out performance audits in 12 directions, including planning and execution of local budgets, management and use of state assets, problem and thematic performance audits.

As practice shows, the state audit carried out in various subjects of the Republic of Kazakhstan, has its own characteristics, due to the mechanism of setting and implementing the goals of socio-economic development of the territory, the structure of the regional economy and the development of the social sphere.

Director of LLP "Center for audit and evaluation" PhD in Economics, auditor, B. K. Balatabayev said, "By a clear separation of functions between inspection bodies between them, eliminating duplication"[8].

However, the analysis of the Law on state audit" showed the duplication of the directions of efficiency audit between the state bodies, the Accounts Committee and the audit Commission. (Table 1).

Duplicate directions	Bodies		
Implementation of documents of the state planning System of the	The audit Committee	Audit commission	
Republic of Kazakhstan in terms of execution of the Republican			
budget and the use of state assets, and on behalf of the President of			
the Republic of Kazakhstan in other areas;			
Use of related grants, budget investments, government and state-	The audit Committee	Audit commission	
guaranteed loans, state-sponsored loans and state assets;			
In tax administration	The audit Committee	Audit commission	
In asset management of quasi-public sector entities;	The audit Committee	Audit commission	
The signing of contracts;	The audit Committee	Audit commission	
Activities in the field of environmental protection	The audit Committee	Audit commission	
Activities in the field of information technology	The audit Committee	Audit commission	
The chart is made by the author, the information is taken from the law "On state audit and financial control"			

Chart 1 - Directions of efficiency audit, duplicated by the state audit bodies in the following areas

As can be seen from table 1, performance audits in 8 areas are duplicated by the Accounts Committee and the audit Commission.

We do not claim to determine the full component of the state audit system, which requires a comprehensive scientific approach. But without defining the elements of this system, there is a problem of duplication, the desire to carry out financial control of each state body.

In this regard, it is necessary to study the main directions of the state audit. After that, the bodies carrying out the state audit should be identified.

Here, the most important function of the state audit is to ensure the safety of state assets, national resources, not only in terms of fixed assets, but also intangible and non - produced assets. A public audit should be designed to ensure that the misuse or disposition of public wealth is prevented or detected.

The functions of the audit commissions include the audit of the effectiveness of planning and execution of the local budget in accordance with the principles of the budget system with the preparation of the report on the execution of the local budget for the financial year, which in its content is the conclusion to the relevant report of the local Executive body, as well as the audit of compliance with the reliability and correctness of the objects of the state audit of accounting and financial reporting.

In accordance with the law, the accounts Committee is additionally endowed with a number of new functions, such as auditing the effectiveness of planning the national budget, the activities of state audit objects, the implementation of development strategies and development plans of national holdings and national companies, the impact of the activities of quasi-public sector entities on the development of the economy or a single branch of the economy, social and other spheres of public administration, the formation and management of public debt.

The competence of the accounts Committee includes the audit of the efficiency of planning and execution of the Republican budget in accordance with the principles of the budget system of the Republic of Kazakhstan, with the preparation of the report on the execution of the Republican budget for the fiscal year, which in its content, is the conclusion to the relevant report of the Government and the audit of compliance of the objects of state audit on the use of the Republican budget and national resources.

One of the innovations of the legislation of the Republic of Kazakhstan are the provisions of the law establishing the Institute of audit of special purpose of quasi-public sector entities.

The purpose of the state audit is to improve the efficiency of management and use of budget funds, assets of the state and quasi-public sector entities.

The law is aimed at strengthening expert and analytical activities with a focus on performance audit.

In our opinion, a more difficult task and a complex procedure, but no less important, is to assess the social efficiency of the use of public funds associated with the determination of the final social effect for the society as a whole or a certain part of the population, resulting from the implementation of the audited economic entity assigned to it functions and tasks. This requires a set of specific and quantifiable indicators that reflect the performance of a function or task.

As a means of monitoring social development, there social indicators are used, which give an idea of the current state of society, its transformations, trends, crisis phenomena, as well as the quality of management decisions. Important areas of social development, measured by social indicators, are the functioning of the system of public administration, the adequacy of the institutional structure, the effectiveness of the use of public resources [9].

The main function of the state audit can be supplemented by the functions of evaluation, regulatory, prognostic and informational, which provide a complete analysis for making the right decision with the least risk.

The evaluation function of the state audit is implemented by determining the system of values underlying the subject of the state audit – management activities of state bodies. With this function, the accounts Committee gives a formal assessment of the actions of state bodies and their officials, reflects the degree of their social efficiency.

This function is in many ways critical, because it is to identify defects and shortcomings, to fix certain inconsistencies. However, it is also analytical, as it is expressed in the classification and commenting on management decisions.

At the same time, the state auditor not only assesses the relations between the various audited entities and the objects of the state audit in terms of the letter and spirit of the law, but also offers civilized legal methods for resolving emerging contradictions (develops recommendations for solving urgent problems), thereby carrying out a regulatory (organizational and applied) function.

The regulatory function is of primary importance and has a creative character. With this function, the state audit is designed to facilitate the adoption of the most valuable management decisions for the society and the state.

The prognostic function of the state audit is seen in the fact that it is able to prevent the negative consequences of erroneous decisions, minimize the risks of their occurrence, anticipate certain changes in reality, determine the trends in the development of its subject and put forward a hypothesis about its future.

The information function of the state audit affects the public consciousness and social life as the most important information factor.

The system of state audit reveals the potential of structural transformations of the economy in terms of making effective management decisions that ensure the rational consumption of investment resources, taking into account the technical and technological, organizational and economic level of development. The effectiveness of this approach is the development of complex economic processes due to structural modernization and changes in the economic paradigm of budget relations. From the point of view of the reproduction process, these areas are poorly explored, especially at the regional and territorial levels. It is the budget relations and budget policy with the wrong management approach that can ensure the economic feasibility of the investment management principles involved in the audit mechanism of the state control function.

As a means of monitoring social development, social indicators are used, which give an idea of the current state of society, its transformations, trends, crisis phenomena, as well as the quality of management decisions.

Important spheres of social development, measured by social indicators, are the functioning of the system of public administration, the adequacy of the institutional structure, the effectiveness of the use of public resources. The collection of such information and its provision to the society is included in the tasks of the state audit, the organization of which and the status in the system of state power are focused on the performance of this function [9].

In modern conditions of reforming the economy of Kazakhstan, improving the efficiency of the use of public resources, providing society with quality social services, achieving openness of the authorities and the public sector require a systematic approach to improving the tools of public audit. The development of the state audit in the Kazakhstan reality of a multi-layered market economy as a form of financial control, providing a comprehensive target assessment of the results of activities in the public sector, is one of the priorities in ensuring the financial security of the country and national security as a whole. In these circumstances, there is a need to optimize the economic mechanism of audit regulation as a necessary condition for effective public administration and its successful reform.

In order to optimize the economic mechanism of the state audit, there is a need to improve the system of indicators characterizing various aspects of its functioning. Particular attention should be paid to the so-called financial and non-financial indicators, which make it possible to assess not only the economic effect or efficiency of activities, but also the socio-economic, environmental and other consequences of the impact of organizations on the external environment. For example, the main groups of the system of indicators underlying the state audit include:

- economic indicators of the overall level of economic development (e.g. recession or recovery), interest rates and availability of available financial resources, inflation, devaluation or revaluation of the national currency, etc.;
- social indicators characterizing the current state of society, its transformation, trends, crisis phenomena, as well as the quality of management decisions, social development in general;
- legal indicators characterizing regulatory legal acts regulating activities in the industry, regulatory legal acts that significantly affect the activities of the audited entity, etc.;
- industry indicators characterizing the features of the market of goods, works and services, production technologies related to the products of the audited entity, energy supply and the cost of energy resources, etc.

The main methods of measuring the efficiency of public spending should include:

- evaluation methods (comparison method, index method, benchmark testing);
- diagnostic methods (factor analysis, simulation, regression analysis);
- heuristic methods (methods of expert evaluation, score).

In General, it should be noted that the use of a single system of indicators to assess the effectiveness

of public spending will allow to assess the degree of achievement of the goals to improve the efficiency of use of resources using numerical criteria. The use of the proposed system will make it easier to compare the efficiency of public spending, both between individual budgetary institutions and between different municipalities and regions.

At the same time, it is impossible to ignore the fact that the current system of state audit is characterized by a number of problems, the resolution of which requires the development of criteria and indicators of the effectiveness of public authorities in the implementation of state audit. These criteria and indicators include:

- the performance of (identified the amount of funds used in contravention of the law; identified the amount of inefficiently used resources; identified the amount of funds used for the intended purpose; the number of trained views and prescriptions);
- efficiency (number of executed representations and instructions; volume of the means returned to the budget and to budget accounts of the organizations; number of structural transformations in economy, ministries, departments and at the enterprises; number of amendments to the current legislation);
- efficiency (the amount of money spent on financial control; the amount of money spent by the audited entity for the preparation of materials for the inspectors; the level of efficiency) [10].

In addition to the above criteria and their indicators assessing the activities of the control body, attention should also be paid to:

- the criterion of intensity of activity including indicators: number of control actions; volume of the checked means; number of the checked objects;
- the criterion of dynamic activities, including indicators: level of effectiveness of control measures; the level of effectiveness of control activities; the level of hardness control; the level of effectiveness of representations (regulations).

Thus, the development of the state audit system is one of the main conditions for effective management of budgetary funds and national resources, a priority factor in ensuring the financial security of the state.

At the same time, the development of adequate economic audit mechanisms to determine the degree of achievement of the planned socio-economic results and thus to assess the effectiveness of the use of public funds by the Executive authorities is currently one of the most important areas of its improvement.

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#### М. К.Успамбаева, А.Н. Ракаева, Г.К.Амренова

#### ГОСУДАРСТВЕННЫЙ АУДИТ В СИСТЕМЕ УПРАВЛЕНИЯ ЭКОНОМИКОЙ

**Аннотация:** Природа современного управления структурными экономическими преобразованиями состоит в том, что на первый план выдвигается проблема поиска эффективных экономических методов, механизмов и траекторий управления развитием потенциала страны. Система управления государственными средствами, особое место в которой занимает государственный аудит, как стратегический фактор эффективного использования средств бюджета, а также государственной собственности в целом.

В настоящей статье рассматривается роль государственного аудита в системе управления экономикой Казахстана. Проведен анализ контроля основных экономических направлений государственного аудита. Определены органы управления государственного аудита в республике. Дано уточненное определение понятия государственного аудита. Описана природа государственного аудита, рассмотрены эффективность использования государственных средств, критерии и показатели эффективности деятельности государственных органов власти а так же особенности организации и функционирования эффективной системы государственного аудита. Уточнены роль и место аудита эффективности в системе государственного финансового контроля. Сделан вывод о том, что системы государственного аудита является одним из основных условий эффективного управления бюджетными средствами и национальными ресурсами, приоритетным фактором обеспечения финансовой безопасности государства.

**Ключевые слова:** система государственного аудит, внешний государственный аудита, внутренний государственный аудита, субъекты и объекты аудита, аудит эффективности.

