

эффективных стратегий и использования современных методов для достижения успеха и устойчивого развития аграрных формирований.

Ключевые слова: Управление персоналом, аграрные формирования, стратегии, методы, вызовы, производительность труда, мотивация, лидерство, обучение, сельскохозяйственный сектор.

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АГРАРЛЫҚ ҚҰРЫЛЫМДАРДАҒЫ ПЕРСОНАЛДЫ БАСҚАРУ: СТРАТЕГИЯЛАР, ӘДІСТЕР ЖӘНЕ ҚИЫНДЫҚТАР

Аңдатпа

Аграрлық құрылымдардағы персоналды басқару қазір әлемдегі ауылшаруашылық кәсіпорындарының табысты жұмысының негізгі аспектісі болып табылады. Бұл мақала аграрлық саладағы персоналды басқару менеджерлерінің алдында тұрған стратегияларға, әдістерге және қиындықтарға шолу болып табылады. Аграрлық құрылымдардағы персоналды басқару стратегиялары еңбек өнімділігін барынша арттыруға, ресурстарды пайдалануды оңтайландыруға және кәсіпорынның нарықтағы бәсекеге қабілеттілігін қамтамасыз етуге бағытталған кешенді жоспарларды әзірлеуді қамтиды. Бұл стратегиялар қызметкерлерді ынталандыру, көшбасшылықты дамыту, қызметкерлерді оқыту және дамыту шараларын қамтуы мүмкін. Аграрлық құрылымдардағы персоналды басқару әдістері жалақы жүйелері мен өнімділікті бағалау сияқты дәстүрлі тәсілдерден бастап персоналды басқару процестерін автоматтандыру үшін ақпараттық технологияларды пайдалану сияқты заманауи құралдарға дейін қамтиды.

Түйінді сөздер: Персоналды басқару, аграрлық құрылымдар, стратегиялар, әдістер, қиындықтар, еңбек өнімділігі, мотивация, көшбасшылық, оқыту, ауыл шаруашылығы секторы.

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WAYS OF INVESTMENT DEVELOPMENT OF THE AGRO-INDUSTRIAL COMPLEX OF KAZAKHSTAN AT THE PRESENT TIME

Abstract

The scientific article presents current issues and modern directions of investment development of the agro-industrial complex of Kazakhstan. The issues of the development of the agro-industrial complex in Kazakhstan at the last stage are provided by well-planned state programs, among which the main attention is paid to ensuring the availability of the sales market and the development of exports, the development of rural areas. However, the analysis revealed that currently there are many

shortcomings in the investment development of the agro-industrial complex, the imperfection of market economic mechanisms in the activities of agricultural enterprises, insufficient commercial information, a large contribution to Investment financing is carried out only within the framework of state programs. From the statistical data, it was analyzed that agriculture has developed by 2-3 percent over the past 2-3 years, but this indicates that the situation with inflation of at least 7-8 percent for each year in the country remains uncertain.

The main reasons leading to a decrease in the share of investment financing of the agro-industrial complex in the country are: forced distribution of income for current consumption, a decrease in the role of depreciation, the lack of necessary monetary circulation, inefficient management of state support, inflation and other negative phenomena.

The authors propose ways to implement investment activities for the development of the agricultural sector of the economy in modern conditions. The scientific article suggests the development of strategies, the creation of investment policy mechanisms to improve the economic efficiency of the agro-industrial complex of the country, the planning of directions with indicators that lead to economic efficiency in future years, as well as hard work, the optimization of investment activities through an effective depreciation policy, the establishment of systems and mechanisms of self-financing through the financial statements of agricultural enterprises.

Keywords: economy, agro-industrial complex, development strategy, state regulation, investment, investment financing, digitalization of industry, modernization, depreciation, financial accounting.

Introduction

In recent years, the development of Agro-Industrial Complex in Kazakhstan has been supported by well-planned government programs, the main focus of which is to ensure the availability of markets and the development of exports, rural development. In particular, in the Address by the President of the Republic of Kazakhstan Nursultan Nazarbayev “New Opportunities for Development in Conditions of Fourth Agricultural Revolution” it was mentioned that the goal of the country's agro-industrial complex is to radically increase labor productivity and increase exports of processed agricultural products by at least 2.5 times over 5 years. In its turn, it has provided an important condition for the development of agro-business.

