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Абай атындағы Қазақ ұлттық педагогикалық университетінің

# Х А Б А Р Ш Ы С Ы

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НАУК РЕСПУБЛИКИ  
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### **MODERNIZATION OF THE AGRICULTURAL SECTOR: FINANCIAL SUPPORT MEASURES**

**Abstract.** The article on a systematic basis examines the current state of the agricultural sector of the Republic of Kazakhstan from the perspective of its provision with labor resources. One of the main tasks of sustainable development of agro-industrial production in Kazakhstan is its financial support.

The article deals with the problems of the agro-industrial complex of the republic in recent years. It is noted that the strategic importance and specific features of the development of the agricultural sector require the development of special approaches to investment at the regional level.

Based on the analysis, the main problems of providing the village with high-quality labor resources are formulated, as well as the problems of increasing the efficiency of their use. An important guide for state regulation of the economic development of the industry is the volume of investment as one of the main factors contributing to the sustainable development of the agro-industrial complex, solving the problems of updating the regional technical and technological base, and reducing the degree of depreciation of fixed assets in agriculture.

The article analyzes: the dynamics of the volume of agricultural production for 2015-2019, investments in the modernization of the fixed capital of agriculture in the Republic of Kazakhstan, the volume of investment in agriculture. Agriculture in the process of transformational transformations of the economy faced a number of systemic problems, such as the impact of global agricultural competition, significant reserves for the development of the engineering industry, the dependence of the national economy on the export of raw materials and world prices for them, the low standard of living of the population of rural areas. Proposals are given for further improvement of the financial support of agro-industrial production and innovative development of agriculture.

**Key words:** agricultural production, State programs for the development of the

agro-industrial complex, animal husbandry, crop production, modernization of the agro-industrial complex.

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### **АГРАРЛЫҚ СЕКТОРДЫ ЖАҢҒЫРТУ: ҚАРЖЫЛЫҚ ҚОЛДАУ ШАРАЛАРЫ**

**Аннотация.** Мақалада жүйелі негізде Қазақстан Республикасының Ауылшаруашылығы саласының қазіргі жай-күйі қаралды. Теориялық-әдіснамалық аспектісі тұрғысынан, ауылшаруашылығы саласындағы еңбек нарығының қазіргі түрлеріне, ауылшаруашылығында еңбек ресурстарын қалыптастыру және пайдалану ерекшеліктеріне назар аударылды.

Қазақстанның агроөнеркәсіптік өндірісін тұрақты дамытудың негізгі міндеттерінің бірі оны қаржылық қамтамасыз ету болып табылады. Елдің ауылшаруашылығы саласын және оның жұмыс істеу үрдістерін талдау кезінде аграрлық сектордың еңбек әлеуетін қалыптастыру мен дамытудың қазіргі заманғы ұйымдастырушылық факторлары және еңбек ресурстары қызметінің экономикалық нәтижелері анықталды. Жүргізілген талдау негізінде ауылды сапалы еңбек ресурстарымен қамтамасыз етудің негізгі проблемалары, сондай-ақ оларды пайдаланудың тиімділігін арттыру проблемалары тұжырымдалды.

Мақалада республиканың агроөнеркәсіп кешенінің соңғы жылдардағы проблемалары қарастырылған. Аграрлық секторды дамытудың стратегиялық маңыздылығы мен спецификалық ерекшеліктері өңірлік деңгейде инвестициялаудың ерекше тәсілдерін әзірлеуді талап ететіні атап өтілген.

Саланың экономикалық дамуын мемлекеттік реттеудің маңызды бағдары агроөнеркәсіптік кешеннің тұрақты дамуына, өңірлік техникалық-технологиялық базаны жаңарту міндеттерін шешуге, сондай-ақ өндіріс көлемін қысқартуға ықпал ететін негізгі факторлардың бірі ретінде инвестиция көлемі болып табылады. Ауылшаруашылығындағы негізгі қорлардың тозу дәрежесі мақалада талданады. 2015-2019 жылдарға арналған ауыл шаруашылығы өнімі көлемінің серпіні, Қазақстан Республикасының ауылшаруашылығының негізгі капиталын жаңғыртуға инвестициялар, ауылшаруашылығына инвестиция көлемі. Агроөнеркәсіптік өндірісті қаржылық қамтамасыз етуді одан әрі жетілдіру және ауылшаруашылығын инновациялық дамыту бойынша ұсыныстар берілді.

**Түйін сөздер:** ауылшаруашылығы өндірісі, Агроөнеркәсіптік кешенді,

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## **МОДЕРНИЗАЦИЯ АГРАРНОГО СЕКТОРА: МЕРЫ ФИНАНСОВОЙ ПОДДЕРЖКИ**

**Аннотация.** В статье на системной основе рассмотрено современное состояние сельскохозяйственной отрасли Республики Казахстан с позиции ее обеспеченности. С точки зрения теоретическо-методологического аспекта акцентировано внимание на современные виды рынка труда в сельскохозяйственной отрасли, особенности формирования и использования трудовых ресурсов в сельском хозяйстве. Одной из главных задач устойчивого развития агропромышленного производства Казахстана является его финансовое обеспечение.

В статье рассматриваются проблемы АПК республики за последние годы. Отмечается, что стратегическая значимость и специфические особенности развития аграрного сектора требуют разработки особых подходов к инвестированию на региональном уровне.

В ходе анализа аграрного сектора страны и его рабочих процессов были определены современные организационные факторы формирования и развития трудового потенциала аграрного сектора и экономических результатов деятельности трудовых ресурсов. На основе проведенного анализа сформулированы основные проблемы обеспечения села качественными трудовыми ресурсами, а также проблемы повышения эффективности их использования.

Важной направляющей государственного регулирования экономического развития отрасли выступают объемы инвестиций как один из основных факторов, способствующих устойчивому развитию АПК, решению проблем обновления региональной технической и технологической базы, сокращения степени изношенности основных фондов в сельском хозяйстве.

В статье проведен анализ: динамики объема сельскохозяйственного производства за 2015-2019 гг., инвестиции в модернизацию основного капитала сельского хозяйства Республики Казахстан, объема инвестиции в сельское хозяйство.

Даны предложения по дальнейшему совершенствованию финансового обеспечения агропромышленного производства и **инновационного развития сельского хозяйства**.

**Ключевые слова:** сельскохозяйственное производство, Государственные программы развития АПК, животноводство, растениеводство, модернизация АПК.

**Introduction.** The economic development of any industry in the modern world is based on the growth of labor productivity and improving the efficiency of the use of labor resources. It is labor productivity, to a greater extent than any other factor, that determines the level and quality of life of the whole society and is, in the long term, the best indicator of the economic efficiency of the economic complex.

At present, the issues of improving the efficiency of labor resources are particularly relevant for the Republic of Kazakhstan and for its sectors of the economy, including the agricultural sector.

During the analysis of the agricultural sector of the country and its working processes, the modern organizational factors of formation and development of the labor potential of the agrarian sector and the economic results of labor resources activities were determined.

On the basis of the conducted analysis, the main problems of providing the village with quality labor resources, as well as the problems of increasing the efficiency of their use, were formulated.