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#### МЕМЛЕКЕТТІК АУДИТ ЭКОНОМИКАНЫ БАСҚАРУ ЖҮЙЕСІНДЕ

**Аннотация:** Құрылымдық экономикалық өзгерістердің қазіргі заманғы басқару сипаты болып елдің экономикалық әлеуетін дамытудың тиімді экономикалық әдістерін, механизмдерін және траекториясын іздеу мәселесі табылады. Мемлекет қаражатын басқару жүйесінде бюджет қаражатын, сондай-ақ жалпы мемлекет меншігін тиімді пайдаланудың стратегиялық факторы ретінде мемлекеттік аудиттің атқаратын рөлі зор.

Осы мақалада Қазақстандағы экономикалық басқару жүйесіндегі мемлекеттік аудиттің рөлі қарастырылады. Мемлекеттік аудиттің негізгі экономикалық бағыттарын бақылауды талдау жүргізілді. Республикадағы мемлекеттік аудиттің басқару органдары анықталды. Мемлекеттік аудит түсінігіне нақтыланған анықтама берілді. Мемлекеттік аудиттің сипаты жазылған, мемлекеттік қаражатты пайдаланудың тиімділігі, мемлекеттік органдардың қызметінің тиімділік көрсеткіштері мен критерийлері, сондай-ақ тиімді мемлекеттік аудит жүйесінің ұйымдастырылуы мен жұмыс істеу ерекшеліктері қарастырылған. Мемлекеттік қаржылық бақылау жүйесіндегі тиімділік аудитінің рөлі мен орны анықталды. Мемлекеттік аудит жүйесі мемлекеттің қаржылық қауіпсіздігін қамтамасыз етудің басты факторы, бюджет қаражатын және ұлттық ресурстарды тиімді басқарудың негізгі шарттарының бірі болып табылатындығы жөнінде қорытынды жасалды.

**Түйін сөздер:** мемлекеттік аудит жүйесі, сыртқы мемлекеттік аудит, ішкі мемлекеттік аудит, аудиттің субъектілері мен объектілері, тиімділік аудиті.

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## REPORTS OF THE NATIONAL ACADEMY OF SCIENCES OF THE REPUBLIC OF KAZAKHSTAN

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### DEVELOPMENT OF SMALL AND MEDIUM ENTREPRENEURSHIP IN AGRARIAN SPHERE OF KAZAKHSTAN

**Abstract.** Effective activities of the country's agro-industrial complex are closely interrelated with the proportional development of its constituent branches. A special place in this system is export, the sphere of production, processing and marketing of agricultural products, the level of development and functioning of which determines the livelihood of the population, achieving a balance in the agrarian sector of the republic. The process of integration into the world market has puzzled food security, which entailed not just the creation of a developing agricultural sector in the economy, but, above all, the creation of an efficient processing complex. As the President of the Republic of Kazakhstan N.A. Nazarbayev "a republic with a high potential for agricultural development can be among the world leaders in the production and processing of agricultural products.

The development of Kazakhstan's export is of particular importance, serving as an important element of the country's long-term strategy. It is the export potential of the economy that contributes to higher incomes of the population, to the rapid development of market infrastructure, to identify the strengths and weaknesses of the national industry.

**Keywords:** entrepreneurship, agriculture, export, potential, competition, economic growth, concept, partnership, business, sustainable development, livestock, crop production.

#### **INTRODUCTION**

The main tasks assigned to the agro-industrial complex of the country are to become a sought-after exporter of agricultural products on the world market, increasing production, yields by increasing the acreage and introducing innovative technologies, creating environmental products under a national brand. The strategy "Kazakhstan-2050" presents the need to modernize the agricultural industry to increase the demand for agricultural products [1].

Increasing the competitive potential of economic entities of the agro-industrial complex should be based on competent management of resources and a strategic vector of development of an economic entity. The presence of a strategic planning system provides the company with sustainable competitive advantages, which, in turn, is characterized by the importance and long-term duration of projects [2].

#### MAIN PART

More than 5 thousand peasant (farmer) farms, 500 agro formations are involved in agricultural production, in addition, agricultural products are produced in the personal farmsteads of citizens. The share in the region is animal husbandry and the cultivation of grain crops. In the annual average, the gross grain harvest amounts to about 4 million tons, of which 1.5 million tons of high-quality grain are exported. In the total gross yield for 2017 for the production of the agricultural industry, 3.3% were livestock products [3].

The volume of exports of the main types of agricultural products in 2017 amounted to 224.4 million US dollars, with an increase of 25% over the period of 2016, of which 16% is exported in processed form. Exports of grain and leguminous crops increased by 14%, flour - by 9%. In addition, work is underway to preserve the quality and environmental friendliness of products, which has allowed the creation of brands of natural foods. Today, there are about 80 food-exporting companies with regional brands in the region [4].

It is worth noting that over the past 5 years, the volume of gross agricultural output increased by 129.8%, which is 58.3% of the volume of agricultural production in the Almaty region and 9.5% of the agricultural production in the country as a whole [5].

	2012	2013	2014	2015	2016	2016/
						2012
The Republic of						
Kazakhstan	2393619,0	2949485,0	3143678,1	3307009,6	3684393,2	135,4
Akmola	161223,6	259184,7	268354,3	290893,2	348198,5	129,8
Aktobe	141873,1	151026,5	157258,0	165244,3	183965,3	135
Almaty	424842,4	482595,4	535445,5	551101,1	597308,3	160
Atyrau	47047,6	51292,0	56263,1	58765,5	61612,9	157,2
West Kazakhstan						
	89108,3	99095,6	103539,8	106544,4	131015,8	130
Zhambylskaya	131789,1	171821,5	218577,7	218726,5	237065,9	190,4
Karaganda	144582,8	171806,7	179350,9	197273,1	229348,2	157,8
Kostanay	175110,9	261057,1	266885,9	294608,2	319037,7	0,8
Kyzylorda	68464,0	72276,1	69595,8	79186,5	80633,3	122,9
Mangystau	8164,4	8331,8	9074,6	11734,3	12466,1	178,7
South Kazakhstan						
	321108,4	375478,3	419687,0	426894,4	480399,3	177,7
Pavlodar	89353,4	143813,2	134993,4	152407,9	171542,2	148,7
North Kazakhstan						
	272266,5	330696,5	350269,2	380814,2	411485,6	101,5
East Kazakhstan						
	313821,4	363302,6	366586,9	366973,1	415039,0	149,6
Astana	2784,3	3154,8	2870,9	2416,9	1032,9	0,3
Almaty city	2078,8	4552,3	4925,1	3426,1	4242,2	154,9

Table 1 - Gross output of agricultural products (million tenge)

As a result of 2017, the gross harvest of grain and leguminous crops amounted to 20,585.1 thousand tons. In 2012, this figure was 26960.5 thousand tons. Compared to 2012, the gross harvest of cereals and legumes fell by 1.3%. Consequently, the yield of 1 centner / ha is less in 2017 compared to 2011.

The index of physical volume of industrial production in the Republic in 2016 was less than in 2015 by 1.1%. In Akmola region, the industrial production index showed an increase and amounted to 104.3%. The highest index of physical volume of industrial production was recorded in the Karaganda region and is 105.1%

The volume index of gross output (services) of agriculture in 2016 in the Akmola region was 105.4%, which is 5.4% more than the corresponding period last year. The growth of gross output of products (services) of agriculture is observed in all regions, except Astana.

The main factors hindering the development of farms are:

- complexity, low efficiency and lack of state support for farming;
- low efficiency of established information and consulting centers, which do not have a significant impact on small business in agriculture;
  - underdevelopment of the agricultural consumer operation;
- social insecurity of workers, family members of farmers (the head and employees of KFH) who work at KFH. Their positions are not included in the All-Russian classifier of employees and working professions. This seriously complicates obtaining social guarantees for KFH workers and members of family farms;
- disparity of prices, unfair pricing of agricultural products, in particular, we are talking about grain and dairy products;
- high depreciation and low renewability of fixed assets, imperfection of the regulatory framework and tax legislation governing the activities of peasant farms;
  - insufficient social guarantees to farmers, their families and employees.

In the complex, all these problems adversely affect the development of entrepreneurial activity in the countryside and restrain the growth of farms, and in some countries, such problems in small businesses

lead to a reduction in the number of small business forms. Large farms at the same time are becoming more cost-effective.

In the competition between commodity producers for increasing the productivity of land and livestock, improving the quality of products and reducing the costs of their production, the question of the effectiveness and advantages of a particular form of management will be decided. Despite the changes in legal forms and the development of individual entrepreneurship in the countryside, the situation in the agro-industrial complex is developing at the proper level. However, there are new strategies for the development of this region to the indicators that we need to strive for. Every year the number of agricultural enterprises increases, as well as peasant (farmer) farms and households owned by the rural population. In the context of the development of integration processes, it has been proved that the structures that unite in their composition all the links - from the production of agricultural products to their sale to consumers, are more efficient and adapted to the conditions of a market economy.

Enterprises must continuously monitor their competitiveness management strategy in a promising, operational, and current mode. Increasing the competitive potential of economic entities of the agroindustrial complex should be based on competent management of resources and a strategic vector of development of an economic entity. The presence of a strategic planning system provides the company with sustainable competitive advantages, which, in turn, is characterized by the importance and long-term nature of projects [6].

There is a large number of theoretical approaches to assessing the competitiveness of an enterprise. In this study, this assessment is based on the use of competitive potential as one of the important conceptual categories of the emerging concept of competitiveness.

The financial sustainability of the enterprise is the basis for its stable development and to a greater extent reflects the willingness to produce high-quality goods and be a serious competitor in the market [8].

For the purpose of determining the economic potential as one of the most crucial and important, we consider it appropriate to use the following indicators applicable in the theory and practice of analyzing the financial condition of an organization:

- 1. The coefficient of profitability is an indicator that reflects the real level of income of the company in relation to the advanced funds and their elements, as well as to the total volume of current expenses.
- 2. The current liquidity ratio is defined as the ratio of current assets to the most urgent and short-term liabilities.
  - 3. The asset turnover ratio is the ratio of sales revenue to the average annual value of assets.
  - 4. Sales profitability is the ratio of sales profit to sales revenue.

Production is the key activity of all organizations, and well-established work in this direction is a strong basis by which an enterprise can be considered competitive. Proper construction of the workflow, the ability to effectively manage resources are very important components of the production process. To determine the production potential of the enterprise, we use five criteria, sufficiently reflecting the production component in the method of calculating the competitive potential:

- 1. Equipment with equipment that provides flexibility of production processes.
- 2. Availability of a quality management system this indicator is proposed to assess the quality of management of all processes.
- 3. The loss factor of raw materials and materials during storage and in production is the ratio of losses of raw materials and materials to the total value of raw materials and materials.
- 4. Specialized personnel of the enterprise is a reflection of the industrial success and intellectual assets of the organization [9].

The agro-industrial complex is an industry with a high share of human factors and potential in the output of the final product, therefore, in determining the organization's human resources, the following indicators will be useful:

- 1. The index of labor productivity is the ratio of labor productivity in the enterprise to the maximum achieved in the industry.
- 2. The staffing ratio is the ratio of the staff number to the average number of the company's employees.
- 3. The employee turnover rate is the result of the ratio of the number of laid-off employees to the average list number of employees of the enterprise.