State programs aimed at developing agriculture, including the “Agro-business Mechanisms 2020” program; include a set of measures aimed at ensuring the competitiveness of domestic agricultural products and food security. However, the low level of labor productivity in the industry, the imperfection of the technologies used, and the small size of agricultural production did not allow it to develop on a large scale. [2]

Since 2020, we have switched to the implementation of digital technologies in line with the development of the global economy. Our country does not lag behind in the process of constant updating of information technologies and innovative ideas, and we work in step with the times. As part of the “Digital Kazakhstan” program in the country [3], we have moved towards digitalization and improving the efficiency of all industries. Under “State Program for the Development of the Agro-Industrial Complex for 2017-2021” [4], we have begun implementing large-scale measures to develop agro-business.

Kazakhstan is an agro-industrial country where the main activity of the population is agriculture. Today, forty-three percent of the population lives in rural areas and the level of development of agricultural production depends not only on the standard of living of those who work here, but also on the standard of living of people associated with this market. The well-being of many Kazakhstanis is closely related to the level of development of agricultural production.

Kazakhstan is the largest grain power in the world. Grain areas grow high-gluten and high-gluten wheat varieties, which are in great demand in the world market. The area under cereals covers a total area of eighteen million hectares, of which twelve million hectares are for wheat, with a total yield of 600,000 tons. The accumulated experience of growing corn for grain provides a yield of eighty

hundredweight per hectare. In Kazakhstan, rice, buckwheat, rapeseed, soybeans, oats, cotton, sugar beets, many vegetables and fruits are grown in Kazakhstan.

The traditional branch of agriculture in the Republic of Kazakhstan is animal husbandry, which provides the population with food and light industry with raw materials. Kazakhstan annually produces up to 750 000 tons of meat, more than four and a half million tons of milk, about two and a half billion eggs and 30 000 tons of wool. In the northern regions of the republic, pig breeding and dairy cattle breeding prevail, in the southern regions - beef cattle breeding, sheep breeding, horse and camel breeding, in the western and eastern regions - meat and horse breeding.

According to the strategy "Kazakhstan 2050" in the agro-industrial complex, the main directions of the industry are to increase food security, the formation of an agricultural business, increase the competitiveness of domestic products and increase sales both in the domestic and foreign markets, reduce food imports, rural implementation of an effective system of state support for agricultural production.

In order to increase labor productivity in agriculture, use the export potential of the agro-industrial complex, the Government of Kazakhstan aims to attract foreign investment, provide investors with preferences in the form of return on investment, exemption from certain taxes, and the introduction of modern technologies through co-financing. Kazakhstan is introducing insurance mechanisms in case of adverse weather conditions to support agricultural producers. Here are the main areas supported by the state:

- *Animal husbandry (large, breeding, dairy cattle, horses, camels, poultry);

- *Crop production of cereals, melons, technical, fruits, vegetables.

- *The main directions of processing of agricultural products.

Investment projects should provide for the creation of new industries, expansion and modernization of existing ones. In support of such investment projects within the framework of state programs, they receive an in-kind grant in the amount of no more than 30% of investments in fixed capital. In a supported investment project, the investor must build a new facility or upgrade an old one, the total investment must exceed the equivalent of 2 million MNU, or about 5 billion tenge (\$13 million in 2020). The priority investment project is exempt from paying import duties on equipment, components, raw materials for a period of 5 years. It is also exempt from VAT on the import of raw materials, as well as CIT, land tax and property tax. As a subsidy up to 30% of the cost of construction and installation works and the purchase of equipment, not excluding VAT and excises, provided for by the program of work for the project. Production and processing of meat, milk, wool is subsidized. In crop production, the production and processing of grain, beets, cotton, and sunflowers are subsidized. In order to increase crop yields, the state also subsidizes the use of fertilizers and pest control products. To stimulate the rapid renewal of the machine and tractor fleet, the state allocates subsidies for the purchase of agricultural machinery and provides soft loans. [5]

In Kazakhstan, the provision of livestock feed is being established. Based on the results of marketing research, over the past 3 years, the volume of livestock and feed production in Kazakhstan has grown at a moderate pace. The analysis shows that, despite the reduction of arable land allocated for fodder crops, the volume of production of feed for farm animals is increasing in the country.