Based on the analysis, the main problems of providing the village with high-quality labor resources are formulated, as well as the problems of increasing the efficiency of their use.

At present, the issues of improving the efficiency of labor resources are particularly relevant for the Republic of Kazakhstan and for its sectors of the economy, including the agricultural sector. Agriculture in the process of transformational transformations of the economy faced a number of systemic problems, such as the impact of global agricultural competition, significant reserves for the development of the engineering industry, the dependence of the national economy on the export of raw materials and world prices for them, the low standard of living of the population of rural areas.

Kazakhstan, having the richest agricultural land, lags behind developed countries in terms of labor productivity, and, as a result, is not among the leaders in positioning in the world market of agricultural products and agricultural technologies (Smirnova, 2021:221).

**Materials and methods.** As part of the study, a methodology was developed that encompasses a combination of the following methods: the analytical method, the collective method, the establishment of patterns and facts, the formulation of hypotheses, the synthetic method.

To implement the developed methods, the following research tasks were set:

- consideration of theoretical aspects of the functioning of the labor market in the agricultural sector;



- specifying the features of the formation and use of labor resources in agriculture;  
 - identification of modern organizational factors in the formation and development of the labor potential of the agricultural sector and the economic results of the work of labor resources.

The Republic of Kazakhstan is an agrarian country and its agro-industrial complex provides not only the country's internal needs for food, but also allows exporting products to foreign markets. The diverse climatic conditions of Kazakhstan make it possible to grow almost all crops of the temperate thermal zone and develop animal husbandry.

**Results.** The increase in agricultural production, along with industrialization and modernization of the economy, lead to an increase in demand for industrial production. Practice shows that the increase in agro-industrial production and productivity, as a rule, ensures food and economic security, make a significant contribution to the overall economic development of the country.

The first President of the Republic of Kazakhstan - Elbasy N.A. Nazarbayev, defining the strategic priorities of a new stage of modernization of Kazakhstani society in the program of long-term development of the republic - the Strategy "Kazakhstan - 2050", noted the need to modernize agriculture. Also, the initiative to develop the agro-industrial complex was noted by the President of Kazakhstan, Kassym-Jomart Tokayev, in his latest messages to the people of the country.

Therefore, during the years of Independence of Kazakhstan, about ten state documents on the development programs of the agro-industrial sector of Kazakhstan were adopted, which are shown in Table 1.

Table 1 - State programs for the development of the agro-industrial complex of the Republic of Kazakhstan, for 1991-2020

Government program	Period (years)
Socio-economic development program "Aul"	1991- 1995 and on period up to 2000
Conceptual program for the development of the agro-industrial complex	1993-1995 and before 2000
Agricultural Production Development Program	2000-2002
State Agro-Food Program	2003-2005
State Program for the Development of Rural Territories	2004-2010
The concept of sustainable development of the agro-industrial complex	2006- 2010
The program of priority measures for implementation of The concept of sustainable development of the agro-industrial complex	2006- 2010
Agro-industrial complex development program	2010-2014
Program for the development of the agro-industrial complex in the Republic of Kazakhstan "Agribusiness - 2017"	2015-2017
State program for the development of the agro-industrial complex of the Republic of Kazakhstan	2017-2021

The latest of these programs is the State Program for the Development of Agriculture in Kazakhstan for 2017-2021 (the Program), which was developed on the basis of the tasks outlined in the National Plan “100 Concrete Steps” and the Strategy “Kazakhstan-2050” (Evniev, et al., 2021:21).

- The increase in agricultural activity directly affects the volume of production in trade and, in particular, affects their income. Agriculture influences the economy by:
- providing food to non-agricultural sectors of the economy;
- providing a surplus for investments in the form of savings and taxes that will be invested in the non-agricultural sector;
- attracting valuable investments in foreign currency through the export of agricultural products;
- providing employment and creating hundreds of thousands of jobs all year round, which greatly affects the economy (Evniev, et al., 2021:21).

Let’s consider the current situation of the agro-industrial complex in Kazakhstan. Gross agricultural production in the republic shows a significant increase in agricultural production over the past 5 years by 42.8% or 1,341.1 billion tenge from 3,133 billion tenge in 2015 to 4,474.1 billion tenge in 2019 (figure 1).

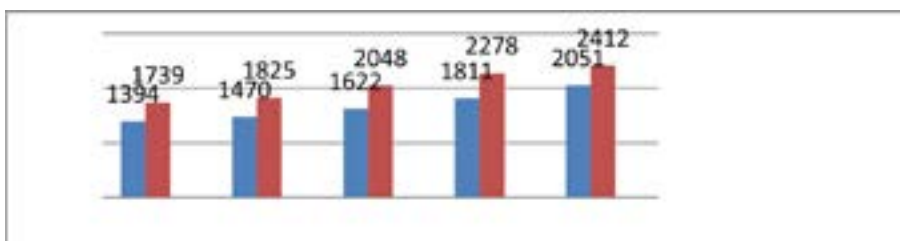


Figure 1- Dynamics of agricultural production for 2016-2020

The analysis data show a steady growth in agricultural production over the past 5 years. Thus, in 2020, there is an increase of 657 billion tenge in livestock products and 673 billion tenge in crop production compared to 2016.

It should be borne in mind that the crop production industry is still more dependent on natural and climatic conditions, which can lead to low yields of the main exported agricultural crops, therefore, despite the growth in agricultural production in the agricultural sector of Kazakhstan, negative labor productivity in agriculture still prevails, due to the use of outdated technology and the weak interest of the industry, as well as due to the lack of necessary financial resources for innovation.

The agro-industrial complex of the Republic of Kazakhstan needs accelerated technological modernization, the acquisition of new high-tech agricultural equipment, since the fixed assets of the industry are worn out by more than 45% in 2020. And the annual renewal of agricultural machinery in the country is only 2%, this figure is much less than, for example, in OECD countries, where this level is 10-12% per year. Russia is also ahead of Kazakhstan by 2%.

As for investments in the modernization of agriculture in the Republic of Kazakhstan, the analysis carried out indicates favorable trends for a significant

increase in this indicator over the past 5 years (Table 2).

Table 2- Investments in the modernization of the fixed capital of agriculture of the Republic of Kazakhstan for 2016-2020 (in billion tenge)

Name	2016	2017	2018	2019	2020	Dynamics in 2016 in %, by 2020
Investments in fixed assets in the whole of the Republic of Kazakhstan	6 591	7 025	7 762	8 771	11179	169,6
<i>beats weight, in %</i>	100	100	100	100	100	-
Investments in the fixed capital of agriculture	156	164	254	348	365	233,9
<i>beats weight, in %</i>	2,4	2,3	3,3	4,0	3,3	
Investment in fixed assets in the production of products food	43	54	68	92	126	293,0
<i>beats weight, in %</i>	0,7	0,8	0,9	1,0	1,1	
Amount of support for the agro-industrial complex from the state budget, billion tenge	172	174	221	261	226	131,4
<i>beats weight, in % of total investments in fixed capital</i>	2,6	2,5	2,8	3,0	2,0	- 0,6

An analysis of the data in the table shows that in 2020, investments in fixed assets increased by 2.3 times compared to 2016, which is associated with an increase in lending from the state, an increase in subsidizing investment costs and an increase in the cost of agricultural machinery and equipment.