In order for a product to be in demand by consumers, it must meet the most important conditions: price, quality and demand of the goods in the markets. Ultimately, at the final stages of implementing the mechanism for developing the region's export potential based on economic restructuring in previous periods, a radical modernization of the material and technical base of the national economy, and the end of the economic transformation process, the integration of the agro-industrial complex into the system of foreign economic relations is completed. On the conditions of economic incentives for exports, the share of finished products of high processing in its total volume should increase. Growth in GDP and export growth is expected, and the economic growth will take place. The commodity structure of exports should undergo changes in the direction of increasing the share of finished agricultural products.

The active involvement of the territory in foreign economic relations requires the prompt resolution of the following issues:

- Conducting research on the integrated study of export opportunities and import needs of the region;
- formation of a single coordinating body for stimulating foreign economic activity of enterprises in the region and the whole complex of organizational institutions necessary for the effective development of foreign economic relations at the territory level;
- coordination at the local level of efforts aimed at organizing a system of training and retraining of specialists of foreign economic profile with the maximum possible use of the scientific and pedagogical potential of the region and the accumulated experience of practical work [12].

Taking into account the tasks facing the department to identify promising areas for increasing exports by enterprises, in our opinion, it would be expedient to create five basic groups: planning, analyzing the effectiveness and improving the foreign economic activity of the region; development of export production; import supplies; cross-border trade; department of foreign investments, joint ventures and direct relations with foreign countries.

Cooperation between the state and business in order to coordinate and support the business activities of exporters in a market economy entails the formation of public associations (associations, unions) [3]. The practice of management already today indicates the need to identify new channels for domestic enterprises to enter foreign markets. For this, it is possible to form regional associations of enterprises of various sectors of the national economy, on a voluntary basis uniting their resources to establish competitiveness of export production, consolidating the region's position on the world market [8]. This will have a beneficial effect on reducing the overhead costs of member enterprises.

In developing an export strategy at this stage, we propose as the next step towards the formation of a modern export base for the region to establish a large-scale export of finished products and implement it to world markets. The success of this proposal and the economic benefits of the parties depends on which country the local recipient will represent. It is necessary to follow the strengthening of relations with the countries maintaining trade agreements, to increase the export potential of enterprises are as follows:

- definition of a circle of enterprises, where at a minimal cost it is possible to achieve a noticeable increase in exports;
- maintaining active interregional trade and economic relations, where emphasis should be placed on progressive agricultural products.
- -implementation of a set of measures to stimulate small business carried out under the state support program. Given the nature of economic specialization, emphasis should be placed on agricultural enterprises that are fully equipped in the process of processing raw materials, storing finished products and marketing them to the domestic and foreign markets;
- improving the competitiveness of traditional products for the region through the introduction of new technologies that increase the complexity and depth of processing of raw materials, the development and introduction of new generations of highly efficient equipment, ensuring a significant increase in the production of final products;
  - enhancing the use of export opportunities of domestic producers and the creation of a national brand.

#### CONCLUSION

Particular attention should be paid to the standard measures for the protection of the domestic market with a mandatory linkage with the chosen directions of the structural policy. In our opinion, this is especially relevant in connection with the strengthening of the potential in agricultural economies. The

main instruments for regulating the foreign economic activity of the territories imply not only the application of tariff measures, but also the expansion of a set of non-tariff measures through the use of clear and strict requirements for the quality and technical level of the goods supplied their sanitary condition.

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#### РАЗВИТИЕ МАЛОГО И СРЕДНЕГО ПРЕДПРИНИМАТЕЛЬСТВА В АГРАРНОЙ СФЕРЕ КАЗАХСТАНА

Аннотация. Эффективная деятельность агропромышленного комплекса страны тесно взаимосвязана с пропорциональным развитием входящих в него отраслей. Особое место в этой системе занимает экспорт, сфера производства, переработки и сбыта сельскохозяйственной продукции, уровень развития и функционирования которых определяет жизнеобеспеченность населения, достижение сбалансированности в аграрном секторе республики. Процесс интеграции в мировой рынок поставил в тупик продовольственную безопасность, что повлекло не просто создание развивающегося сельскохозяйственного сектора в экономике, а прежде всего создание эффективного перерабатывающий комплекс. Как отметил Президент Республики Казахстан Н.А. Назарбаев «республика, имеющая высокий потенциал развития сельского хозяйства, может находиться в числе мировых лидеров по производству и переработке сельскохозяйственной продукции.

Развитие казахстанского экспорта приобретает особое значение, выступающее в качестве важного элемента долгосрочной стратегии государства. Именно экспортный потенциал экономики способствует повышению доходов населения, быстрому развитию рыночной инфраструктуры, позволяет выявить сильные и слабые стороны национальной промышленности.

**Ключевые слова:** предпринимательство, сельское хозяйство, экспорт, потенциал, конкуренция, экономический рост, концепция, партнерство, бизнес, устойчивое развитие, животноводство, растениеводство.

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#### ҚАЗАҚСТАННЫҢ АГРАРЛЫҚ САЛАСЫНДАҒЫ ШАҒЫН ЖӘНЕ ОРТА КӘСІПКЕРЛІКТІ ДАМЫТУ

Аннотация. Елдің агроөнеркәсіптік кешенінің тиімді қызметі оның құрылтай салаларының пропорционалды дамуымен тығыз байланысты. Бұл жүйеде экспорт, ауыл шаруашылығы өнімдерін өндіру, өңдеу және маркетинг саласы, даму деңгейі мен жұмыс істеуі халықтың өмір сүру деңгейін айқындайды, республиканың аграрлық секторында теңгерімге қол жеткізеді. Әлемдік нарыққа интеграциялау үрдісі азықтүлік қауіпсіздігін таң қалдырды, бұл экономиканың дамып келе жатқан аграрлық секторын құруды ғана емес, ең алдымен тиімді өңдеу кешенін құруды тудырды. Қазақстан Республикасының Президенті Н.Ә. Назарбаев «Ауыл шаруашылығын дамытудың жоғары әлеуеті бар республика ауылшаруашылық өнімдерін өндіру және өңдеу саласындағы әлемдік көшбасшылардың бірі бола алады. Қазақстандық экспортты дамыту еліміздің ұзақ мерзімді стратегиясының маңызды элементі болып табылатын ерекше маңызды болып табылады. Бұл - халықтың жоғары кірістеріне, нарықтық инфрақұрылымның қарқынды дамуына, ұлттық индустрияның күшті және әлсіз жақтарын анықтауға мүмкіндік беретін экономиканың экспорттық әлеуеті.

**Түйін сөздер:** кәсіпкерлік, ауыл шаруашылығы, экспорт, потенциал, бәсекелестік, экономикалық өсу, концепция, серіктестік, бизнес, тұрақты даму, мал шаруашылығы, өсімдік шаруашылығы

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# CURRENT PROBLEMS OF THE AUDIT OF CONSOLIDATED FINANCIAL REPORTING

**Abstract.** Modernization of the economy of Kazakhstan, which is based on competitiveness, dictates further improvement of accounting methods and techniques. That will allow organizations to more realistically see their financial condition and show greater autonomy in solving problems and drawing up IFRS statements. As practice has shown, the transition to IFRS is a complex, ambiguous process. Under IFRS, there are very high requirements for ensuring transparency of information.

Despite the fact that many countries use international standards as the basis for national accounting legislation, in each of them the application of IFRS has its own specifics due to differences in terminology, scope, classification and deadlines for their entry into force. However, there are a number of problems, for example, based on the consolidated financial statements, it is impossible to determine the contribution of an individual subsidiary to the financial position and financial performance of the group. The authors presented not only the problems of organizing an audit of the consolidated financial statements, but also suggested ways to solve them.

**Keywords:** consolidated financial statements, parent company, subsidiary, non-controlling share of shareholders, goodwill.

#### **INTRODUCTION**

Given the complexity of the economic relations of the parent and subsidiary organizations, the preparation of consolidated financial statements is a complex process that requires prior training, the availability of qualified personnel. Actual problems of drawing up consolidated financial statements are primarily related to problems of accounting support of consolidation processes and the results of activities of groups of interrelated organizations. When compiling consolidated financial statements, an organization should use a uniform accounting policy for similar transactions and events or make appropriate adjustments to achieve compliance. Many works of domestic and foreign experts are devoted to the problems of consolidating financial statements, but there is no uniform methodology for maintaining consolidated accounting and reporting. In this regard, a study of the content, order of preparation and use of consolidated financial statements in financial management is relevant. The article provides a comparative analysis of IFRS (IAS) 27 and IFRS 10 on the criterion "definition of control", accounting requirements and procedures for consolidating financial statements. Also considered a practical example for the preparation of a consolidated balance sheet.

#### MAIN PART

The introduction of IFRS into the national accounting system will enable companies to increase the confidence of foreign investors by increasing the transparency and reliability of financial reports and their comparability with those used in Western companies.

In the monograph Isakova S.A. investigates problems that are highly relevant against the background of the need for a sharp increase in the efficiency of the economy and its modernization; the problems of accounting and auditing in the conditions of economic integration are revealed; modern methods of forming financial statements, normative legal problems of conducting, regulating accounting, drawing up financial statements and auditing in organizations are proposed.

The material of the monograph will allow its readers to form an idea of the current problems of accounting and auditing and ways to solve them, as well as to find approaches to optimizing accounting

and auditing, organizing information support for the decision-making process in the organization of any activity.

In Germany, in contrast to the UK, the preparation of consolidated financial statements until the 30s of the twentieth century. not practiced at all. Only in 1965 was consolidation officially declared a mandatory accounting procedure, although with quite significant differences from the Anglo-American practice, eliminated in 1985 [7.

Despite the fact that in the accounting process in Germany in recent years there have been certain changes, the organization of accounting and reporting, in general, has not suffered, and remains national. A feature of the accounting cycle can be called the fact that in Germany two types of reporting are used: commercial and tax. The accounting process is governed by the Commercial Code.

Companies submit consolidated financial statements (of both national and foreign subsidiaries), if any:

- more than 20% of shares of other companies and actual control over them;
- the presence of the majority of voting shares;
- dominant position due to an agreement or the right to appoint or recall members of the board of directors [7].

However, under the pretext that adherence to the principles of "true and unbiased presentation", or materiality, or because the existing shares are intended solely for resale, German companies have the right to exclude individual affiliates from consolidation.

Here it is necessary to fulfill the following requirements: the constancy of the consolidation methods used, the significance of the data included in the reporting.

In Germany, the so-called step-wise concept of the composition of consolidated enterprises is adopted:

- The first stage consists of fully consolidated enterprises, which includes the main and all subsidiaries;
- the second stage is formed by joint ventures that are subject to share consolidation, while they can also be consolidated only in part of their own capital (at the option of the concern's management);
- associated (dependent) enterprises constitute the third step of consolidated enterprises, they are subject to consolidation only in terms of their own capital;
- The fourth (external) level is formed by enterprises that, as part of the group, although they have a share of capital, but have only a minor impact on the activities of the first. These shares should be estimated at initial costs [5].

There are basic methods for converting currency balances of subsidiaries abroad:

conversion at the exchange rate at the reporting date (for any assets and liabilities);

translation at the rate as of the date of the actual acquisition of the property (for assets other than cash and any liabilities).