Kazakhstan has large areas of agricultural land, including livestock. The main sources of fodder for livestock and poultry in the country are pastures, natural and sown hayfields, and arable land for growing fodder crops. The total sown area in Kazakhstan in 2019 amounted to 22 135,8 thousand hectares, of which forage crops account for about 15%.

Table 1 – Arable land of the Republic of Kazakhstan, divided into food crops, thousand hectares

	2017	2018	2019
Sown area, thousand hectares	3382,3	3323,2	3277,2

Source: Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan.

The sown area of fodder crops in Kazakhstan in 2019 amounted to 3277,2 thousand hectares and decreased by 3.1% compared to 2017, while it should be noted that over the past three years there has been a steady decline in the sown area of fodder crops.

According to the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan, at the beginning of 2020, there were 7 436,4 thousand heads of cattle, 813,3 thousand heads of pigs, 19,155.7 thousand heads of sheep and goats, 2,852.3 thousand heads of horses, camels 216, 4 thousand heads, birds of all kinds, there were 45.0 million heads.

Table 2 – Livestock in all categories of farms of the Republic of Kazakhstan as of January 1 (beginning of the year), thousand heads,

Year	Cattle	Sheep and goats	Pigs	Horses	Camels	Birds, million heads
2017	6 247,2	17 947,1	831,1	2 113,2	172,5	37,8
2018	6 764,2	18 329,0	815,1	2 415,7	193,1	39,9
2019	7 150,9	18 699,1	798,7	2 646,5	207,6	44,3
2020	7 436,4	19 155,7	813,3	2 852,3	216,4	45,0

Source: Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan.

As of January 1, 2020, the number of cattle in all categories of farms increased by 19.0% compared to the beginning of 2017 and amounted to 7,436.4 thousand heads, horses - by 35% and 2,852.3 thousand heads, camels - 25.5% and 216.4 thousand heads, sheep and goats - 6.7% and 19,155.7 thousand heads, birds - 19.1% and 45.0 million heads. At the beginning of 2020, the number of pigs decreased by 2.1% compared to the beginning of 2017 and amounted to 813.3 thousand heads.

As part of the development of the agricultural market, the sown area of Kazakhstan in the last 2020-2021 increased by 295.9 thousand hectares. About half of the sown area of food crops (48.4%) falls on 4 regions of the country: Akmola (11.1%), Kostanay (16.8%), North Kazakhstan (11.0%) and Pavlodar (9.6%).

50.7% of the area allocated for fodder crops is used by peasants, farms, 48.9% - by agricultural enterprises.

In Mangistau and Atyrau regions, as well as in the cities of Nur-Sultan, Almaty and Shymkent, there are practically no arable lands for this type of crop.

In addition, with the growth of arable land, the number of direct consumers of feed - farm animals - increased. For 4 years, the number of cattle increased by 19%, the number of horses - by 35%.

Despite the pandemic, there are positive trends in agriculture. According to statistics, the total volume of production (services) of agriculture, forestry and fisheries in January-July 2020 in the country amounted to 1,679.1 billion tenge, which is 2.5% higher than the same period last year. The growth in the production of agricultural, forestry and fisheries products in January-July 2020 led to

an increase in crop production by 2.1%, slaughter of livestock and poultry by 3.6%, raw cow's milk by 3%. All of the above trends observed in the agricultural sector, especially the fact that this market is a priority for the economy of Kazakhstan, require further development. [6-10]

However, these achievements are still low. Growth of 2-3% in recent years is not a matter of great pride, but the fact that the annual inflation rate in the country is 7-8% suggests that agro-business in the country is still at a low level. With this aim, in our article we send the necessary directions and recommendations for the development of agro-business:

- Scientists of Kazakhstan believe that it is necessary to develop principles and practical approaches to energy-efficient farming, which will lead to high yields, strictly adhering to the principles of aerospace farming, using elements of greening and biologization. These are new modern trends in attracting investment in agriculture by region.

