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INNOVATION DEVELOPMENT IN AGRICULTURAL INDUSTRY OF KAZAKHSTAN.

Abstract. The article discusses about of influences of innovative processes on increasingcompetitiveness agricultural sector in order to ensure the efficiency of agricultural production and food security of the country. Innovative processes allow everywhere continues innovateproduction on the basis of mastering the achievements of science and technology. However, at present time, the agricultural sector in Kazakhstan is characterized by low labor

productivity, due to low crop yield and productivity farm animals, modifications of old technologies, issues of products with low added value, weak innovation activity in the agricultural industry. The only way out of the current crisis of the agrarian regions of the republic is the implementation of own innovative policy of agricultural industry, which is aimed at increasing the competitiveness of agricultural production. The Concept of the government program for the development of the Agricultural industry for 2017-2021, in the next five years, production and processing of agricultural products should become the main source of diversification and a driver of economic growth.

Government agrarian policy should be implemented along the way scientific research in the field of science and technology, improving the education system, creating for the development of all branches of the agro-industrial complex, aimed at ensuring food security, maximum employment of the population and increase of its well-being. Therefore, priority should be government support of fundamental and applied science, and for this it is necessary to clearly define which directions of applied science should be supported in modern conditions with an orientation toward mandatory implementation of their results in the final product and increasing its competitiveness.

Key words: Agroindustry, innovation, innovation process, government innovation policy, greenhouse.

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Аңдатпа. Мақалада еліміздің ауылшаруашылық өндірісінің тиімділігін және азық – түлік базасының қауіпсіздігін қамтамасыз ету мақсатында инновациялық үдерістердің ауылшаруашылық секторының бәсекеге қабілеттілігін көтеруге ықпалы туралы талқыланады. Инновациялық үдерістер ғылым мен техниканың жетістіктерін меңгеру негізінде инновациялық өндірісті жаппай жалғастыруға мүмкіндік береді. Алайда, қазіргі таңда Қазақстанның ауыл шаруашылық секторы ауыл шаруашылық дақылдарының шығымдылығы және мал шаруашылығы өнімдері өнімділігінің төмендігімен, ескі технологияларды қолдануымен, өнім құнының төмен бағалануы мәселесімен, ауылшаруашылық саласындағы инновациялық белсенділіктің төмендігімен сипатталады. Қазіргі кезде іс жүзінде қолданылатын ғылымдардың қандай бағыттары қолдау табуы тиіс, не үшін нақты жағдайларды анықтау керек, түбінде олардың қорытындылары орындалуға міндетті және оның бәсекелестікке қабілеттілігі артуы басты назарда болуы тиіс.

Кілт сөздер: аграрлық сектор, инновациялар, инновациялық үдерістер, мемлекеттік инновациялық саясат, жылыжай.

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Аннотация. В статье обсуждается влияние инновационных процессов на повышение конкурентоспособности сельскохозяйственного сектора в целях обеспечения эффективности сельскохозяйственного производства и продовольственной безопасности страны. Инновационные процессы позволяют повсеместно продолжать инновационное производство на основе освоения достижений науки и техники. Однако, в настоящее время сельскохозяйственный сектор в Казахстане характеризуется низкой производительностью труда из-за низкой урожайности и продуктивности сельскохозяйственных животных, изменениями старых технологий, проблемами продуктов с низкой добавленной стоимостью, слабой инновационной активностью в сельскохозяйственной отрасли.

Единственным выходом из нынешнего кризиса аграрных регионов республики является реализация собственной инновационной политики агропромышленного комплекса, направленной на повышение конкурентоспособности сельскохозяйственного производства. Поэтому приоритетом должна быть государственная поддержка фундаментальной и прикладной науки, для чего необходимо четко определить, какие направления прикладной науки должны поддерживаться в современных условиях с ориентацией на обязательное выполнение их результатов в конечном продукте и повышение его конкурентоспособности.

Ключевые слова: аграрный сектор, инновация, инновационные процессы, государственная инновационная политика, теплица.