The whole process of compiling consolidated statements can not be limited only to direct consolidation, and like most accounting procedures it can also include powerful preparatory work, which is necessary to obtain common (typical) input data (consolidated statements) [8].

The compilation and presentation of the group's balance sheet is carried out without taking into account dividends from the profit of the reporting year, the payment of which will affect the balance of the next year. Dividends reflected in the consolidated statements are paid by the main company and, accordingly, in the same amount are reflected in its statements [8].

Since dividend payments are reflected in the balance sheet of the following year, the preparation and presentation of the balance sheet in the consolidated financial statements is carried out without taking into account these dividends in the profit of the reporting year.

In France, the accounting cycle is very strictly regulated by the state. Despite all the changes that are happening recently in the accounting process of the country, the accounting methodology remains national, as in Germany.

Since 1982, in France, a common chart of accounts has been used, which conforms to the requirements of the 4th European Union directive. Consolidated financial statements are governed by international standards and are compiled by large companies, while their share in the capital of another company must be at least 40%.

In the financial statements of this country include:

- balance:
- income statement:
- report on the use of profits; statement of changes in equity;
- manager's report and explanations.

In 1986, the leadership of France adopted a decree on the preparation of consolidated financial reports. It stated that all enterprises that are under the control of the parent company are consolidated. Namely: the parent company directly or indirectly has the majority of votes; 40% of voting shares; actually runs another company by entering into an agreement with it.

Companies that are engaged in activities that differ from those of groups of companies may be excluded from consolidation. In this case, they are consolidated using the capital method.

Kazakhstan corporate structures have been compiling consolidated financial statements for more than ten years. The relationship between the subsidiary and the parent organization is determined based on the provisions of civil law, IFRS. From the point of view of the civil legislation of the Republic of Kazakhstan, the parent organization and its subsidiaries are independent legal entities. A subsidiary is not responsible for the debts of its main organization. In turn, the parent organization can influence the activities of the subsidiary by participating in its management, without interfering in specific transactions. For transactions that the subsidiary has concluded independently, the parent organization is not liable [1]. In accordance with the standards for consolidating financial statements, the main definitions are designated [3]: - consolidated financial statements are financial statements of a group in which assets, liabilities, capital, income, expenses and cash flows of the parent organization and all its subsidiaries are presented as elements of a single entity, economic entity; - the group is the parent organization and all its subsidiaries; - parent organization - an organization that controls one or more of the other organizations; - A subsidiary is an organization under the control of another organization; the main feature of a subsidiary is control; - the share of non-controlling shareholders (minority interest) is the part of the capital of a subsidiary organization that the parent does not own directly or indirectly.

The accounting requirements for consolidating financial statements are as follows:

- 1. Consolidation begins with the acquisition by the investor of control over the investee and ceases when the investor loses control of the investee.
- 2. When preparing consolidated financial statements, an organization should use a uniform accounting policy for similar transactions and events or make appropriate adjustments to achieve compliance. Thus, the consolidated reporting gives the most complete picture of the financial position and results of the parent organization and all organizations controlled by it, considering them as a single economic entity. However, at the same time, the consolidated financial statements, as well as other forms of financial statements, have inherent shortcomings. Based on the consolidated financial statements, it is impossible to determine the contribution of an individual subsidiary to the financial position and financial performance of the group. Preparation of consolidated financial statements is a complex process that requires preliminary preparation, the availability of qualified personnel, the development and use of software for consolidating the financial statements of the group, taking into account the needs of the business. In this regard, the author considers it expedient to carry out the development by the competent authority of a unified methodology for the implementation of the consolidation process. Fulfillment of these conditions will ensure high quality and reliable presentation of the consolidated financial statements.

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#### АКТУАЛЬНЫЕ ПРОБЛЕМЫ ОРГАНИЗАЦИИ АУДИТА КОНСОЛИДИРОВАННОЙ ФИНАНСОВОЙ ОТЧЕТНОСТИ

Аннотация. Модернизация экономики Казахстана, в основу чего легла конкурентоспособность, диктует дальнейшее совершенствование методов и приемов бухгалтерского учета. Что позволит организациям более реально видеть финансовое состояние и проявлять большую самостоятельность в решении проблем и составлении по отчетности МСФО. Как показала практика переход на МСФО - это сложный, неоднозначный процесс. К отчетности по МСФО предъявляются весьма высокие требования по обеспечению прозрачности информации.

Несмотря на то, что многие страны используют международные стандарты в качестве основы для национального законодательства по бухгалтерскому учету, в каждой из них применение МСФО имеет свою специфику из-за различий в терминологии, объеме, классификации и сроках принятия, вступления их в силу. Однако, существует и ряд проблем, так например на основании консолидированной финансовой отчетности невозможно определить вклад отдельной дочерней организации в финансовое положение и финансовые показатели деятельности группы. Авторами представлены не только проблемы организации аудита консолидированной финансовой отчетности, но и предложены пути их решения.

Ключевые слова: консолидированная финансовая отчетность, материнская организация, дочерняя

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#### ШОҒЫРЛАНДЫРЫЛҒАН ҚАРЖЫЛЫҚ ЕСЕПТІЛІКТІҢ АУДИТІНДІҢ АҒЫМДАҒЫ МӘСЕЛЕЛЕРІ

Аннотация. Бәсекеге қабілеттілікке негізделген Қазақстанның экономикасын жаңғырту бухгалтерлік әдістер мен әдістерді одан әрі жетілдіруді талап етеді. Бұл ұйымдарға қаржылық жағдайын шынайы түрде көруге мүмкіндік береді және проблемаларды шешуде және IFRS бойынша есептерді жасауда үлкен автономияны көрсетеді. Тәжірибе көрсеткендей, ХҚЕС-қа өту күрделі, біркелкі емес процесс болып табылады. ҚЕХС бойынша ақпараттың ашықтығын қамтамасыз ету үшін өте жоғары талаптар бар.

Көптеген елдердің халықаралық стандарттарды ұлттық бухгалтерлік заңнама негізі ретінде қолдануына қарамастан, олардың әрқайсысында терминологияның, ауқымының, жіктелуінің және олардың күшіне ену мерзімдерінің айырмашылығына байланысты ҚЕХС-ты қолдану ерекшеліктері бар. Дегенмен, мысалы, шоғырландырылған қаржылық есептілікке негізделген бірқатар проблемалар бар, жеке еншілес ұйымның қаржылық жағдайға және топтың қаржы көрсеткіштеріне қосқан үлесін анықтау мүмкін емес. Авторлар шоғырландырылған қаржылық есептіліктің аудитін ұйымдастыру мәселелерін ғана емес, оларды шешу жолдарын да ұсынды.

Түйін сөздер: шоғырландырылған қаржылық есептілік, бас ұйым, еншілес ұйым

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# Ensuring food security in the context of the development of integration processes

**Abstract.** Food security is one of the main objectives of the agrarian and economic policy of the state. In its general form, it forms the vector of movement of any national food system to an ideal state. Analysis of indicators of the state of the food market and the provision of the population with food, the selection of the most optimal of them for making effective management decisions is an important task in developing a strategy for ensuring the country's food security. Therefore, the purpose of this article is to assess food security in the Republic of Kazakhstan. The article analyses the statistical data of the Republic of Kazakhstan on ensuring food security in the country. The food security of the Republic of Kazakhstan is one of the main conditions for ensuring the national security of the country and the formation of a strong state, its successful long-term development and economic growth. The need for food security to ensure national security at the legislative level is enshrined in the Law of the Republic of Kazakhstan of January 6, 2012 "On the National Security of the Republic of Kazakhstan". In the Message of the President of the Republic of Kazakhstan - Leader of the Nation Nursultan Nazarbayev to the People of Kazakhstan "Strategy" Kazakhstan-2050 "- a new political course of the established state," the threat of global food security has identified among the ten global challenges of the XXI century for the Republic of Kazakhstan.

**Keywords:** food security, economic policy, government, competitiveness, agro-industrial complex.

The issue of food security is of particular relevance in the context of integration processes in the Eurasian Economic Union and the World Trade Organization, as well as by virtue of the mutual economic sanctions of the Russian Federation and the main Western countries.

In Kazakhstan, due to the large extent of the territory, the range of climatic conditions is large, which, in turn, contributes to the diversity of agricultural production in various regions of the republic:

- conditions of the northern region are favorable for the production of grain, flour;
- central region livestock;
- southern regions growing vegetables, fruits, rice.

The demand for foodstuffs is constantly increasing all over the world, including countries geographically located near Kazakhstan (Republic of the CIS, China), the tendency to decrease the supply will only develop in the future [1].

The logistics infrastructure in Kazakhstan is rapidly growing and developing, giving a huge export potential for a uniquely located Kazakhstan between the main food consumption markets - China, Russia, and Europe.

Food production is a strategically important industry that ensures the food security of the country. The sector is closely associated with agricultural production as a supplier of raw materials.

N.A. Nazarbayev, President of the Republic of Kazakhstan, stressed: "As today's reality shows, the situation on world markets can change dramatically, but there are markets for which demand is steadily growing. This is, above all, the food industry. I talk about it all the time. Therefore, it is necessary to expand the scope of state support measures for the project food industry. We have great opportunities. This is our niche that we don't use properly."

In accordance with the State Program "Digital Kazakhstan" approved by the Government of the Republic of Kazakhstan No. 827, the new digital revolution is changing the current modes of production,

the supply chain and the value chain. Industry 4.0, one of the drivers of the digital transformation of the industry, is a concept of organizing production, where additional value is provided through the integration of physical objects, processes and digital technologies, in which physical processes are monitored in real time, decentralized decisions are made, and interaction also occurs cars between themselves and people. The end-to-end digitalization of all physical assets and their integration create the basis for the transition from mass production to mass individualization, increases production flexibility, shortens the time to master new products, which allows implementing new business models and applying an individualized approach to working with clients. All this greatly increases the efficiency and competitiveness of industrial enterprises [2].

The experience of developed countries, such as the USA, Canada, Australia, shows that digital technologies are fundamentally changing an industry such as agriculture. Modern geographic information systems and big data obtained from various sources, contribute to obtaining high yields without depleting the soil, and with rational use of resources. Industrial Internet of Things allows you to create automated farms with remote control [3].

A well-developed logistics system and electronic commerce make it possible to reduce the cost of delivering agricultural products to the final consumer, even for small farms, while preserving its quality. This is an important factor in the preservation and development of the production of environmentally friendly products both in terms of preserving the health of the nation, and in terms of realizing the export potential.

There is a great potential for transformation in agriculture with the help of digital technologies, and in the conditions of the development of integration processes, agriculture is able to reach a qualitatively new level of development and become a driver of the country's economy. The main directions of the implemented measures of the program of digitization of agriculture are increasing yields and productivity, preserving the food security of the country.

As a methodological base, a system-structural approach was used to study the functioning of the agrarian sector in terms of its impact on the country's food security.

Ensuring food security occupies an important place in the overall economic policy of the state and affects such important indicators as the standard of living and savings of the population [4].

According to the Committee on World Food Security, it is recognized that food security is considered achieved when all people have constant physical and economic access to a sufficient amount of safe and nutritious food to satisfy their nutritional needs and taste preferences for introducing an active and healthy lifestyle.