The low level of grain yield was affected by organizational and economic factors, the main problem of which is the decrease in mechanization. The general shortage of agricultural machinery in the regions, the lack of funds from farms during the sowing period, the reduction in the use of fertilizers, herbicides, the increase in prices for industrial equipment, the growth of transport costs, as well as the sale of products indicate that the labor and production system is still poor. The solution of these issues, the introduction of effective methods and technologies will reduce harvesting costs, ensure adequate fertilizer application, as well as the correct production organization system. To do this, it is not enough to support the state program for covering costs, equipping with new modern equipment, it is necessary to establish new investments and the process of their effective use.

In developed countries with market economies, they are an important source of investment financing: they account for about 40% of all current and capital expenditures of enterprises carried out from extra-budgetary sources. According to the Statistics Agency of the Republic of Kazakhstan, today only 35-45% of investments in fixed assets are financed through depreciation, but their amount is not enough for investment. First of all, this is due to the lack of effective mechanisms for state control over the intended use of depreciation instruments. An important internal source of investment is the correct use of depreciation allowances, which can be used for direct investment in the amount of 50%, which in turn requires the correct organization of the financial accounting of agricultural enterprises. Proper financial reporting enables us to use a portion of this sinking fund for any investment purpose. Private investment opportunities for agricultural enterprises are limited. Here are the main reasons for the decline in the share of own investments: the forced distribution of income for current consumption, the reduced role of depreciation, the lack of the necessary cash flow, inefficient state support, inflation and other negative phenomena.

- When analyzing the tractor fleet until 2020, there is a tendency to reduce their number. The purchase of tractors by agricultural enterprises in 2020 will almost double compared to 2018; Purchases of grain harvesters, corn harvesters, potato harvesters, grain harvesters decreased by 3-4 times. The production of seeders, tractor plows, tractor harrows, tractor trailers has been reduced by a factor of three or more. The production of water baskets and irrigation machines and equipment has halved, which, in turn, indicates the inefficiency of investment programs and government support programs.

- In order to create an attractive investment activity, we need to implement the following forms of state support:

1. Development of strategies and mechanisms for investment policy in order to create favorable conditions for the effective development of the economy of the regions and the country as a whole;
2. Orientation, as well as careful work on the regulation of investment sectors and objects with indicators that will lead to their economic efficiency in the coming years;
3. The discipline of the effectiveness of tax optimization of investment activities, analysis of the contribution and impact of annual tax benefits on the development of agriculture and labor;
4. Facilitate the growth of foreign inflows through the provision of financial borrowing, the development of futures, lease financing operations and an effective credit policy;

5. Optimization of investment activity through the implementation of an effective depreciation policy, the creation of systems and mechanisms for self-financing through the financial reporting of agricultural enterprises.

Thus, assessing the investment climate in the agriculture of the regions and the development of investment activity in the region in recent years, it becomes clear that an in-depth analysis of the investment climate at the national and regional levels of foreign and domestic investment will be effective. Without analysis and regulation, without timely organization and with performance indicators, analysis always opens the way to development. In general, strategic development and methods for improving the investment climate in the country and its regions are required, which are not yet on the way to the proper organization of our country.

The investment potential of the agro-industrial complex is formed as a set of objective prerequisites for investment, depending on the availability of various industries and investment objects and their economic situation. In the development of investment potential, this is a quantitative characteristic that takes into account the main macroeconomic indicators of the industry, for example:

- * mineral resource potential (provision of the main types of natural resources with balance reserves);

- * labor potential (characterizes the presence of able-bodied population);

- * production potential (total results of economic activity in the industry);

- * consumer potential (total potential capacity of the region's population);

- * financial potential (reflects the development and efficiency of the financial system);

- * infrastructure potential (economic and geographical position of the region and infrastructure organization of the industry);

- * institutional potential (degree of development of market economy institutions);

- * innovative potential (the level of implementation of the achievements of scientific and technological progress in the industry).