As for state financial support, there is a slight increase in state budget expenditures for these purposes. In particular, they increased by 54 billion tenge over the analyzed period.

It is gratifying to note that, in general, investments in fixed assets of food production showed a significant increase of almost 3 times or by 183 billion tenge in 2020 compared to 2016, which is important for ensuring the country's food security.

The world population is expected to grow from 8 billion to 9.1 billion in 2050, i.e. by 30%. Accordingly, the demand for food production and agricultural products will grow even faster - by almost 70%, and to meet this demand, investments in agriculture around the world will be required at least 80 billion US dollars per year. (Dolgacheva, 2021:13).

The availability of financial resources for agriculture is essential for its development. Let's analyze the volume of investments in agriculture in Kazakhstan over the past 5 years (Fig. 2).

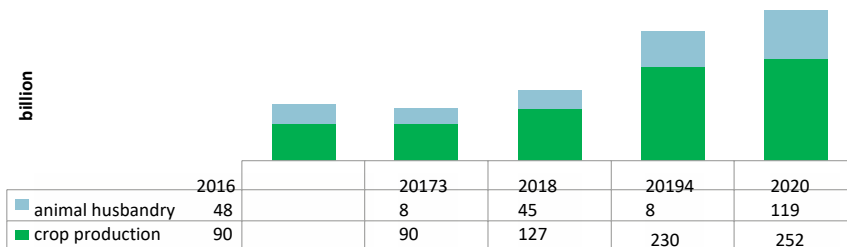


Figure 2- Investments in agriculture, billion tenge

As can be seen from the analysis, the lion's share of 59% of all investments in the development of agriculture in the republic falls on crop production. In 2020, their volumes increased by 2.8 times, or by 162 billion tenge compared to 2016. At the same time, in 2020, only 33% of all investments in agriculture fall on livestock.

In Kazakhstan, 99% of the agro-industrial complex consists of small and medium-sized enterprises (SMEs), but these entities are unable to obtain sufficient financing from second-tier banks, due to the low number of long-term loans and the fear of risks associated with non-repayment and other risks. The structure of the loan portfolio of second-tier banks is shown in Figure 3.

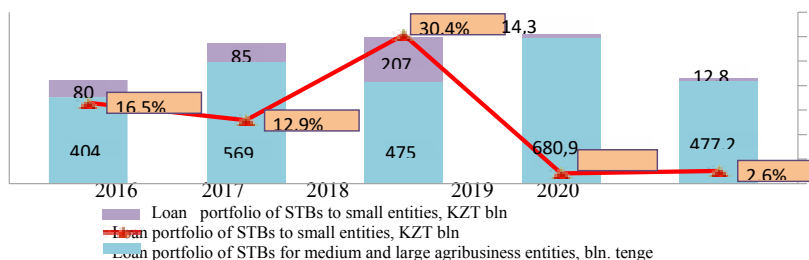


Figure 3 - The growth rate of the loan portfolio of STBs in the agro-industrial complex for 2016-2020, in billion tenge

The analysis of data on the structure of the loan portfolio of second-tier banks for 5 years showed in 2020 an increase in the loan portfolio of second-tier banks compared to 2016 by 23.3%, or by 86 billion tenge, while amounting to 490 billion tenge in 2020. Second-tier banks generally prefer to work with medium and large agribusiness entities, legal entities in the form of agricultural enterprises. And the share of SMEs, farms and peasant farms accounts for only about 3% of the total loan portfolio.

A significant increase in this indicator was indicated in 2016 - 30.4% due to the anti-crisis support of the state in order to mitigate the negative consequences caused by the devaluation and increased risks of insolvency of the country's agro-industrial complex.

In addition to macroeconomic factors, a significant drop in the volume of lending to agriculture through second-tier banks was affected by the lack of confidence and financial preparation among the farms of the agricultural sector in relation to banks and banking products, the lack of financial infrastructure for tracking, identifying and monitoring potential agribusiness transactions in rural areas, irrevocable loans and the deterioration of the financial condition of large grain holdings. In this regard, the confidence of agricultural producers in second-tier banks has decreased.

In order to involve STBs and other financial organizations in lending to agriculture under the state agro-industrial complex program, a whole range of measures was developed related to the introduction of agrarian receipts, co-financing and equity financing, subsidizing interest rates on leasing and loans, and other measures.

**Discussion.** Thus, financing is an important factor in the growth of the country's agro-industrial complex.

The main obstacles to improving the financing of the country's agro-industrial complex are:

- insufficient inflows of investments into the development of agriculture;
- a significant drop in lending to second-tier banks and long-term loans to agriculture;
- Insufficient level of awareness of STBs about the solvency of agricultural enterprises;
- lack of financial infrastructure for tracking, identifying and monitoring a potential subject of a transaction in rural areas;

To maximize the coverage of financing of agribusiness entities, it is necessary to solve the problems of access to credit resources and increase the level of participation of financial institutions, second-tier banks, MFIs, leasing companies and credit partnerships in the agro-industrial financing system.

To accelerate the modernization of the agro-industrial complex, it is necessary:

- implement the state policy for the development of the agro-industrial complex within the framework of the State Program for the Development of the Agro-Industrial Complex for 2017-2021, approved by the Decree of the Government of the Republic of Kazakhstan dated July 12, 2018 No. 423 and the Development Strategy of JSC "NMH" "Kazagro" for 2020-2029, aimed at increasing the competitiveness of the industry by increasing labor productivity and exporting processed agricultural products.

- apply the model of anchor agricultural cooperation in order to further develop agricultural cooperatives, which will allow to unite large and small subjects of the agro-industrial complex using elements of horizontal and vertical cooperation;

- to increase the availability of financing for agro-industrial complex, gradually reduce inefficient subsidies that directly distort pricing and are referred to the "yellow" basket according to the WTO methodology. Instead, it is important to expand the share of subsidies to reduce the cost of interest rates on loans and leasing, as well as to reimburse part of the costs incurred by the subject of the agro-industrial complex in the implementation of the investment project;

- introduce a new financial instrument - electronic crop receipts (the obligation of farmers to pay off the creditor with the future harvest). The nominal value of a crop receipt should be determined as a percentage of the value of the possible volume of production based on statistical data on harvest and price for the last five years. The right to issue crop receipts should be given to the active subjects of the agro-industrial complex that own an agricultural land plot on the basis of the right of ownership or land use;

- introduce new products for guaranteeing agribusiness entities in rural areas and small towns in order to develop small agricultural businesses;

- to increase the availability of financing for agribusiness entities as part of the reform of the insurance system in crop production, create equal conditions for commercial insurers and mutual insurance companies by introducing an insurance mechanism through subsidizing insurance premiums, rather than insurance payments;

- pay special attention to agrochemistry - stimulating the application of mineral fertilizers and increasing the share of areas under crops of high-quality varieties of seeds;

- to increase the level of technological modernization of the agro-industrial complex and improve the level of its technical equipment, provide agricultural producers with access to new equipment by providing them with investment subsidies and subsidizing interest rates on loans and leasing for the purchase of agricultural equipment.