Biryukov A.I. believes that food security as an economic category determines the sustainable development of the economic system, the target parameters of its operation and includes a subsystem of economic categories that characterize food independence, the degree of food supply in the regions, the economic and physical availability of food for the population, quality and ecological purity of food [5].

According to Eszhanova Zh.Zh., food security is the degree of provision of the population of the country with ecologically clean and healthy food of domestic production at scientifically-based standards and affordable prices [6].

The problem of food security is one of the fundamental strategic problems that must be solved to ensure stability in the state. Despite the fact that the approach to its solution in different states has its own national peculiarities, there is a general provision on supporting and ensuring the necessary level of food supply of the population in amounts that guarantee sustainable economic development and socio-political stability in society.

It is important to understand that the problem of food security should be considered from the point of view of system analysis. As part of solving this problem, the following important elements of it can be identified:

- 1) food independence, which is expressed in the ability of the state to produce a sufficient amount of food for the population;
- 2) the economic affordability of food products for the population, which is closely related to the reduction of poverty, as the change in food prices affects the purchasing power of the population, and the growth of living standards determines the availability of food products.

Solving the problems of food security and improving the competitiveness of the country's agroindustrial complex requires the participation of the state in this process, which regulates the conditions of activity and the system of relations between producers of agricultural products and foodstuffs, which will increase the competitiveness of domestic goods (products, works and services) on the domestic and global markets. This is especially relevant due to the high share of imports and due to the fact that the Republic of Kazakhstan joined the WTO.

Agriculture is one of the key sectors of the economy of Kazakhstan. The level of development of the agricultural sector has always acted and continues to be a determining factor in the economic and sociopolitical stability of Kazakhstan's society. Being one of the priority directions of development of the republic's economy, agriculture has a huge potential and large reserves, the diverse climatic conditions of Kazakhstan make it possible to grow almost all the cultures of the temperate heat belt and develop animal husbandry.

The state agrarian policy should form a mechanism that is an interrelated set of organizational, economic, social, legal and political conditions that provide favorable opportunities for the sustainable development of competitive reproduction in the agro-industrial sector in order to fully meet the needs of the population in food and other goods produced from agricultural raw materials in sufficient quantities and at affordable prices.

According to the Statistics Committee of the MNE RK, the gross domestic product in Kazakhstan increased in 2017, according to preliminary data, by 4%, which is significantly higher than in 2015 and 2016, when growth reached 1.2% and 1.1% respectively. In addition, we can talk about the revival in the economy. GDP growth was largely due to the increase in production in the mining industry - by 9.3%. In particular, due to the improvement of foreign economic conditions on the commodity markets.

Also, growth in GDP was supported by an increase in manufacturing in the manufacturing industry by 5.1%, transport - by 4.8%, wholesale and retail trade - by 3.2%, in real estate operations - growth by 2.1% (Table 1).

Indicator GDP Agriculture -11 -14 

Table 1 - Analysis of GDP and agriculture of the Republic of Kazakhstan, in % to the last year

Note: compiled by authors according to [7]

Gross agricultural output in 2017 increased by 2.9%. Growth was observed both in crop production (by 2.2%) and in animal husbandry (by 3.9%) (Table 2).

Indicator Agriculture -11 -14 -22 Plant growing -20 -5 

Table 2 - Analysis of the agricultural sectors of the Republic of Kazakhstan

Note: compiled by authors compiled by authors according to [7]

The volume of investment in fixed assets in the economy in 2017 increased by 5.5% (5.1% in 2016). As the National Bank of Kazakhstan notes, against the background of growing positive expectations from the business and stabilization of inflation processes in the economy, investment activity from the beginning of 2017 has marked by a positive trend. At the same time, about 55% of investments in fixed assets were directed to the industrial sector, primarily in the extraction of crude oil and natural gas, which occurred against the background of rising world oil prices.

Investment in agriculture, forestry and fisheries in 2017 increased compared with the previous year by a significant 29.3% and amounted to 352.5 billion tenge. According to the Statistics Committee of the MNE RK, the main grain-producing regions - North Kazakhstan, Kostanay and Akmola regions - sent 145.6 billion tenge to the industry, which accounted for the majority of investments in agriculture, forestry

and fisheries (41.3%). In 2016, investment growth was also significant, at 46.7%. This increase in investment in the industry is to a large extent due to the implementation of state programs to support agriculture (Table 3).

Indicator	2010	2011	2012	2013	2014	2015	2016	2017
Agriculture	4	25	15	3	19	-9	48	30
Investments in fixed	-4	4	5	9	5	4	45	30
capital								

Table 3 - Investments in fixed capital of the Republic of Kazakhstan

Note: compiled by authors according to Electronic resource [8]

In this regard, in order to improve the investment climate in August 2017, the Ministry of Investment and Development of the Republic of Kazakhstan approved the National Investment Strategy for 2018-2022. In accordance with the instructions of the President of the Republic of Kazakhstan, the strategy focused on the need to attract foreign investment in the non-primary sectors of the economy of Kazakhstan, as well as increase their export potential.

In accordance with the Strategy, by 2022 it is planned to increase the volume of investments in the fixed capital of the non-resource sector of the economy (excluding the state budget) by 1.46 times, and the volume of foreign investments in the fixed capital of the non-resource sector of the economy will increase 1.5 times.

To analyze the impact of investments in fixed capital in agriculture on the volume of gross agricultural output, we will build a model with a distributed lag (assuming a lag value of three):

$$y_t = \alpha + \beta_0 x_t + \beta_1 x_{t-1} + \beta_2 x_{t-2} + \beta_3 x_{t-3}$$

Using the Almon method, we obtain the following model with a distributed lag:

$$y_t = 1374678,93 + 1,10x_t - 1,36x_{t-1} + 2,59x_{t-2} + 12,94x_{t-3}$$

Analysis of the model shows that an increase in the volume of investment in the fixed capital of agriculture by 1 million tenge in the current period will lead to an average increase in the volume of gross agricultural output by 1.1 million tenge in the same period.

With an increase in investment in the current period by 1 million tenge, the gross output will decrease by 1.36-1.1 = 0.26 million tenge in a year.

However, in two years, today's increase in investment will contribute to an increase in the gross output by 1.1-1.36 + 2.59 = 2.33 million tenge, and in three years by 1.1-1.36 + 2.59 + 12.94 = 15.27 million tenge.

Calculate the contribution made by each lag:

$$w_0 = \frac{\beta_0}{\beta} = \frac{1,1}{15,27} = 0,072 w_2 = \frac{\beta_2}{\beta} = \frac{2,59}{15,27} = 0,170$$

$$w_1 = \frac{\beta_1}{\beta} = \frac{-1,36}{15,27} = -0,089 w_3 = \frac{\beta_3}{\beta} = \frac{12,94}{15,27} = 0,847$$

The results show that 84.7% of the total growth in gross agricultural output, caused by the growth in investment in fixed assets in this industry, occurs after three years; in two years this growth is 17%, and in the current period it is only 7.2%. At the same time, an increase in the volume of investments will contribute to a decrease in the volume of gross output in a year by 8.9%.

The average lag of the model will be equal to:

$$\bar{l} = 0.0,072 - 1.0,089 + 2.0,170 + 3.0,847 = 2,79$$
 (years).

Thus, the lag of 2.79 years indicates that most of the effect of the increase in the volume of investments in fixed assets in agriculture occurs after two and a half years.

In the framework of the State Program "Digital Kazakhstan" for 2017-2020. The goal is to introduce digital technologies to control food safety products entering Kazakhstan from third countries, as well as being exported from the country to other EAEU states.

Table 4 - Dynamics of import and export of products of animal and vegetable origin, finished food products for the period 2012-

			2017				
Indicator	Unit	2012	2013	2014	2015	2016	2017
Import	in mln dollars	4257,8	4619,4	4335,9	3393,1	3081,3	1646,2
Export	in mln dollars	2984,6	2733,4	2637,7	2136,2	2150,0	1667,9
Share of import	%	9,2	9,5	10,5	11,1	12,1	10,7
Share of export	%	3,5	3,2	3,3	4,6	5,9	4,3

Note: compiled by authors

According to the data presented in Table 4, there is still a trend towards a decrease in the volume of imports of basic foodstuffs in the Republic of Kazakhstan, in favor of increasing domestic production. The volume of imports in monetary terms shows a positive downward trend - from 4,619 million US dollars in 2013 to 3,081 million US dollars in 2016.

During 2012-2016 The net volume of food exports in monetary terms was stable - at around \$ 2 million, and the share of exports tends to increase (5.9% in 2016). At the end of 2016, there was almost doubled growth in exports in tenge equivalent - up to 1,054 billion tenge.

The reduction in the volume of imports in monetary terms, primarily due to the rise in prices of imported products against the background of the general strengthening of the US currency, which over the past three years has risen significantly in relation to the tenge. This factor had a decisive influence on the gradual reorientation of domestic consumer demand in favor of products with the lowest added value, including from the CIS, as well as domestic production.

In general, starting from 2016, the total volume of food industry production amounted to 1,808.6 billion tenge (+ 30%). According to preliminary data, for 11 months. In 2017, the volume of food industry production amounted to 1,712 billion tenge (Table 5).

Table 5 - The volume of production of food industry branches of the Republic of Kazakhstan for the period 2012-2017

Indicator	Unit	2012	2013	2014	2015	2016	2017
Import	in mln dollars	4257,8	4619,4	4335,9	3393,1	3081,3	1646,2

Note: compiled by authors according to Data analysis of the RFCA [9]

According to the review on current and problematic issues

implementation of the coordinated (coordinated) agribusiness policy of the EAEU Member States, Imports of agricultural products and food in value terms in 2016 decreased to all Member States relative to 2015 (Table 6).

In 2016, the main imports were fruits, meat and offal, alcoholic and non-alcoholic beverages, vegetables, oilseeds and fruits, fish and crustaceans, various foods, as well as coffee and tea. The share of these goods accounted for 64% of total imports of food products and agricultural raw materials in terms of value.

In this regard, it is urgent to reduce dependence on imports of food products to the Union market due to the realization of the potential of mutual trade of member states [11].

Regarding Kazakhstan, we would like to note that the low level of labor productivity in agriculture of the republic, a high level of wear of agricultural equipment (up to 70%), imperfection of the technologies used, small-scale production (75% of gross output falls on households and peasant farms) do not allow agricultural production on an intensive basis, to ensure the most complete use of material, labor and other resources, to comply with environmental requirements. These factors reduce the competitiveness of the

domestic agricultural sector, which in the conditions of the WTO and the EAEU can lead to the dominance of imports of foreign products, the displacement of local producers from the markets and the risks of transforming the country's agriculture into natural state. Today, agriculture employs 25% of the working population, which is of great importance for the country.