The social factor must be taken into account when developing and analyzing investment potential. In the process of financing agricultural production. At present, the consequences of the global financial crisis, as well as the persistence of inflation in the country, in turn, affect the solvency of the population and inefficient investment management due to the depreciation of labor and money. Here, the wages of workers in the agricultural sector are significantly lower than in the economy as a whole. A normal life requires a significant increase in per capita income, which provides a modest increase in population and wage levels in the normal activity of a worker. Raising wages to the subsistence minimum, adjusting the financial turnover in agriculture to an efficient system is today a necessary condition for the effective use of labor resources in all sectors of the economy.

The government should continue to direct a significant portion of foreign loans to agriculture on concessional terms, especially through international banks. Important opportunities for strengthening require the activation of the role and activities of leasing, futures centers, and credit unions.

Thus, the solution of the issues of implementing the investment policy in agro-business, determining the main directions of investment and improving the efficiency of investments should be carried out taking into account a unified economic, financial, budgetary and social policy in the agro-industrial complex of the Republic of Kazakhstan. In its turn, it will ensure the economic growth of the Kazakh agro-industrial complex, the ability of successfully solving the problem of saturation and saturation of the market with domestic products.

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ҚАЗІРГІ КЕЗДЕГІ ҚАЗАҚСТАННЫҢ АГРОӨНЕРКӘСІП КЕШЕНІН ИНВЕСТИЦИЯЛЫҚ ДАМУДЫҢ ЖОЛДАРЫ

Аңдатпа

Ғылыми мақалада Қазақстанның агроөнеркәсіптік кешенін инвестициялық дамытудың қазіргі таңдағы бағыттары мен өзекті мәселелері берілді. Қазақстанда АӨК-ді дамыту мәселелері соңғы кезеңде жақсы жоспарланған мемлекеттік бағдарламалармен қамтамасыздандырылып отыр, солардың арасында басты назар – өткізу нарығының қолжетімділігін қамтамасыз ету және экспортты дамыту, ауыл аумақтарын дамыту. Алайда талдау барысында, қазіргі уақытта агроөнеркәсіптік кешенді инвестициялық дамытуда кемшіліктер көп, агро кәсіпорындар қызметтерінде нарықтық шаруашылық механизмдерінің жетілмеуі, коммерциялық ақпараттың жеткіліксіздігі, инвестициялық қаржыландыруда үлкен үлес тек ғана мемлекеттік бағдарламалар аясында жүргізіліп жатырғандығы анықталды. Статистикалық мәліметтерден ауыл шаруашылығы соңғы 2-3 жылдан бері 2-3 пайыздық даму үстінде екендігі сараланды, алайда бұл елімізде орын алып отырған әр жылғы кемі 7-8 пайыздық инфляция жағдайында жағдай мәз еместігін көрсетеді.

Елімізде АӨК инвестициялық қаржыландыру үлесінің төмендеуіне әкелетін негізгі себептер: кірісті ағымдағы тұтынуға мәжбүрлеп бөлу, амортизациялық аударымдар рөлінің төмендеуі, қажетті ақша айналымының болмауы, мемлекеттік қолдауды тиімді жүргізбеу, инфляция және басқа да жағымсыз құбылыстар теріс әсер етіп жатыр.

Авторлар тарапынан қазіргі жағдайда экономиканың аграрлық секторын дамыту бойынша инвестициялық қызметтерді жүзеге асырудың жолдары ұсынылды. Ғылыми мақалада еліміздің агроөнеркәсіп кешенінің экономикалық тиімділігін жоғарылату үшін инвестициялық саясаттың стратегияларын жасау, тетіктерін туындату, болашақ жылдар бойынша экономикалық тиімділікке әкелетін көрсеткіштермен бағыттарын жоспарлау, сонымен қатар жұмыс жасау, тиімді амортизациялық саясат жүргізу арқылы инвестициялық қызметті оңтайландыру, ауыл шаруашылық кәсіпорындардың қаржылық есебі арқылы өзін-өзі қаржыландыру жүйелері мен тетіктерін жолға қою ұсынылды.

Кілтті сөздер: экономика, агроөндіріс, агроөнеркәсіп кешені, даму стратегиясы, мемлекеттік реттеу, инвестиция, инвестициялық қаржыландыру, өнеркәсіпті цифрландыру, модернизацияландыру, амортизация, финансовый учет.