The modernization of the agro-industrial complex and its technical renewal should be carried out by stimulating the purchase of equipment produced at domestic enterprises. The development of innovations and the promotion of technological modernization of the agro-industrial complex of the Republic of Kazakhstan will be aimed at achieving sustainable development of the agro-industrial complex of the Republic of Kazakhstan by:

- orientation of applied science to the tasks of modernizing agriculture, creating an effective system for generating and using knowledge in the economy.

- creation of a management system for innovative and technological development, including a system of technological forecasting and planning, development and implementation of programs for innovative and technological development of the agro-industrial complex of the Republic of Kazakhstan, agribusiness entities, creation of regional and sectoral innovative systems.

- development of a system to promote the technological modernization of agriculture in the Republic of Kazakhstan, including: conducting a technological audit, transfer of foreign technologies, promoting the introduction and dissemination of technologies, commercialization of technologies.

- increasing the scientific potential of NAO NANEC by orienting applied science to the needs of the market, co-financing from the side of the business of scientific and technological research and development and engineering work, the formation and development of innovative and research infrastructure.

- creation of innovative clusters as points of growth for the “economy of the future”. 2 national innovation clusters will be reformed, including 12 research institutes and 3 research and production centers, 19 pilot farms, 2 service companies.

- development of a network of high-tech demonstration sites, model educational farms, joint ventures, start-ups together with national and large foreign companies.

The expansion and development of the scientific infrastructure is associated with the expansion of the capabilities of the technological and innovative component in the priority areas of research. To achieve this goal, support will be provided for the development of universities, research and experimental organizations.

Together with business, new research structures will be opened at leading universities, for example, research centers and laboratories. This will make it possible to involve faculty, doctoral students and students in applied research and development commissioned by industry, and in practice to implement the principle of integrating science, education and production.

The most important condition for the development of innovative activity in the agricultural sector of the economy will be the presence of highly organized regional systems of large-scale dissemination of innovations, focused on ensuring the introduction of new technologies and advanced management methods.

At the same time, the task of creating and developing the activities of institutions for high-tech innovative development of the agro-industrial complex (scientific and agro-technoparks, innovation centers, educational and experimental and experimental farms, etc.) was singled out as the most important direction for the development of innovative activity in the agro-industrial complex.

NAO National Agrarian Research and Education Center will direct its actions towards solving a key task - the accelerated development of a network for distributing innovations among numerous agricultural businesses to:

- mass dissemination of innovations tested and recommended by consultants for dissemination (informing, demonstrating the practical application of innovations, consulting and training in innovations);

- assistance to rural producers on all issues related to both technology and legal and economic support in solving the problems of the agricultural business, in their prevention,

- communication with scientific and educational organizations, other sources of innovations and best practices to obtain information about them, acquire the rights to their implementation and skills to use them;

- conducting experimental and demonstration activities for experimental testing of most innovations, choosing the best options for their use and adaptation to the specific conditions of the farms (the level of preparedness and material support);

- combining efforts to solve the most complex problems of production, to develop standard solutions, standardize scientific and consulting procedures based on the use of relevant regulations and standards;

- prompt decision-making on the development of urgent measures for the problems that agrarians have encountered and bringing these decisions to them.

**Conclusion.** The role of these advisory support systems for farmers is very significant in the implementation of the feedback between production and science - the formation of proposals for further improvement of innovations, areas and subjects of research, etc.

Therefore, one of the main tasks that ensure the innovative development of agriculture is to create favorable conditions for the formation of a fund of innovations and their development in production, while smoothing out the existing differences between the results obtained in production and the potential of scientific and technical developments.

This refers to both the quantitative set of innovations available and accessible to consumers, and their ability to improve production, economic and other indicators of agro-industrial activity.

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## МАЗМҰНЫ

### ПЕДАГОГИКА

<b>Э.А. Абдыкеримова, А.Б. Туркменбаев, Б.У. Қуанбаева, Р.Е. Жақиянова</b> РОБОТОТЕХНИКА ПӘНІН ОҚЫТУ ҮДЕРІСІНДЕ ОҚУШЫЛАРДЫҢ ЗЕРТТЕУ ДАҒДЫЛАРЫН ҚАЛЫПТАСТЫРУ.....	5
<b>Н.С. Әлқожаева, Қ.Б. Жұмабекова, Г.Қ. Шашаева, Р. Жәлиқызы</b> БОЛАШАҚ ПЕДАГОГТАРДЫ ИННОВАЦИЯЛЫҚ ПЕДАГОГИКАЛЫҚ ІС-ӘРЕКЕТКЕ ДАЙЫНДАУ.....	19
<b>М. Бектурова, А. Жайтапова, С. Тулепова, Г. Дянкова</b> БОЛАШАҚ ШЕТ ТІЛІ МҰҒАЛІМДЕРІНІҢ АКАДЕМИЯЛЫҚ ЖАЗУ ҚҰЗЫРЕТТІЛІГІН ҚАЛЫПТАСТЫРУҒА ӘЛЕУМЕТТІК-АФФЕКТИВТІ ФАКТОРЛАРДЫҢ ӘСЕРІ.....	33
<b>Ж.М. Есіркепов, Б.С. Омаров, Б.І. Құрманбаев, Н.Б. Омаров</b> ЖАРЫС КЕЗІНДЕ ЖОҒАРЫ ДӘРЕЖЕЛІ ВОЛЕЙБОЛШЫЛАРДЫҢ ТЕХНИКАЛЫҚ-ТАКТИКАЛЫҚ ӘРЕКЕТТЕРІНІҢ ЕСЕБІН ЖҮРГІЗУДІҢ ТИІМДІЛІГІ.....	48
<b>А.Б. Жолмаханова, Б.Д. Карбозова, Е. Рыбина</b> ЭМИГРАНТ ЕСТЕЛІКТЕРІН ОҚЫТУДЫҢ ҒЫЛЫМИ-ӘДІСТЕМЕЛІК АСПЕКТІЛЕРІ.....	58
<b>А.А. Куралбаева, Б.М. Баймуханбетов, Г.Е. Абылова</b> «САУАТ АШУ» ОҚУЛЫҒЫНДАҒЫ ТАРАУЛАР МЕН ТАҚЫРЫПТАРҒА МАЗМҰНДЫҚ ТАЛДАУ.....	68
<b>Ж.Б. Кдыралиева, Г.С. Балтабаева, М.А. Батырбаева, Н.Р. Суранчиева</b> ЖОҒАРҒЫ ОҚУ ОРНЫНДАРЫНДА ЕЖЕЛГІ ӘДЕБИ МҰРАЛАРДЫ ОҚЫТУДАҒЫ ИННОВАЦИЯЛЫҚ ТЕХНОЛОГИЯЛАРДЫ ПАЙДАЛАНУ НЕГІЗДЕРІ.....	81
<b>А.Ж. Мәуітбекова, К.Н. Булатбаева</b> ОМОНІМДІК ПАРАДИГМА АҒЫЛШЫН ТІЛІН ОҚЫТУДЫҢ БІРЛІГІ РЕТІНДЕ.....	87
<b>Ф.Д. Наметкулова, Г.Т. Шойынбаева, А.Қ. Сугирбекова</b> БОЛАШАҚ МҰҒАЛІМДЕРДІ ФИЗИКАЛЫҚ ЭКСПЕРИМЕНТ АРҚЫЛЫ ОҚУШЫЛАРДЫҢ ФУНКЦИОНАЛДЫҚ САУАТТЫЛЫҒЫН ҚАЛЫПТАСТЫРУҒА ДАЯРЛАУ.....	100