Table 6- Foreign trade in agricultural products and food of the EAEU Member States, in mln dollars

Countries	Years				
Countries	2012	2013	2014	2015	2016
Turnover			<u>.</u>		
EAEU	61 967,8	62 471, 0	61 470,6	45 283,6	43 432,7
Armenia	-	-	792,4	646,7	676,9
Belarus	3 462,0	3 847,1	4 176,0	3 973,0	3 404,9
Kazakhstan	5 148,6	4 907,2	4 554,3	3 594,1	3 398,7
Kyrgyzstan	-	-	433,5	325,0	237,0
Russia	53 357,2	53 716,6	51 514,3	36 744,9	35 715,2
Export			<u>.</u>		
EAEU	18 348,9	16 902,7	18 887,0	16 288,5	16 941,1
Armenia	-	-	178,1	221,2	262,9
Belarus	801,3	823,1	623,9	502,6	310,8
Kazakhstan	2 764,3	2 236,0	2 071,3	1 661,9	1 705,7
Kyrgyzstan	-	-	112,3	115,6	77,9
Russia	14 783,2	13 843,7	15 901,4	13 787,2	14 583,9
Import					
EAEU	43 619,0	45 568,3	42 583,6	28 995,1	26 491,6
Armenia	-	-	614,3	425,5	414,1
Belarus	2 660,7	3 024,1	3 552,1	3 470,3	3 094,1
Kazakhstan	2 384,0	2 671,3	2 483,0	1 932,2	1 693,0
Kyrgyzstan	-	-	321,2	209,4	159,1
Russia	38 574,0	39 872,9	35 612,9	22 957,6	21 131,3
Net					
EAEU	-25 270,1	-28 665,5	-23 696,6	-12 706,6	-9 550,5
Armenia	-	-	-436,1	-204,3	-151,2
Belarus	-1 859,3	-2 201,0	-2 928,2	-2 967,7	-2 783,4
Kazakhstan	380,0	-435,3	-411,7	-270,3	12,7
Kyrgyzstan	-	-	-209,0	-93,8	-81,2
Russia	-23 790,8	-26 029,2	-19 711,5	-9 170,4	-6 547,4

*Note*: compiled by authors [10]

The priority goal of the agricultural policy in Kazakhstan is to increase the efficiency of agricultural production and protect the interests of representatives of the agricultural market and consumers. Significant measures are being taken to raise the agrarian sector of the economy. In order to change the situation and increase the production of raw materials and food in the sectoral program "Agribusiness 2020", various measures are provided and tasks are identified, a comprehensive solution of which should contribute to the formation of conditions for the sustainable development of the agricultural sector.

It is obvious that sustainable development of the agro-industrial complex and ensuring food security can be achieved only on the basis of a new paradigm of scientific and technological development of the agricultural sector, based on new knowledge and an innovative economy.

Naturally, the development of integration relations will force to rethink some approaches to solving purely national problems of socio-economic development in the framework of the EAEU. In the context of integration, collective responsibility for solving a particular problem, including in the area of food security, is strengthened. Therefore, collective efforts should be aimed at solving the following tasks:

- ensuring, on the basis of mutually beneficial exchange, the necessary level of provision of basic foodstuffs at the expense of the internal potential of the agro-industrial production of the EAEU countries;
  - creation of food reserves for joint regulation of the situation on the Eurasian food market:
- joint investment in the development of the food sector and the development of an environmentally friendly food fund;

- joint investment in order to overcome the technical and technological lag and modernization of the agro-industrial complex;

- overcome through the creation of single funds of the existing differences in the level of state support for rural producers, etc. [12].

All the measures listed above should ultimately be aimed at improving the competitiveness of the food industry of the EAEU countries, carrying out effective exchange operations to foreign markets and, above all, within the framework of an integration group.

In order to further develop the agricultural industry in the country, it is planned to implement a number of activities aimed at automating the traceability of agricultural products with the inclusion of all authorized organizations involved in the process, which will allow quantitative and qualitative accounting and trace the entire life cycle of production and origin of agro-industrial products. The implementation of the traceability system will have a direct impact on attracting investment in the industry and expanding both the export product line and the geography of supplies of agricultural products and products of deep processing [13]. The introduction of full monitoring under the traceability system will also improve the quality standards of agricultural products, which multiplicatively affects the attractiveness and competitiveness of Kazakhstan products in foreign markets.

To implement "precision farming", a pilot project will be conducted in a number of farms using elements of "precision farming", including the use of meteorological stations. According to the results of the pilot project, the economic efficiency of the widespread use of "precision farming" will be determined [14].

The development and introduction of elements of precision farming in all regions of the Republic of Kazakhstan are assumed to simplify activities, increase yields and productivity in the sector. The manufacturer will be able to make a decision based on the array of data received in real time, on the state of crops, moisture, nutrients, nitrogen, potassium, phosphorus, pests, and probability of precipitation [15]. At the same time, the introduction of elements of precision farming will be carried out in conjunction with the acquisition of new agricultural equipment, the implementation of agricultural technologies and as far as farmers are ready.

It also includes measures to automate the monitoring of natural resources, including the circulation of fish and fish products, protection, reproduction and use of wildlife, monitoring of specially protected natural areas, accounting in the use and protection of water resources, water use and water management supervision [16].

This event will reduce, and subsequently eradicate poaching and the shadow turnover of fish products, illegal logging of forest resources, the collection and timely processing of information about the activities of organizations and enterprises engaged in entrepreneurial activities related to natural resources. Monitoring of water resources is particularly important due to the special importance of water resources and water supply for all sectors of the economy of Kazakhstan.

Along with the creation of new and the development of existing state information systems in the agro-industrial complex of Kazakhstan, the condition for the creation and implementation of automated systems in agricultural entities themselves is essential and important [17]. The experience of all the leading agrarian countries of the world is an indisputable example of such an approach. A lot of IT solutions for all the numerous processes in agricultural production and processing directly and mainly affect the efficiency of doing business, increasing productivity, profitability and ultimately the competitiveness of agro-enterprises, from small farms to large agroformations.

The problem of food security is the main priority of the strategy of economic policy of any state, the effectiveness of the solution of which depends not only social, but political stability in society. Food security, as an integral part of national security, is conditioned by the availability of state resources, and is intended to prevent imbalances in the production market.

Thus, in Kazakhstan, the problem of food security requires finding further ways to solve it in order to reduce import dependence, improve the availability of food for the population, and especially for people with incomes below the subsistence minimum.

In formulating food security policies, it is necessary to consider all four of its main elements in a complex and to determine precisely the institutions responsible for their implementation. This requires intersectoral solutions involving key ministries (health, agriculture, education, social welfare, economic

development and infrastructure), the private sector, as well as leading governmental and non-governmental organizations whose participation will allow a comprehensive study of the relationship between economic, environmental and social aspects of food security. In addition, it is necessary to continuously monitor changes in policy and to determine the most effective methods [18].

In modern economic conditions, the problem of ensuring national food security is complex, directly related to the sustainable macroeconomic development of the state, its ability to implement socially oriented policies, the steady increase in the living standards of the population, and the use of the advantages of the international division of labor in agricultural production. At the same time, for Kazakhstan, the basis for strengthening food security is, above all, improving the functioning of the domestic agricultural sector and its basic industries through:

- mobilizing the potential of our own agro-industrial production, capable of guaranteeing a reliable supply of the country's population with domestic food, primarily its basic types, regardless of the situation on the world food market;
- formation of competitive food markets, creation of legislative base and infrastructure for their effective development, protection of domestic agricultural producers from unhealthy competition and unfavorable conjuncture of world markets for agricultural products, raw materials and food;
- ensuring the optimization of inter-sectoral economic relations in order to achieve such a ratio of prices for agricultural and industrial products, which would stimulate an increase in the rates of expanded reproduction, especially in agriculture [19];
- improving the system of short-term, medium-term and especially long-term lending, ensuring the availability of loans for the bulk of agricultural producers, creating relatively favorable economic conditions for the attractiveness of investments and growth of investment activity in the agro-industrial production;
- creating a system of reliable guarantees of the quality of food entering the domestic market by ensuring tight control over the technologies applied throughout the food chain and, especially, over imported products;
- increasing and rational use of food resources by increasing the technological level of agricultural production and encouraging the introduction of resource-saving and environmentally friendly production technologies[20];
- the formation and development of large-scale specialized zones for the production of main types of agricultural products, the elimination of various barriers and administrative restrictions on the movement of agricultural products, raw materials and food inside the country[21].

For Kazakhstan, at present, the main condition for ensuring food security is the intensive development of the agricultural and food industries, which will enable the agricultural sector to become a leading sector of the economy, which, ultimately, should contribute to the growth of the country's food self-sufficiency. Taking into account the importance of this issue, the agro-industrial sector is given one of the main directions in the strategic policy of our state.

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#### ИНТЕГРАЦИЯЛЫҚ ҮДЕРІСТЕРДІ ДАМЫТУ ЖАҒДАЙЫНДАҒЫ АЗЫҚ-ТҮЛІК ҚАУІПСІЗДІКТІ ҚАМТАМАСЫЗ ЕТУ

**Аннотация.** Азық-түлік қауіпсіздігі мемлекеттің аграрлық және экономикалық саясатының басты мақсаттарының бірі болып табылады. Ол өзінің жалпы түрінде кез келген ұлттық азық-түлік жүйесінің идеалды жағдайға қозғалыс бағытын қалыптастырады.

Азық-түлік нарығы жай-күйінің көрсеткіштерін талдау және халықты тамақ өнімдерімен қамтамасыз ету, тиімді басқару шешімдерін қабылдау үшін олардың неғұрлым оңтайлылығын таңдау елдің азық-түлік қауіпсіздігін қамтамасыз ету стратегиясын әзірлеу кезінде маңызды міндет болып табылады. Сондықтан осы баптың мақсаты Қазақстан Республикасында азық-түлік қауіпсіздігіне бағалау жүргізу болып табылады. Мақалада елімізде азық-түлік қауіпсіздігін қамтамасыз ету бойынша Қазақстан Республикасының статистикалық деректеріне талдау жүргізілді.

**Түйін сөздер:** азық-түлік қауіпсіздігі, экономикалық саясат, Мемлекеттік басқару, бәсекеге қабілеттілік, агроөнеркәсіптік кешен.

УДК 332.6

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# ОБЕСПЕЧЕНИЕ ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ В УСЛОВИЯХ РАЗВИТИЯ ИНТЕГРАЦИОННЫХ ПРОЦЕССОВ

**Аннотация.** Продовольственная безопасность является одной из главных целей аграрной и экономической политики государства. В своём общем виде она формирует вектор движения любой национальной продовольственной системы к идеальному состоянию.

Анализ показателей состояния продовольственного рынка и обеспечения населения продуктами питания, выбор наиболее оптимальных из них для принятия эффективных управленческих решений является важной задачей при выработке стратегии обеспечения продовольственной безопасности страны. Поэтому целью данной статьи является проведение оценки продовольственной безопасности в Республике Казахстан. В статье произведен анализ статистических данных Республики Казахстан по обеспечению продовольственной безопасности в стране.

Продовольственная безопасность Республики Казахстан является одним из главных условий обеспечения национальной безопасности страны и формирования сильного государства, его успешного долгосрочного развития и экономического роста. Необходимость продовольственной безопасности для обеспечения национальной безопасности на законодательном уровне закреплена в Законе Республики Казахстан от 6 января 2012 года «О национальной безопасности Республики Казахстан». В Послании Президента Республики Казахстан - Лидера нации Нурсултана Назарбаева народу Казахстана «Стратегия «Казахстан-2050» - новый политический курс состоявшегося государства» угроза глобальной продовольственной безопасности определена в числе десяти глобальных вызовов XXI века для Республики Казахстан.

**Ключевые слова:** продовольственная безопасность, экономическая политика, государственное управление, конкурентоспособность, агропромышленный комплекс.