Introduction

The agro-industrial complex is one of the most important branches of the economy, which determines the living standards of the population and ensures the food security of the state. New approaches to farming are needed to provide quality products. The most important strategic priorities for the development of the agricultural sector in modern scientific and technological progress and innovative processes that allow to conduct continuous updating of production on the basis of mastering the achievements of science and technology. In recent years, not only in the agro-industrial complex, but also in Kazakhstan as a whole, there is a decline in innovative activity. Broad and open access to foreign technologies inhibits the development of national innovation policy and applied science in the field of agro-industrial complex and creates a real danger of the emergence of technological dependence on foreigndevelopments. At the same time, Kazakhstan is experiencing a profoundly innovative andcrisis in the agrarian sector of the economy. One of the main factors of effective functioning of the national system of management in modern conditions is the forced modernization and development of innovations. President of the Republic of Kazakhstan N.A. Nazarbayev, defining the strategic priorities of the new stage of modernization of

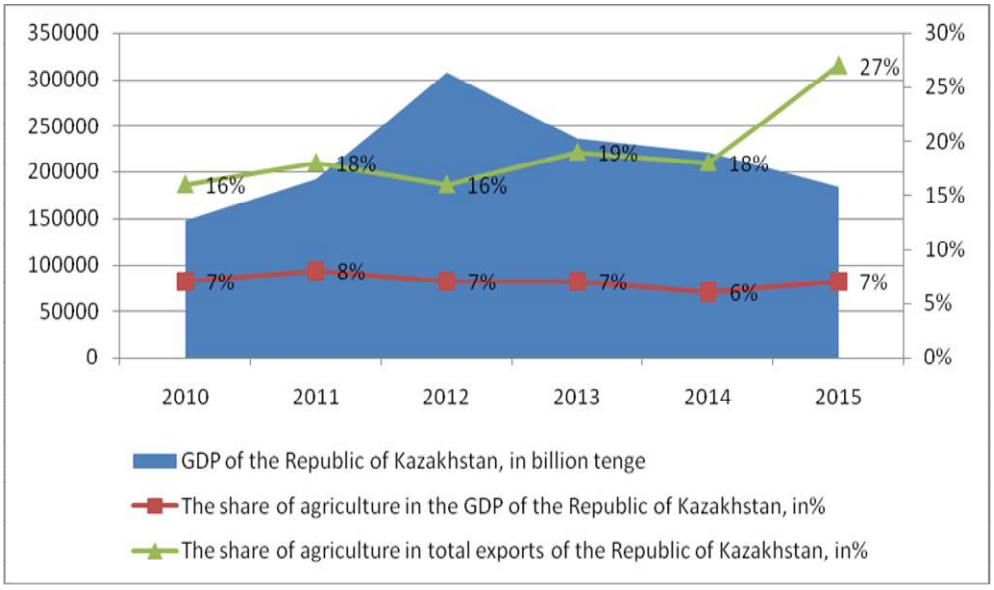
Kazakhstan society in the long-term development program of the republic – «Kazakhstan-2050» Strategy, noted the modernization of agriculture as a necessity [1].

The share of agriculture in the GDP of Kazakhstan in the period 2010-2015 changing slightly and it is about 7%. At the same time, the share of agriculture in the totalvolume of exports is relatively stable and amounted, on average, to 17.4% 2014 in 2015, there is a significant increase in the share of agriculture in GDP, due to a sharp decline in exports in nominal termsdue to depreciation of the national currency (Table 1).

Population of Kazakhstan, by the end of 2015 in rural about 43% of the population, and in comparison with 2010, when the ratio of the rural population to the entire population of Kazakhstan was 45.5%. This indicator tends to decrease. Continues to maintain the outflow of workers from agriculture. One of the reasons for the reduction in the number of employees is the lowest wages from all sectors of the economy.

Table 1

The share of agriculture in total exports of the Republic of Kazakhstan, in%



Source: Committee on Statistics of the Republic of Kazakhstan

Discussions

Water pollution, deforestation and degradation of forest ecosystems, destruction of natural habitats of other species of living organisms and, as a result, the extinction and disappearance of rare and undesirable species, as well as the reduction of the importation of vegetable contents of vitamins and microelements, and accumulation of both crop and livestock production of

harmful substances , such as nitrates, hormones, pesticides, antibiotics and others.