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ПУТИ ИНВЕСТИЦИОННОГО РАЗВИТИЯ АГРОПРОМЫШЛЕННОГО КОМПЛЕКСА КАЗАХСТАНА В НАСТОЯЩЕЕ ВРЕМЯ

Аннотация

В научной статье даны актуальные вопросы и современные направления инвестиционного развития агропромышленного комплекса Казахстана. Вопросы развития АПК в Казахстане на последнем этапе обеспечиваются хорошо спланированными государственными программами, среди которых основное внимание уделяется обеспечению доступности рынка сбыта и развитию экспорта, развитию сельских территорий. Однако в ходе анализа было выявлено, что в настоящее время в инвестиционном развитии агропромышленного комплекса имеется много недостатков, несовершенство рыночных хозяйственных механизмов в деятельности агропредприятий, недостаточная коммерческая информация, большой вклад в инвестиционное финансирование ведется только в рамках государственных программ. Из статистических данных было проанализировано, что сельское хозяйство развивается на 2-3 процента за последние 2-3 года, однако это свидетельствует о том, что ситуация с инфляцией не менее 7-8 процентов за каждый год в стране остается неопределенной.

Основными причинами, приводящими к снижению доли инвестиционного финансирования АПК в стране, являются: принудительное распределение доходов на текущее потребление, снижение роли амортизационных отчислений, отсутствие необходимого денежного обращения, неэффективное ведение государственной поддержки, инфляция и другие негативные явления.

Авторами предложены пути осуществления инвестиционной деятельности по развитию аграрного сектора экономики в современных условиях. В научной статье предложены разработка стратегий, создание механизмов инвестиционной политики для повышения экономической эффективности агропромышленного комплекса страны, планирование направлений с показателями, приводящими к экономической эффективности по будущим годам, а также жесткая работа, оптимизация инвестиционной деятельности путем проведения эффективной амортизационной политики, налаживание систем и механизмов самофинансирования через финансовую отчетность сельскохозяйственных предприятий.

Ключевые слова: экономика, агропромышленный комплекс, стратегия развития, государственное регулирование, инвестиция, инвестиционное финансирование, цифровизация промышленности, модернизация, амортизация, финансовый учет.

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РЕЛАКСАЦИОННЫЕ СВОЙСТВА ЗЕРНОВОГО СЫРЬЯ

Аннотация

Основная проблема: В сыпучем зерновом сырье (пшеница, кукуруза и т.д.) процесс релаксации происходит под механическим воздействием. В тоже время повышаются пластические свойства материала, уменьшается нагрузка и энергия, затрачиваемые на обработку изделия.

На практике большая часть стресса уменьшается за относительно короткий промежуток времени (около 30 секунд), поэтому важен 1-й этап расслабления. Затем, через определенное время, зерно снова прессовали до тех пор, пока оно не разрушалось (точка В).

Как видно, предел прочности испытуемого материала при растяжении в этом случае меньше предела прочности при растяжении, достигнутого без учета процесса релаксации. В результате в ходе процесса релаксации прочность зернового продукта снижается.

Цель: Целью исследования является изучение релаксационных свойств зернового сырья под механическим воздействием. Расчеты показывают, что энергия, затрачиваемая на уничтожение зерновых продуктов, сокращается на 20-30% с учетом процесса смягчения последствий.

Методы, Результаты и их значимость: В статье приведены результаты исследований релаксации напряжении зерна пшеницы, которые необходимы для расчета и проектирования высокоэффективного технологического оборудования для измельчения и таблетирования продукта на основе зернового сырья.

Ключевые слова: деформация, релаксационные процессы, релаксация напряжении, зерновое сырье, зерно пшеницы, измельчение, предел прочности, работа при разрушении, таблетирование.

Введение

Известно, что самым энергоемким технологическим процессом при переработке зернового сырья является измельчение, на которое расход энергии составляет 60-70 % от всей энергии, затрачиваемой на получение готовой продукции [1,2].

Для повышения эффективности работы технологического оборудования в пищевой и перерабатывающей промышленности необходимо знать прочностные характеристики измельчаемых материалов.

Напряжение – это внешняя сила F , действующая на площадь поперечного сечения A образца. Важным аспектом является не количество силы, а то, что она приложена к площади поперечного сечения.