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# ANALYSIS OF FACTORS AFFECTING THE ECONOMIC STRATEGY OF DIVERSIFICATION

**Abstract**: The Republic of Kazakhstan, as a country whose goal to be among the 20 countries with developed economies, has become aware of the real realities of new production, the competitiveness of developed transnational corporations, whose production levels need to be achieved and maintained.

The relevance of this article lies in the fact that today, advanced companies carry out their growth mainly through diversification, invading other areas, often not having production or functional ties with the mainstream, mastering fundamentally different types of products. The article is devoted to the analysis of factors affecting the economic strategy of diversification, based on the implementation of innovative approaches to management. The article shows that today there is no single strategy by which performance optimization can be achieved and the competitive cost of products achieved. A comparative analysis of the diversification policy in Kazakhstan highlights the reasons why the implementation of such approaches is essential for the development of a competitive economy.

When writing the article, general scientific methods of cognition (statistical, normative analysis, synthesis, analogy, generalization), empirical-theoretical (collection, study and comparison of data), as well as methods of scientific cognition (historical-legal, formal-logical, systemic, relatively -legal). In processing and systematizing the data, grouping and classification methods were used. The information and statistical base of the study was compiled from official periodical and information and analytical publications of the Republic of Kazakhstan.

**Keywords:** socio-economic system, agroindustrial complex, marketing, management, management methods, marketing-management.

**Introduction.** The dynamic development and globalization of the modern world economy necessitated diversification as a way to reduce the risks of environmental uncertainty and increase competitiveness. To be more competitive in existing markets, regardless of the sectoral activity of the economy, they must implement an integrated and integrated approach to the diversification of production. The goal is to satisfy the key competition requirements — to be more cost-effective, thrift and flexible, consistently ensuring high performance and quality of service, as these requirements must be met in the context of changing global events, fluctuating markets, technological progress and integration.

In diversified companies operating in various industries, managers work to create a multi-business strategy - a multi-sectoral strategic action plan for a number of distinct business units that can diversify their activities, directing their interests in various related or unrelated industries, through joint ventures and acquisitions of other companies, strategic alliances or the opening of new activities. All this, of course, affects the development of the country's economy.

**Results of a research** - Diversification, in essence, requires the development of competition strategies for the production units of the company as a whole. If the strategy of production units is focused on overcoming the problems of competitive advantages in a particular area of activity, then the company's competition strategy should determine the direction of future business and manage these areas. Despite the general principles of management, there are features determined by industry specifics, goals, competitive environment, socio-cultural and economic features of the region, which have a significant impact on the formation of a strategy for diversifying the activities of enterprises.

The raw material nature of the industrial production structure of Kazakhstan not only provided, until recently, the progressive development of the country's economy, but was also the most reliable source of its growth in the near future. However, as the world economic crisis has shown, the dominance of primary

industries in the structure of the country's economy leads to instability of economic growth and long-term stagnation. Therefore, for Kazakhstan, the need to pursue a targeted state policy of diversification and modernization of the economy is of strategic importance in order to increase its competitiveness, overcome raw materials and ensure sustainable economic growth in the country and individual regions.

Over the past decades, the world is rapidly moving towards a new type of economy, where digital technologies are becoming the main instrument for its formation. In modern conditions, information technologies and digital transformation are the main factor of technological change and the condition for ensuring competitiveness both at the level of individual enterprises and at the level of countries and supranational associations, leading to the restructuring of all economic and production processes, a dramatic increase in productivity, quality and cost reduction goods and services. Expanding the role of information technology in the work of the private and public sectors is the basis for the transition to a digital state [1].

Diversification is a prerequisite for the further development of Kazakhstan in order to reduce its dependence on external risks, as well as expand jobs and create value within the country. Commodity dependence exposes Kazakhstan to external shocks and may reduce long-term development prospects. There are several channels through which the country's natural wealth can adversely affect the long-term development prospects, offsetting the unprecedented opportunities that it offers. One of the main channels through which the country's natural wealth affects economic growth in different countries is the volatility that they introduce into the economy. Oil is one of the commodities with the most volatile prices: oil prices are not only subject to high-frequency fluctuations, but also subject to significant cyclical fluctuations. Price shocks affect Kazakhstan through several channels, mainly through the shock of the real exchange rate and the shocks of government revenues.

Diversification has been the main goal of the policy since the mid-1990s, but its implementation has only begun in 2010 with the implementation of the first State Program on Forced Industrial-Innovative Development (SPAIID). SPAIID has a number of shortcomings, among them dispersal of efforts that led to the use of a large number of tools and institutions and significant coordination problems. The main lessons were learned and taken into account when developing the next phase of industrial policy, as described in the Industrialization Concept and the second program of SPAIID. The 2015-1930 SPAIID program focuses more on actions by choosing a smaller number of sectors and clusters, includes the private sector and regional representatives in the decision-making process, and combines activities across sectors that were previously scattered.

It is not a secret to anyone that advanced technologies have already changed the structure of the economies of many countries and brought traditional industries forward. Kazakhstan is also moving intensively in this direction, since there is no other way. And the main task is the study and analysis of world experience and the development of proposals.

In accordance with the Strategic Development Plan of the Republic of Kazakhstan until 2025, to ensure quality growth, it is necessary to launch new growth drivers in sectors of the economy. In the basic sectors of the economy and the service sector, the changes necessary to improve their manufacturability and export orientation should occur [2].

The first driver should be the growth of productivity of existing sectors of the economy by increasing their operational efficiency and reducing the cost of production, transportation and sales of products, investment in technological upgrading and digitalization, as well as creating conditions for the transition to a "green economy". This should increase the competitiveness of existing industries.

The second driver is the growth of production volumes of existing industries with a focus on exports due to the diversity of types of goods and services oriented to export. Moreover, the focus should be on high value-added goods and services, integration into global supply chains, export promotion and the rational involvement of natural and land resources in the economic turnover. As a result, the country's position in the global market should be strengthened in all major export directions.

The third driver will be the formation of new high-performance sectors of the economy, which should arise through the creation of supply chains, the development of services at the junction of existing industries, the localization of technology companies, technology transfer and the commercialization of innovations. Due to this, diversification of the economy and creation of new competitive advantages in the region should occur.

A key factor in the successful launch of new growth drivers in sectors of the economy is the creation of an effective system to attract and retain private investment and increase technological competencies.

So, for example, the mining and metallurgical sector of Kazakhstan plays an important role in ensuring overall economic growth in the country, especially during the years when the state industrial innovation program was implemented until 2020. Today, experts note that the rapid growth of the mining and metallurgical industry is one of the driving forces of economic development, and will provide not only production, but also the production of high quality products (Table 1) [3].

Industrial Production Indexes by Economic Activity	Index of physical volume of industrial production, 2017 in% by 2016	The share of industries in the total industrial output in 2017, in%
Miningandquarrying	109,3	50,8
Manufacturingindustry	105,6	41,3
Electricity, gas, steam and air conditioning	105,3	6,9
Water supply sewer, control over the collection and distribution of waste	101,8	1,0
Note compiled by authors		

Table 1 - Indexes of industrial production by type of economic activity (in % to the previous year)

When identifying micro-economic factors contributing to the implementation of the diversification strategy, it is necessary to be guided by the forecasts of socio-economic development, allowing identifying economic, social and technological trends in the structure of the economy. As a rule, priority areas are determined for the purposes of innovation and investment policy. In our opinion, when formulating a diversification policy, it is necessary to be guided by the regional development strategy, in which relevant guidelines should be defined.

Thus, according to the data of the Agency of the Republic of Kazakhstan on Statistics, in 2017 produced industrial products in current prices by 22,790.2 billion tenge, which compared to the level of 2016 amounted to 107.3%. The increase was observed in 15 regions of the republic. The decline in production was recorded in the Kyzylorda region (Table 2) [4].

Region	Production volumein current prices, milliontenge	Industrial Production Index 2017 In% by 2016	In% to the previous year, the increase	The share of regions in the republican volume of production, in%
Republic of Kazakhstan	22 790 209	107,3		
Akmolinskaya	561 290	101,1	1,1	2,5
Aktuibinskaya	1 597 086	105,6	5,6	7,0
Almatinskaya	795 684	104,8	4,8	3,5
Atyrauskaya	5 508 219	121,2	21,2	24,2
WestKazakhstan	1 914 501	103,4	3,4	8,4
Zhambylskaya	374 029	103,6	3,6	1,6
Karagandinskaya	2 318 440	105,5	5,5	10,2
Kostanayskaya	764 326	105,4	5,4	3,3
Kyzylordinskaya	731 408	96,1	-3,9	3,2
Mangistauskaya	2 316 201	100,9	0,9	10,2
South Kazakhstan	832 114	104,3	4,3	3,6
Pavlodarskaya	1 778 386	106,5	6,5	7,8
North Kazakhstan	240 530	108,5	8,5	1,1
East Kazakhstan	1 581 530	100,7	0,7	6,9
Astana city	573 927	110,8	10,8	2,5
Almaty city	902 537	105,1	5,1	4,0

Table 2 - Volumes and indices of industrial production

On the basis of a comprehensive socio-economic analysis of the country (SCD) conducted by the World Bank Group, factors that hinder growth were identified according to the strategic directions:

- 1 Economic management for diversification:
- low potential for the formation and execution of rational macroeconomic policies;
- unstable non-oil budget deficit;
- large contingent liabilities on the part of the banking and quasi-state sectors.
- 2 Private sector development:
- the financial sector does not actively support investors and SMEs;
- weak incentives for private investment due to the significant presence of the state and the lack of uniform conditions ("rules of the game") [5].

In our opinion, the main prerequisites for deciding on diversification taking into account regional factors are:

- competitive advantages available to the region for the implementation of a diversification strategy in the regional market;
  - presence of forms of penetration and action in the regional market;
- the possibility of forming (changing) the concept of management and its explication (reflection and refinement) on a regional scale, as well as in private strategies of enterprise activity (financial, sales, R & D, etc.).

In general, diversification provides new opportunities to increase production, increase profitability and profitability in the region by minimizing the risks of production activities.

The new model of economic growth is a high-performance export-oriented competitive economy. The fundamental transformation of the economy of Kazakhstan requires a transition to a new model of qualitative economic growth, based on the rejection of the priority of quantitative growth, characteristic of the era of high oil prices, and the dominant role of state capitalism. This means that three key factors of economic growth come to the fore:

- 1) increase productivity and the complexity of the economy;
- 2) development of competencies;
- 3) attraction of private capital.

One of the main tasks is to encourage competition, the leading role of private business and the disclosure of the potential of the regions as a factor in maximizing growth. The new model will be aimed at creating an export-oriented economy with high added value.

The process of diversifying the economy is a complex and complex task. The deterioration of the situation in the global economy, which entails a fall in commodity prices and a reduction in the demand for exported products, impedes the development of the domestic economy in the planned parameters due to persistent risks and imbalances. If we cannot influence external factors, then in this case it is necessary to create favorable conditions for the growth of the country's economic potential by curbing inflation, since high inflation does not allow attracting foreign investment, reducing the cost of borrowed funds, and most importantly, adversely affecting the life level of the population of Kazakhstan. In this regard, it is necessary to conduct continuous monitoring of prices in the retail network for the sale of fuel and lubricants in order to prevent unreasonable price increases, as well as in the sphere of trade in the food market.