On grain production, Kazakhstan ranks third in the CIS after Russia and Ukraine. Export of wheat is one of the main sources of foreign exchange earnings in the economy of the republic. Despite the fact that the country is in the zone of risky farming, and the harvest of cereals can differ by more than 50% in different years, Kazakhstan fully provides itself with bread and exports at least 70% of the crop even in the most lean years [2]. In the north of Kazakhstan, spring wheat, oats, barley and other cereals are grown, as well as sunflower, fly-curls. The West is famous for its corn, vegetable, sunflower and other crops. In the south of the republic, with artificial irrigation, cotton crops, sugar beets, tobacco, rice produce high yields. The natural conditions of Kazakhstan, their diversity, cause significant potential for the development of livestock. Traditionally in Kazakhstan are engaged in sheep breeding, horse breeding, camel breeding, breeding of cattle.

The agro-industrial complex of Kazakhstan has a promising future. In many items, we can be one of the world's largest producers of agricultural exports. Especially for the production of organic food. The brand «made in Kazakhstan» should become the standard of such products. At the same time, we must become the so-called "bread basket" for the production of grain throughout the Eurasian continent. We need to ensure the transition from raw materials production to the production of quality, processed products. Only then can we compete in international markets.

N.A. Nazarbayev gave the following instruction to government and governors:

- Firstly, the principles of allocation of subsidies and gradual move to production insurance shall be reconsidered;Secondly, during the 5 years all conditions for combining more than 500 thousand households and small farms into cooperatives shall be created;
- Thirdly, the level of product processing shall be increased, and the effective storage, transportation and distribution of goods shall be created;
- Fourthly, the level of productivity shall be increased and production costs shall be reduced;
- Fifthly, we must improve the efficiency of land use. Within 5 years, the area of irrigated land shall grow by 40%, thereby raising it to 2 million hectares;
- Sixthly, investment in agricultural research shall boost, to be in demand in a business environment [3].

In relation to agriculture (agrarian and industrial) innovation is the implementation of economic practices in research and development in the form of new varieties of plants, breeds and species of animals and sneakers for poultry, new or improved food products, materials and new technologies in

agriculture, livestock and processing industry, new fertilizers and protection of crops and animal species, new methods for the prevention and treatment of animals and birds, new forms of organization and management of various areas of economic.

On the subject and in the field of agriculture is proposed to distinguish four types of innovations:

- Selection and genetic (new varieties and hybrids of crops, new breeds, types of animals and poultry crosses, the creation of plants and animals that are resistant to pests and diseases, adverse environmental factors);
- Technical and technological and production (using the new techniques, new technologies of cultivation of agricultural crops, new industrial technologies in animal husbandry, science-based system of agriculture and livestock, fertilizers, and their new systems, new crop protection agents, the Greening of agriculture, new resource-saving technologies;
- Organizational, managerial and economic (development cooperation and formation of integrated structures in agriculture, new forms of maintenance and provision of resources agriculture, new forms of organization and motivation, new forms of organization and management in agribusiness, marketing, innovation, creation of Innovation and advisory systems in the field of science, technology and innovation, concepts, methods of decision-making, forms and mechanisms of innovation development;
- Social and ecological (forming a system of training scientific and technical support of agriculture, improving the working conditions, making healthier, education and culture of the rural workers, promotion and enhancement of environmental quality, provision of favorable environmental conditions for living, working and Recreation).

Conditions and factors that contribute to the innovative development of agriculture, a transition to a market economy, natural resources, a large scientific and educational potential, a capacious domestic food market, the ability to produce environmentally safe, natural foods.

As a negative environment, should be noted the diversity of scientific and technical innovation; Substantial share in the research issues of regional, sectional and multifunctional nature, long duration of the study. This specificity presents difficulties in the management of agrarian research and agricultural science in general [4].

One of the characteristics of agriculture is that, along with industrial production, living organisms - plants and animals - take an active part in the reproduction process. The development of their action is subject to natural laws and depends on natural factors, such as climate, weather, heat, humidity, light and nutrition.