---

<b>Ғ.А. Орынханова, Ж.К. Қиынова, А.Т. Оңалбаева</b> АУЫЛ МЕКТЕПТЕРІ МҰҒАЛІМДЕРІНІҢ ЦИФРЛЫҚ САУАТТЫЛЫҒЫН ҚАЛЫПТАСТЫРУ МӘСЕЛЕЛЕРІ.....	113
<b>А.Р. Рымханова, С.К. Абильдина, Р.К. Дюсембинова</b> СТУДЕНТ ЖАСТАР ЕРІКТІЛІГІНІҢ ЖЕКЕ-ПСИХОЛОГИЯЛЫҚ ДЕТЕРМИНАНТТАРЫ.....	125
<b>Г.А. Сейдуллаева, Г.Ж. Жалелова, Г.С. Сапар</b> ЦИФРЛЫҚ ТЕХНОЛОГИЯЛАР АРҚЫЛЫ ЦИФРЛЫҚ БІЛІМ БЕРУ РЕСУРСТАРЫН ЖОБАЛАУ.....	138
<b>А.С. Тастанова, Н.Т. Шындалиев, Ж.Е. Зулпыхар</b> МАШИНАЛЫҚ ОҚЫТУДА РҮТНОН БАҒДАРЛАМАСЫНЫҢ МҮМКІНДІКТЕРІ.....	150
<b>С. Тлеубай, Ж. Жауыншиева, С. Есимкулова, Ж. Оралканова</b> УНИВЕРСИТЕТТЕ БОЛАШАҚ МАМАНДЫ ДАЙЫНДАУДА ЭМОЦИОНАЛДЫҚ КОМПОНЕНТТІ ДАМЫТУДЫҢ РӨЛІ.....	161
<b>А.А. Туктасинова, К.Ш. Бакирова</b> ПӘН МЕН ТІЛДІ КІРІКТІРІП ОҚЫТУДА ОҚУ МАТЕРИАЛДАРЫН ПАЙДАЛАНУ ТУРАЛЫ.....	173
<b>З.Н. Утегулова, Ф.Ш. Оразбаева, Э.Н. Оразалиева</b> АЙТЫЛЫМ МЕН ЖАЗЫЛЫМ ПРОЦЕСТЕРІНІҢ КОММУНИКАТИВТІК АСПЕКТІЛЕРІ.....	183
<b>Г.Т. Шүкенай, А.М. Абызова, Г.А. Тлегенова</b> ПЕДАГОГ ТІЛІНІҢ ЛИНГВОЭКОЛОГИЯСЫ.....	194

## ЭКОНОМИКА

<b>Л.О. Абылкасимова, М.Б. Молдажанов, А.Ж. Зейнуллина, К.Е. Хасенова, А.Б. Рахешева</b> ҚАЗАҚСТАНДАҒЫ ЭКОТУРИЗМНІҢ ҚАЗІРГІ ЖАҒДАЙЫ МӘСЕЛЕЛЕРІ МЕН ДАМУ ЖОЛДАРЫ.....	207
<b>Г. Азретбергенова, З. Есымханова, Ы. Узын</b> ЭКОНОМИКАЛЫҚ ӨСУ МЕН ЭКСПОРТ БАЙЛАНЫСЫН ДАМУШЫ ЕЛДЕР НЕГІЗІНДЕ ПАНЕЛЬДІК ТАЛДАУ.....	220

---

<b>О.А. Дагмирзаев</b> ҚАЗАҚСТАН ЭКОНОМИКАСЫ НАҚТЫ СЕКТОРЫНЫҢ АЙМАҚТЫҚ КӨРСЕТКІШТЕРІНІҢ ВАРИАТИВТІЛІГІН ФАКТОРЛЫҚ ТАЛДАУ.....	232
<b>Б.А. Жакупова, А.Т. Сексенова, А.С. Рахманова, К.Б. Тлеуқабылова</b> КОМПАНИЯДА ДАҒДАРЫСТЫҢ АЛДЫН АЛУ - КАПИТАЛДЫ ОҢТАЙЛЫ БАҒАЛАУДЫҢ НӘТИЖЕСІ.....	243
<b>Р.А. Жанбаев, Г.Р. Темирбаева, Д.А. Айбосынова, А.Е. Еркін, Д.Г. Максимов</b> КВАЗИМЕМЛЕКЕТТІК СЕКТОР: ТҰРАҚТЫ ДАМУ МАҚСАТТАРЫ (ТДМ) ЖӘНЕ ОЛАРДЫ КОРПОРАТИВТІК СТРАТЕГИЯЛАРҒА ИНТЕГРАЦИЯЛАУ ҚҰРАЛДАРЫ.....	253
<b>З.О. Иманбаева, Д.А. Амержанова, Н.Б. Давлетбаева, Х.Х. Кусаинов, Э.Ш. Дуйжанова</b> ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДАҒЫ АУЫЛШАРУАШЫЛЫҒЫН ДАМУДЫҢ ЖОЛДАРЫ.....	270
<b>Л. Кан, Т. Мухамедьярова-Левина, А. Анесова</b> ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДАҒЫ ПАЙЛЫҚ ҚОРЛАРДЫҢ ЖАҒДАЙЫ МЕН ДАМУ БОЛАШАҒЫН ТАЛДАУ.....	286
<b>Г.К. Кенжетаетаева, Г.Т. Кунуркульжаева, Л.А. Шафеева, В. Есмагзам, И.Т. Имангалиева</b> ҚАЗАҚСТАН РЕСПУБЛИКАСЫНДАҒЫ ЖҰМЫССЫЗДЫҚ ДЕҢГЕЙІН ТАЛДАУ.....	298
<b>Ғ.Е. Керімбек, М.Ғ. Қайырғалиева, Г.Е. Нурбаева, Н.А. Умбеталиев, К.Б. Сатымбекова</b> КОМПАНИЯДА АҚША ҚАРАЖАТТАРЫН БАСҚАРУ ЖӘНЕ БАҒАЛАУ СТРАТЕГИЯСЫН ЖЕТІЛДІРУ.....	311
<b>А.А. Муталиева, С. Дырка, В.Н. Сейтова, А.Б. Махатова, М.Қ. Ускенов</b> ҚАЗАҚСТАНДА СҮТ ӨНДІРІСІНІҢ ДАМУЫН ТАЛДАУ ЖӘНЕ БОЛЖАУ.....	322
<b>А.А. Нургалиева, С. Дырка</b> АУЫЛШАРУАШЫЛЫҒЫ ӨНДІРІСІН ДАМУЫНДАҒЫ ИНВЕСТИЦИЯЛАРДЫҢ НЕГІЗГІ РӨЛІ.....	332