The socio-economic policy of the Republic of Kazakhstan for 2017–2021 is aimed at further implementing the new course of development of the Republic of Kazakhstan "Strategy Kazakhstan - 2050", taking into account the implementation of the State Program "NurlyZhol - Path to the Future", aimed at creating a single economic market through the integration of the country's macroregions on the basis of building an effective infrastructure on the hub principle to ensure the long-term economic growth of Kazakhstan, as well as the implementation of anti-crisis measures to support individual sectors of the economy in the face of deteriorating conditions in foreign markets, and creating a model of the economy of Kazakhstan, defined in the five institutional reforms of the Nation Plan "100 specific steps" [6, 7]. Therefore, the development policy of economic sectors will be aimed at consolidating the country's competitive advantages in world markets and the formation of new competitive advantages in the

production and export of goods and services, which will promote the introduction of new technologies, will stimulate the creation and development of new industries and promising sectors of the economy, especially in services.

Modernization and diversification of the economy, raising the level of economic development require a high degree of centralization of government, especially in strategic sectors of the economy through national companies. In order to shift the emphasis from investing in the extractive sector to the development of non-primary industries, a state program of accelerated industrial-innovative development was developed. For the accelerated development of the economy, favorable conditions are required to protect both foreign and domestic investors, and to this end, special programs have been developed to support investors. In priority areas, the state creates exceptional preferences, especially in the manufacturing industry.

So, for example, the program "Business Road Map - 2020" was developed for the development of entrepreneurship in the regions, "Export - 2020" - to stimulate non-oil exports, "Productivity - 2020" - for technological modernization and increase in labor productivity. As you can see, various incentive tools are provided, ranging from the provision of service support to exporters and investors to financial and fiscal incentive measures [8]. To create attractive conditions in non-primary export-oriented and high-tech industries, a special program has been developed to attract investments, develop special economic zones and stimulate exports.

Not less, and perhaps even more significant in terms of diversification of the economy and exports, is the Chinese program "One Belt - One Way" for Kazakhstan, which will allow Kazakhstan to use its unique geographical location and derive geopolitical benefits from the initiative. During the discussion, "A New Stage for Globalization: the Silk Road Initiative for International Cooperation," experts noted that the trade turnover between China and the countries on the Silk Road could reach \$ 2.5 trillion. In fact, this is a new model of globalization, but not a confrontational one, since it cannot be realized without political support. Countries entering the orbit of the new Silk Road should not serve only for the transit of Chinese goods, but should have mutually beneficial cooperation agreements.

According to a study by UNCTAD and the World Bank, about 80% of the global industrial potential is concentrated in coastal zones. In this situation, Kazakhstan, as well as other Central Asian countries remote from the world's oceans, should integrate and develop diversification strategies for introducing cross-cutting tariffs and reduction factors for international transportation. This will allow access to larger markets, which will solve the problem of increasing its global competitiveness [9].

Thus, without diversification of the economy of Kazakhstan, it is impossible to achieve the priorities of the Strategic Plan-2020 and the Program of the forced industrial-innovative development [10]. At the same time, diversification, based only on the redistribution of funds from the mining industries to new technological projects, can lead to a sharp increase in risks and a slowdown in economic development. The development of the manufacturing industry at the expense of the extractive industries would be strategically incorrect. Thus, first of all, there is a need for an objective assessment of our own competitive advantages and obtaining a synergistic effect from the development of both the processing and raw materials sectors of the economy [11]. For this, in our opinion, it is necessary to create such macroeconomic conditions for accelerated diversification, providing for the following:

- stability and balance of the state budget;
- low inflation. To boost industrial growth in sectors in dire need of investment, the continuation of fiscal policies aimed at reducing inflation;
- transparent and long-term tariff policy of the state in the field of natural monopolies when they are reformed [12];
- a stable rate, which will reduce the currency risk for foreign institutional investors. Reducing the overall level of currency risk as a result of a clear policy of the National Bank and the Government, the creation of a stabilization fund and the growth of gold and foreign exchange reserves will provide better conditions for domestic companies that will have access to cheaper borrowed resources [13];
- a predictable monetary policy focused on the creation of stable conditions conducive to a gradual and non-inflationary increase in the level of monetization of the economy [14].

Modern trends in economic development, characterized by increased competition, globalization of markets and concentration of capital, cause qualitative changes in the system of organization, functioning and financial management. Under these conditions, such a concept as diversification of the economy is actively developing [15].

Today's successes in the socio-economic development and attraction of foreign investments the Republic of Kazakhstan is obliged to such basic competitiveness factors as natural resource endowment, favorable macroeconomic environment and political stability. However, in the future until 2020, the country's economy may lose its competitiveness and end up in the "trap of average income". In order to maintain high rates of economic growth, Kazakhstan will need to implement the structural changes in the economy necessary for the transition to a new stage of development. In this regard, the transition of Kazakhstan to the principles of an innovation-oriented economy, as well as the implementation of projects of the Map of the industrialization of the country and "Digital Kazakhstan" should correspond to the current trends in the global economy [16]. At the same time, the main tasks of innovative industrialization include the consolidation of the efforts of business, the state and the concentration of the country's resources on the development of priority sectors of the economy; creating a favorable business environment and investment climate; increase the intensity and productivity of the national economy [17].

The need to diversify production is an urgent task for Kazakhstan, as for all countries that are highly dependent on the export of minerals. The main argument in favor of diversifying the economy is a directly proportional relationship between the actual and long-term growth prospects [18]. The development of industry activates inter-sectoral ties, stimulates entrepreneurship, creates prerequisites for increasing trade with other countries. Another argument in favor of diversification for many developing countries is that the growth of the mining sector in them is often not keeping pace with population growth. In such a situation, a gradual decrease in per capita incomes is inevitable, which in the long run creates a threat to social stability in the state [19]. At the same time, as already mentioned, the extractive industries themselves are not able to create enough jobs, which leads to additional problems. Finally, an important factor for the economies of exporters of minerals is the factor of volatility of prices for resources on the world market. Even in conditions when there are agreements on the pricing policy between most of the exporters of a product, a huge number of factors, including completely unpredictable ones, can radically change the global conjuncture [20].

Summarizing the above, diversification in Kazakhstan is gaining momentum. Growth rates in manufacturing industries have become much higher than in traditional extractive industries. It is advisable to use such interaction mechanisms as the development and implementation of joint investment projects and programs, assisting business structures in establishing and strengthening production relationships, production cooperation, intraregional specialization, as well as accelerated modernization, diversification, and forming a WPK, which is strategic direction in the sustainable development of the economy and improving the living standards of the population country[21].

**Conclusions** - Kazakhstan needs to think about growth alternatives through diversification and innovation, rather than relying solely on natural resources. The "One Belt - One Road" initiative provides a unique opportunity for Kazakhstan to attract Chinese funds and technologies, become one of the largest transit hubs in Eurasia, and export natural products to China.

Kazakhstan has a good legal system to attract FDI, and given the large-scale privatization program, the country aims to reduce the state's presence in the economy to 15% by 2021. Thus, Kazakhstan has a chance to become the best country in the framework of the "One Belt - One Way" initiative for investment by Chinese companies, and the door for China to the Eurasian Economic Union, a single market of 183 million people.

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# ӘРТАРАПТАНДЫРУДЫҢ ЭКОНОМИКАЛЫҚ СТРАТЕГИЯСЫНА ӘСЕР ЕТЕТІН ФАКТОРЛАРДЫ ТАЛДАУ

**Аннотация:** Қазақстан Республикасы экономикасы дамыған 20 елдің қатарында болу мақсаты болып табылатын ел ретінде жаңа өндірістің шынайылығын, өндіріс деңгейіне қол жеткізу және сақтау қажет дамыған трансұлттық корпорациялардың бәсекеге қабілеттілігін сезіне бастады.

Осы баптың өзектілігі бүгінгі таңда озық компаниялар негізгі өндірістік немесе функционалдық байланыстары жоқ басқа салаларға басып кіріп, негізінен диверсификация арқылы өз өсуін жүзеге асырып, өнімнің принципті түрде өзге түрлерін игереді. Мақала басқарудың инновациялық тәсілдерін іске асыруға негізделген әртараптандырудың экономикалық стратегиясына әсер ететін факторларды талдауға арналған. Мақалада бүгінгі таңда өнімділікті оңтайландыруды қамтамасыз етуге және өнімнің бәсекеге қабілетті құнына қол жеткізуге болатын жалғыз стратегия жоқ. Қазақстанда әртараптандыру саясатын салыстырмалы талдау мұндай тәсілдерді жүзеге асыру бәсекеге қабілетті экономиканы дамытудың қажетті шарттары болып табылатын себептерді көрсетеді. Мақаланы жазу кезінде жалпы ғылыми таным әдістері (статистикалық, нормативтік талдау, синтез, аналогия, жалпылау), эмпирико-теориялық (деректерді жинау, зерделеу және салыстыру), сондай-ақ ғылыми таным әдістері (тарихи-құқықтық, формальды-логикалық, жүйелі, салыстырмалы-құқықтық) қолданылды. Деректерді өңдеу және жүйелеу кезінде топтау және жіктеу әдістері қолданылды. Зерттеудің ақпараттық-статистикалық базасын Қазақстан Республикасының ресми мерзімді және ақпараттық-талдау басылымдарының деректері құрады.

**Түйін сөздер:** сала, бәсекелестік, өндірісті әртараптандыру, бәсекеге қабілеттілік, әртараптандыру стратегиясы.

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# АНАЛИЗ ФАКТОРОВ, ВЛИЯЮЩИХ НА ЭКОНОМИЧЕСКУЮ СТРАТЕГИЮ ДИВЕРСИФИКАЦИИ

**Аннотация.** Республика Казахстан, как страна, цель которой оказаться в числе 20 стран с развитой экономикой, стала осознавать действительные реалии нового производства, конкурентоспособность развитых транснациональных корпораций, уровни производства которых нужно достичь и сохранить.

Актуальность данной статьи заключается в том, что сегодня передовые компании осуществляют свой рост преимущественно через диверсификацию, вторгаясь в другие сферы, часто не имеющие с основной производственных или функциональных связей, осваивают принципиально иные виды продукции. Статья посвящена анализу факторов, влияющих на экономическую стратегию диверсификации, основанной на реализации инновационных подходов к управлению. В статье показывается, что сегодня не существует единственной стратегии, с помощью которой может быть обеспечена оптимизация производительности и достигнута конкурентоспособная стоимость продукции. Сравнительный анализ политики диверсификации в Казахстане, освещает причины, по которым осуществление таких подходов является необходимым условия развития конкурентоспособной экономики..

При написании статьи были использованы общенаучные методы познания (статистический, нормативный анализ, синтез, аналогия, обобщение), эмпирико-теоретический (сбор, изучение и сравнение данных), а также методы научного познания (историко-правовой, формально-логический, системный, сравнительно-правовой). При обработке и систематизации данных применялись методы группировок и классификации. Информационно-статистическую базу исследования составили данные официальных периодических и информационно-аналитических изданий Республики Казахстан.

**Ключевые слова:** отрасль, конкуренция, диверсификация производства, конкурентоспособность, стратегия диверсификации.

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