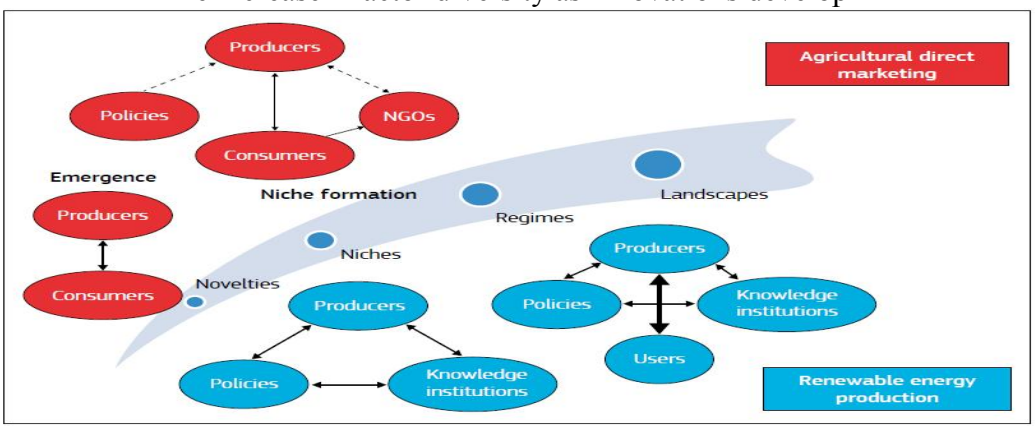
A plant and animals are living organism that is born, sick, recuperates or dies. The development of their action is subject to natural laws and depends on

natural factors, such as climate, weather, heat, humidity, light and nutrition. V.R. Williams said: «Plants require a continuous flow of prosperity and uninterrupted flow of the four groups of factors — light, heat, water and nutrients in continuous condition of simultaneous and co-flow of all four factors in optimal amounts in absolute equivalence and independence of» [5]. In agriculture, a small mistake made will lead to great losses. K.A. Timiryazev said: «Nowhere, perhaps, than in any other activities is not required to weigh the many different conditions of success, never needed such multilateral information anywhere fascination with one-sided point of view cannot lead to such a failure, as in agriculture» [6].

Networks of innovation typically grow as an innovation develops. During the up-scaling process networks become more complex and hybrid, as new actors become engaged. Especially at the niche and regime in the politics and knowledge domains play a more visible role (Table 2) [7].

Table 2

The increase in actor diversity as innovations develop



Source: Dockès et al., 2011

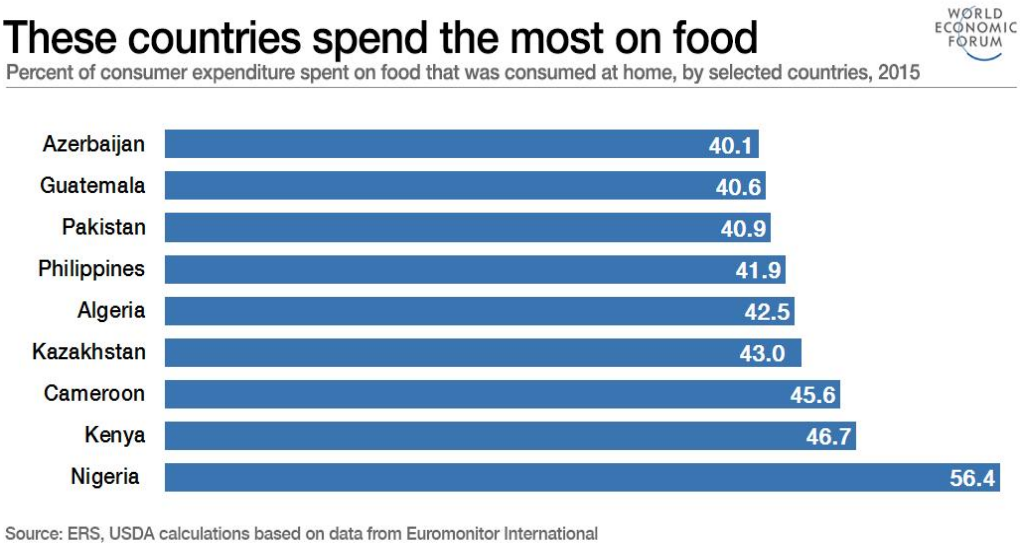
One of the main problems of Kazakhstan, we are most dependent on imported food, as well as from Chinese substandard, saturated with harmful substances, from which all kinds of diseases appear. Do not use our vacant land for the development of agriculture is a guilty, thus no more valuable your wealth. Other countries despite the territory of the earth, are big exporters of agricultural products, such as the Netherlands, Turkey, Israel, Japan. Our country included one of the most spend money on food (Table 3), so we have to try being independent in import, and become exporter, because in close future the global population is set to rise from 8.5 billion in 2030 to 9.2 billion by 2050. The vast majority of this population growth will take place in the developing world. Over the next 10 years, developing countries will account for 40-60% of the global food commodity production. Meeting the future growth in the world require a 70% increase in global food production [8, 9].