<b>А.Ж. Панзабекова, И.Д. Тургель, Ж.Г. Имангали</b> АЗАМАТТЫҚ ҚОҒАМ СЫБАЙЛАС ЖЕМҚОРЛЫҚҚА ҚАРСЫ МЕМЛЕКЕТТІК САЯСАТТЫҢ ТИІМДІЛІГІН АРТТЫРУДЫҢ ӘЛЕУМЕТТІК РЕСУРСЫ РЕТІНДЕ.....	344
<b>А.С. Садвақасова, Б.С. Корабаев, Г.Д. Аманова, С.С. Донцов, Б. Куантқан, А.В. Заякина</b> ҚР МАШИНА ҚҰРЫЛЫС КОМПАНИЯЛАРЫНДА ИНТЕГРАЦИЯЛЫҚ ЕСЕПТІЛІКТІҢ МӘНІН АРТТЫРУ НЕГІЗІ РЕТІНДЕ ЭКОЛОГИЯЛЫҚ ШЫҒЫНДАРДЫ ЕСЕП ЖӘНЕ ТАЛДАУ.....	361
<b>М. Саймова, Ж.Қ. Басшиева, С.И. Игильманова, А.Ж. Бұхарбаева, А.Б. Тасмаганбетов</b> НАРЫҚ ЖАҒДАЙЫНДА МАРКЕТИНГТІК ИННОВАЦИЯЛАРДЫ ӨЗІРЛЕУ ЖӘНЕ ЕНГІЗУ.....	372
<b>Р.Б. Саргова, А.С. Кадырова, А.А. Ниязбаева, Г.К. Демеуова, Ж.Қ. Басшиева</b> АГРАРЛЫҚ СЕКТОРДЫ ЖАҢҒЫРТУ: ҚАРЖЫЛЫҚ ҚОЛДАУ ШАРАЛАРЫ.....	388

## СОДЕРЖАНИЕ

### ПЕДАГОГИКА

<b>Э.А. Абдыкеримова, А.Б. Туркменбаев, Б.У. Куанбаева, Р.Е. Жақиянова</b> ФОРМИРОВАНИЕ ИССЛЕДОВАТЕЛЬСКИХ НАВЫКОВ УЧАЩИХСЯ В ПРОЦЕССЕ ОБУЧЕНИЯ РОБОТОТЕХНИКЕ.....	5
<b>Н.С. Алгожаева, К.Б. Жумабекова, Г.К. Шашаева, Р. Жәлиқызы</b> ПОДГОТОВКА БУДУЩИХ ПЕДАГОГОВ К ИННОВАЦИОННОЙ ПЕДАГОГИЧЕСКОЙ ДЕЯТЕЛЬНОСТИ.....	19
<b>Бектурова М., Жайтапова А., Тулепова С., Дянкова Г.</b> ВЛИЯНИЕ СОЦИАЛЬНЫХ И ЭМОЦИОНАЛЬНЫХ ФАКТОРОВ НА ФОРМИРОВАНИЕ КОМПЕТЕНЦИИ АКАДЕМИЧЕСКОГО ПИСЬМА БУДУЩИХ ПЕДАГОГОВ ИНОСТРАННОГО ЯЗЫКА.....	33
<b>Ж.М. Есиркепов, Б.С. Омаров, Б.И. Курманбаев, Н.Б. Омаров</b> ЭФФЕКТИВНОСТЬ ВЕДЕНИЯ УЧЕТА ТЕХНИКО-ТАКТИЧЕСКИХ ДЕЙСТВИЙ ВОЛЕЙБОЛИСТОВ ВЫСОКОГО КЛАССА ВО ВРЕМЯ СОРЕВНОВАНИЙ.....	48
<b>А.Б. Жолмаханова, Б.Д. Карбозова, Е. Рыбина</b> НАУЧНО-МЕТОДИЧЕСКИЕ АСПЕКТЫ ОБУЧЕНИЯ ЭМИГРАНТСКИХ ВОСПОМИНАНИЙ.....	58
<b>А.А. Куралбаева, Б.М. Баймуханбетов, Г.Е. Абылова</b> АНАЛИЗ СОДЕРЖАНИЯ ГЛАВ И ТЕМ УЧЕБНИКА «САУАТ АШУ».....	68
<b>Ж.Б. Кдыралиева, Г.С. Балтабаева, М.А. Батырбаева, Н.Р. Суранчиева</b> ОСНОВЫ ИСПОЛЬЗОВАНИЯ ИННОВАЦИОННЫХ ТЕХНОЛОГИЙ В ОБУЧЕНИИ ДРЕВНЕМУ ЛИТЕРАТУРНОМУ НАСЛЕДИЮ В ВУЗАХ.....	81
<b>А.Ж. Мәуітбекова, К.Н. Булатбаева</b> ОМОНИМИЧЕСКАЯ ПАРАДИГМА КАК ЕДИНИЦА ОБУЧЕНИЯ АНГЛИЙСКОМУ ЯЗЫКУ.....	87
<b>Ф.Д. Наметкулова, Г.Т. Шойынбаева, А.Қ. Сугирбекова</b> ПОДГОТОВКА БУДУЩИХ УЧИТЕЛЕЙ К ФОРМИРОВАНИЮ ФУНКЦИОНАЛЬНОЙ ГРАМОТНОСТИ УЧАЩИХСЯ ПОСРЕДСТВОМ ФИЗИЧЕСКОГО ЭКСПЕРИМЕНТА.....	100

<b>Г.А. Орынханова, Ж.К. Киынова, А.Т. Оналбаева</b> ПРОБЛЕМЫ ФОРМИРОВАНИЯ ЦИФРОВОЙ ГРАМОТНОСТИ УЧИТЕЛЕЙ СЕЛЬСКИХ ШКОЛ.....	113
<b>А.Р. Рымханова, С.К. Абильдина, Р.К. Дюсембинова</b> ИНДИВИДУАЛЬНО-ПСИХОЛОГИЧЕСКИЕ ДЕТЕРМИНАНТЫ ВОЛОНТЕРСТВА У СТУДЕНЧЕСКОЙ МОЛОДЕЖИ.....	125
<b>Г.А. Сейдуллаева, Г.Ж. Жалелова, Г.С. Сапар</b> ПРОЕКТИРОВАНИЕ ЦИФРОВЫХ ОБРАЗОВАТЕЛЬНЫХ РЕСУРСОВ СРЕДСТВАМИ ЦИФРОВЫХ ТЕХНОЛОГИЙ.....	138
<b>А.С. Тастанова, Н.Т. Шындалиев, Ж.Е. Зулпыхар</b> ВОЗМОЖНОСТИ ПРОГРАММЫ RYTHON В МАШИННОМ ОБУЧЕНИИ.....	150
<b>С. Тлеубай, Ж. Жауыншиева, С. Есимкулова, Ж. Оралканова</b> РОЛЬ РАЗВИТИЯ ЭМОЦИОНАЛЬНОГО КОМПОНЕНТА В ПОДГОТОВКЕ БУДУЩЕГО СПЕЦИАЛИСТА В ВУЗЕ.....	161
<b>А.А. Туктасинова, К.Ш. Бакирова</b> ОБ ИСПОЛЬЗОВАНИИ УЧЕБНЫХ МАТЕРИАЛОВ В ПРЕДМЕТНО-ЯЗЫКОВОМ ИНТЕГРИРОВАННОМ ОБУЧЕНИИ.....	173
<b>З.Н. Утегулова, Ф.Ш. Оразбаева, Э.Н. Оразалиева</b> КОММУНИКАТИВНЫЕ АСПЕКТЫ ПРОЦЕССОВ ГОВОРЕНИЯ И ПИСЬМА.....	183
<b>Г.Т. Шүкенай, А.М. Абызова, Г.А. Тлегенова</b> ЛИНГВОЭКОЛОГИЯ ПЕДАГОГИЧЕСКОЙ РЕЧИ.....	194