It becomes obvious that with an increase in the number of people in the world, states that have the ability to export food, which are the most successful and influential in the world market. Agriculture is the main and most promising branch of the economy of Kazakhstan. Different climatic conditions in which a plant is grown is a moderate thermal appearance and development of livestock.

The innovative process in the agrarian sector is a constant and continuous flow of transformation of technical and technological ideas into new technologies or its individual components and bringing them to use directly in production with the aim of obtaining a qualitatively new product.

40 percent of horticultural produce in Kazakhstan is imported from abroad. In this regard, the main profit goes to the pockets of the producers of China, Uzbekistan and Kyrgyzstan.

Table 3



The share of vegetables produced in greenhouse complexes in Kazakhstan is only 0.2%, and in developed countries, this figure is 5-6%, in particular, in Russia, 3.5% of vegetables are cultivated in a closed ground. Today, there is an obvious seasonal imbalance in the structure of vegetable production: their surplus during harvesting from open ground areas and shortages from November to May. This is the so-called off-season period, which, due to climatic conditions, lasts for more than 210 days in the greater territory of the country, when the volume of fruit and vegetable products grown in Kazakhstan in a closed ground is not enough. It is necessary to build high-tech industrial greenhouses in order to replace the imported vegetable culture in the off-season with a domestic product. So, according to him, in the off-season, in percentage in vegetable crops (tomatoes, cucumbers, greens) is

about 89 thousand tons. Kazakhstan greenhouses give about 20-25 thousand tons per year.

To provide the market with its product, according to his calculations, it is necessary to build 180-200 hectares of high-tech greenhouses. The difference between an industrial greenhouse and a greenhouse economy is striking. If a greenhouse with one square meter in two turns for a year gives 15-20 kg of vegetable culture, then a high-tech greenhouse with a double-glazed window - 45-50 kg, with lighting - all 70 kg.

The industrial greenhouse is characterized by high energy saving. The height is 7 meters, which increases the oxygen exchange. In new greenhouses apply hydroponic technology - a method of growing plants without soil, on a mineral wool, which is made from coconut chips. Plants get nutrients in the right amount through drip irrigation. If we talk about quality and safety, experts say that the main thing is not to use when fighting harmful chemicals: nitrates, herbicides, pesticides. Greenhouse production is very important for several reasons. First, the greenhouse produce for consumers on a year-round basis. Consequently, it plays an important role in feeding people. Secondly, it provides income for small farmers. Thirdly, this requires intensive work and production process and, as a consequence, contributes to efficiency of work. In addition, the greenhouse industry opportunities and efficiency gains through marketing and the stages of processing greenhouse products [10].

The Netherlands occupies the first place in the world in the area of covered ground for 1 person - 8 hectares / person, and the volume of grown greenhouse products. They have good support from the state, long-term crediting of agricultural producers at a low interest of 1.5-2.5% per annum for up to 25 years helped develop this industry. The total amount of closed ground in the Netherlands is 13,000 hectares. The main part of greenhouse areas, about 60%, is devoted to growing flowers. More than 80% of Dutch greenhouses vegetables are exported to other countries, the main consumers of Dutch products are the EU countries [11].