## ЭКОНОМИКА

<b>Л.О. Абылкасимова, М.Б. Молдажанов, А.Ж. Зейнуллина, К.Е. Хасенова, А.Б. Рахешева</b> СОВРЕМЕННОЕ ПОЛОЖЕНИЕ ЭКОТУРИЗМА В КАЗАХСТАНЕ: ПРОБЛЕМЫ И ПУТИ РАЗВИТИЯ.....	207
<b>Г. Азретбергенова, З. Есымханова, Ы. Узын</b> ПАНЕЛЬНЫЙ АНАЛИЗ ЭКОНОМИЧЕСКОГО РОСТА И ЭКСПОРТА В РАЗВИВАЮЩИХСЯ СТРАНАХ.....	220

**О.А. Дагмирзаев**

**ФАКТОРНЫЙ АНАЛИЗ ВАРИАТИВНОСТИ РЕГИОНАЛЬНЫХ  
ПОКАЗАТЕЛЕЙ РЕАЛЬНОГО СЕКТОРА ЭКОНОМИКИ  
КАЗАХСТАНА.....232**

**Б.А. Жакупова, А.Т. Сексенова, А.С. Рахманова, К.Б. Тлеукабылова**  
**ПРЕДУПРЕЖДЕНИЕ КРИЗИСА В КОМПАНИИ – РЕЗУЛЬТАТ  
ОПТИМАЛЬНОЙ ОЦЕНКИ КАПИТАЛА.....243**

**Р.А. Жанбаев, Г.Р. Темирбаева, Д.А. Айбосынова, А.Е. Еркін,  
Д.Г. Максимов**  
**КВАЗИГОСУДАРСТВЕННЫЙ СЕКТОР: ЦЕЛИ УСТОЙЧИВОГО  
РАЗВИТИЯ (ЦУР) И ИНСТРУМЕНТЫ ИХ ИНТЕГРАЦИИ  
В КОРПОРАТИВНЫЕ СТРАТЕГИИ.....253**

**З.О. Иманбаева, Д.А. Амержанова, Н.Б. Давлетбаева,  
Х.Х. Кусайнов, Э.Ш. Дуйжанова**  
**ПУТИ РАЗВИТИЯ СЕЛЬСКОГО ХОЗЯЙСТВА В РЕСПУБЛИКЕ  
КАЗАХСТАН.....270**

**Л. Кан, Т. Мухамедьярова-Левина, А. Анесова**  
**АНАЛИЗ СОСТОЯНИЯ И ПЕРСПЕКТИВЫ РАЗВИТИЯ ПИФОВ В РК.....286**

**Г.К. Кенжетаетаева, Г.Т. Кунуркульжаева, Л.А. Шафеева, В. Есмагзам,  
И.Т. Имангалиева**  
**АНАЛИЗ УРОВНЯ БЕЗРАБОТИЦЫ В РЕСПУБЛИКЕ  
КАЗАХСТАН.....298**

**Г.Е. Керимбек, М.Г. Кайыргалиева, Г.Е. Нурбаева,  
Н.А. Умбеталиев, К.Б. Сатымбекова**  
**СОВЕРШЕНСТВОВАНИЕ СТРАТЕГИИ УПРАВЛЕНИЯ И  
ОЦЕНКИ ДЕНЕЖНЫХ СРЕДСТВ В КОМПАНИИ.....311**

**А.А. Муталиева, С. Дырка, В.Н. Сейтова, А.Б. Махатова,  
М.Қ. Ускенов**  
**АНАЛИЗ И ПРОГНОЗ РАЗВИТИЯ ПРОИЗВОДСТВА МОЛОКА  
В КАЗАХСТАНЕ.....322**

**А.А. Нургалиева, Стефан Дырка**  
**ОСНОВНАЯ РОЛЬ ИНВЕСТИЦИЙ В РАЗВИТИИ  
СЕЛЬСКОХОЗЯЙСТВЕННОГО ПРОИЗВОДСТВА.....332**



- 
- А.Ж. Панзабекова, И.Д. Тургель, Ж.Г. Имангали**  
ГРАЖДАНСКОЕ ОБЩЕСТВО КАК СОЦИАЛЬНЫЙ РЕСУРС  
ПОВЫШЕНИЯ ЭФФЕКТИВНОСТИ ГОСУДАРСТВЕННОЙ  
АНТИКОРРУПЦИОННОЙ ПОЛИТИКИ.....344
- А.С. Садвакасова, Б.С. Корабаев, Г.Д. Аманова, С.С. Донцов,  
Б. Куанткан, А.В. Заякина**  
УЧЕТ И АНАЛИЗ ЭКОЛОГИЧЕСКИХ ЗАТРАТ КАК ОСНОВА  
ПОВЫШЕНИЯ СУЩЕСТВЕННОСТИ ИНТЕГРИРОВАННОЙ  
ОТЧЕТНОСТИ В МАШИНОСТРОИТЕЛЬНЫХ  
КОМПАНИЯХ РК.....361
- М. Саймова, Ж.К. Басшиева, С.И. Игильманова, А.Ж. Бухарбаева,  
А.Б. Тасмаганбетов**  
РАЗРАБОТКА И ВНЕДРЕНИЕ МАРКЕТИНГОВЫХ ИННОВАЦИЙ  
В РЫНОЧНЫХ УСЛОВИЯХ.....372
- Р.Б. Сартова, А.С. Кадырова, А.А. Ниязбаева, Г.К. Демеуова,  
Ж.К. Басшиева**  
МОДЕРНИЗАЦИЯ АГРАРНОГО СЕКТОРА: МЕРЫ ФИНАНСОВОЙ  
ПОДДЕРЖКИ.....388

**CONTENTS**

**PEDAGOGY**

**E. Abdykerimova, A. Turkmenbaev, B. Kuanbayeva, R.E. Zhakiyanova**  
FORMATION OF STUDENTS RESEARCH SKILLS IN THE PROCESS  
OF TEACHING ROBOTIC.....5

**N.S. Algozhaeva, K.B. Zhumabekova, G.K. Shashaeva, R. Zhalikyzy**  
PREPARATION OF FUTURE TEACHERS FOR INNOVATIVE  
PEDAGOGICAL ACTIVITY..... 19

**M. Bekturova, A. Zhaitapova, S. Tulepova, G. Diankova**  
THE IMPACT OF SOCIAL AND AFFECTIVE FACTORS ON THE  
FORMATION OF ACADEMIC WRITING COMPETENCE AMONG  
FUTURE EFL TEACHERS.....33

**Zh.M. Yessirkepov, B.S. Omarov, B.I.Kurmanbayev, N.B. Omarov**  
EFFECTIVENESS OF KEEPING RECORDS OF TECHNICAL AND  
TACTICAL ACTIONS OF HIGH-CLASS VOLLEYBALL PLAYERS  
DURING COMPETITIONS.....48

**A. Zholmakhanova, B. Karbozova, E. Rybina**  
SCIENTIFIC AND METHODOLOGICAL ASPECTS OF TEACHING  
EMIGRANT MEMORIES.....58

**A.A. Kuralbayeva, B.M. Baimukhanbetov, Abylova G.E.**  
ANALYSIS OF CONTENTS OF CHAPTER AND TOPICS IN  
«SAUAT ASHU» TEXTBOOK.....68

**Zh.B. Kadyralieva, G.S. Baltabayeva, M.A. Batyrbayeva, N.R. Suranchieva**  
FUNDAMENTALS OF THE USE OF INNOVATIVE TECHNOLOGIES IN  
TEACHING ANCIENT LITERARY HERITAGE  
IN HIGHER EDUCATIONAL INSTITUTIONS.....81

**A. Mauitbekova, K. Bulatbayeva**  
HOMONYMIC PARADIGM AS A UNIT OF TEACHING ENGLISH.....87

**F. Nametkulova, G. Shoiynbaeva, A. Sugirbekova**  
PREPARATION OF FUTURE TEACHERS FOR THE FORMATION  
OF FUNCTIONAL LITERACY OF STUDENTS THROUGH A PHYSICAL  
EXPERIMENT.....100

<b>G. Orynkhanova, Zh. Kiynova, A. Onalbayeva</b> PROBLEMS OF FORMATION OF DIGITAL LITERACY OF RURAL SCHOOL TEACHERS.....	113
<b>A.Р. Рымханова, С.К. Абильдина, Р.К. Дюсембинова</b> INDIVIDUAL PSYCHOLOGICAL DETERMINANTS OF VOLUNTEERING AMONG STUDENTS.....	125
<b>G. Seidullayeva, G. Zhalelova, G. Sapar</b> DESIGNING DIGITAL EDUCATIONAL RESOURCES BY MEANS OF DIGITAL TECHNOLOGIES.....	138
<b>A.S. Tastanova, N.T. SHyndaliev, Zh.E. Zulpykhar</b> PYTHON PROGRAM FEATURES IN MACHINE LEARNING.....	150
<b>S. Tleubay, Zh. Zhauynshiyeva, S. Yessimkulova, Zh. Oralkanova</b> THE ROLE OF THE DEVELOPMENT OF THE EMOTIONAL COMPONENT IN THE PREPARATION OF THE FUTURE SPECIALIST IN THE UNIVERSITY.....	161
<b>A. Tuktassinova, K. Bakirova</b> ON THE USE OF LEARNING MATERIALS IN CONTENT AND LANGUAGE INTEGRATED LEARNING.....	173
<b>Z. Utegulova, F. Orazbaeva, E. Orazaliyeva</b> COMMUNICATIVE ASPECTS OF SPEAKING AND WRITING PROCESSES.....	183
<b>G. Shukenai, A. Abyzova, G. Tlegenova</b> LINGUOECOLOGY OF TEACHER'S SPEECH.....	194

## ECONOMICS

<b>L. Abylkassimova, M. Moldazhanov, A. Zeinullina, K. Khassenova, A. Rakhisheva</b> CURRENT STATE OF ECOTOURISM IN KAZAKHSTAN: PROBLEM AND OPPORTUNITIES FOR DEVELOPMENT.....	207
<b>G. Azretbergenova, Z. Yessymkhanova, Y. Uzun</b> A PANEL ANALYSIS OF THE RELATIONSHIP OF ECONOMIC GROWTH AND EXPORTS BY DEVELOPING COUNTRIES.....	220
<b>O.A. Dagmirzaev</b>	

FACTOR ANALYSIS OF THE VARIABILITY OF REGIONAL INDICATORS THE REAL SECTOR OF THE ECONOMY OF KAZAKHSTAN.....	232
<b>B. Zhakupova, A. Seksenova, A. Rakhmanova, K. Tleukabylova</b> PREVENTION OF A CRISIS IN THE COMPANY AS A RESULT OF AN OPTIMAL CAPITAL ASSESSMENT.....	243
<b>R.A. Zhanbayev, G.R. Temirbaeva, D.A. Aibossynova, A.Y. Yerkin, D.G. Maksimov</b> QUASI-PUBLIC SECTOR: SUSTAINABLE DEVELOPMENT GOALS (SDG) AND TOOLS FOR THEIR INTEGRATION INTO CORPORATE STRATEGIES.....	253
<b>Z. Imanbayeva, N. Davletbayeva, D. Amerzhanova, K. Kussainov, E. Duizhanova</b> DEVELOPMENT METHODS OF AGRICULTURE IN THE REPUBLIC OF KAZAKHSTAN.....	270
<b>L. Kan, T. Mukhamedyarova-Levina, A. Anessova</b> ANALYSIS OF THE STATE AND PROSPECTS FOR THE DEVELOPMENT OF MUTUAL FUNDS IN THE REPUBLIC OF KAZAKHSTAN.....	286
<b>G. Kenzhetayeva, G. Kunurkulzhayeva, L. Shafeyeva, V. Yesmagzam, I. Imangaliyeva</b> ANALYSIS OF THE UNEMPLOYMENT RATE IN THE REPUBLIC OF KAZAKHSTAN.....	298
<b>G. Kerimbek, M. Kaiyrgaliev, G. Nurbayeva, N. Umbetaliev, K. Satymbekova</b> IMPROVING CASH MANAGEMENT AND ASSESSMENT STRATEGY IN THE COMPANY.....	311
<b>A. Mutaliyeva, S. Dyrka, V. Seitova, A. Makhatova, M. Uskenov</b> ANALYSIS AND FORECAST OF MILK PRODUCTION DEVELOPMENT IN KAZAKHSTAN.....	322
<b>A. Nurgaliyeva, S. Dyrka</b> THE MAIN ROLE OF INVESTMENT IN THE DEVELOPMENT OF AGRICULTURAL PRODUCTION.....	332

---

<b>A.Zh. Panzabekova, I.D. Turgel, Zh.G. Imangali</b> CIVIL SOCIETY AS A SOCIAL RESOURCE FOR INCREASING THE EFFICIENCY OF STATE ANTI-CORRUPTION POLICY.....	344
<b>A. Sadvakassova, B. Korabayev, G. Amanova, S. Dontsov, B. Kuantkan, A. Zayakina</b> ACCOUNTING AND ANALYSIS OF ENVIRONMENTAL COSTS AS A BASIS FOR INCREASING THE SIGNIFICANCE OF INTEGRATED REPORTING IN MACHINE-BUILDING COMPANIES OF THE RK.....	361
<b>M. Saiymova, Z. Basshieva, S. Igilmanova, A. Bukharbayeva, A. Tasmaganbetov</b> DEVELOPMENT AND IMPLEMENTATION OF MARKETING INNOVATIONS IN MARKET CONDITIONS.....	372
<b>R. Sartova, A. Kadyrova, A. Niyazbayeva, G. Demeuova, Z. Basshieva</b> MODERNIZATION OF THE AGRICULTURAL SECTOR: FINANCIAL SUPPORT MEASURES.....	388

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