To improve the efficiency of the agrarian sector of the economy, state financial support is provided, due attention is paid to the timely and qualitative holding of necessary agro technical measures, the wide application of moisture and resource-saving technologies that promote more efficient use of productive moisture, which is the limiting factor of plant growth in a country with a sharp continental climate.

To increase the efficiency of agricultural production, it is necessary to stimulate agrarian science (Table 4). Investing in it, and especially in the selection of new varieties and hybrids, give a high return. It is believed that every dollar expended on agricultural research, increase in productivity of production is 40 US dollars; spent on research on oilseed rape - $ 46; invested in research on corn -$ 65 in the form of an increase in the yield of grain and improve its quality [12].

World experience shows that there are many mechanisms by which the state can participate in creating a favorable innovative climate. By types of impact, state regulation methods are divided into direct and indirect. To direct methods of stimulating innovation development, carried out by the government and actively used by foreign countries, can include budget financing of scientific developments, crediting, subsidizing part of interest rates on loans, provision of public space for concessional or share conditions for the implementation of scientific and innovative activities, Government's orders, etc.

However, at the same time, direct state support creates conditions for lobbying, corruption, and also raises the level of administrative expenditures on accompanying state initiatives. In most leading countries of the world state financial support of scientific innovative activity has an emphatically targeted character.

Indirect methods of stimulation in modern conditions become more widespread in foreign practice, since require deferred budgetary expenditures, compared to direct financing, as well as create the prerequisites for the development of entrepreneurial initiative in the innovation sphere. To them you can include the formation of a legislative and legal framework in the field of science and innovation, tax incentives, development of the venture financing, the formation of state innovation infrastructure (including the development of information and consultation services) and development of the market of scientific and technical products, the formation of innovative clusters (informal associations of small, medium and major enterprises, as well as research organizations operating in the a certain sector and geographic region).

Among indirect methods of stimulation it is necessary to allocate active application of certain tax regimes. It is believed that tax relief is the most marketable way stimulation. This method does not distort market signals, since the investor basically, independently chooses the direction of investment and does not requires high overhead administrative costs. In the world practice to stimulate innovation development the following types of tax benefits are widely used:

- the provision of research and investment tax credit, prolongation of tax payments in terms of costs from profits on innovative goals;
- reduction of the tax on the increment of innovation costs;
- "tax holidays" for several years on profit, received from the implementation of innovative projects;
- preferential taxation of dividends of legal entities and individuals, received on shares of innovative organizations;
- reduction of income tax rates aimed at custom and Joint R & D;
- connection of granting privileges taking into account priority of performed projects;

- preferential taxation of profit received as a result use of patents, licenses, know-how and other intangible assets that are part of intellectual property;
- reduction of taxable profit by the amount of the cost of equipment and equipment, transferred to various innovative organizations;
- deduction from taxable profits of contributions to charitable funds whose activities are related to the financing of innovation;
- crediting part of the profit of the innovation organization to special account with the subsequent preferential taxation in case of use on innovative goals [13].

Table 4

Government support of innovative activities in the agro-industrial complex

Government support of innovative activities in the agro-industrial complex			
Direct		Indirect	
Organizationofcompetitions,exhibitions	Payment training seminars, budgetary places at universities	Formation regional fund system	Provision of regional collateral fund
Placement of information in the media	Finincing of science	Tax privileges	Subsidizing % on loans
Marketing innovation	Development of priority research directions	Staff development	Formation of investment attractiveness of agrarian innovation
Ways to overcome the main barriers to innovation in the agro-industrial complex			

Conclusion

Kazakhstan needs activation of innovation. Strategy of innovation development agro-food complex, its main goals, tasks and mechanisms support innovative programs and projects should be determined by the basis of the state's innovative policy, the main task of which is to remains the mobilization of the scientific and technological potential of the industry for technical and

technological renewal of domestic rural economy. The main mechanism of combining agrarian science with agricultural production are the republican target programs. However, when compiling them, it is necessary to take into account the experience of countries with developed agrarian sector, which shows that the discrepancy of goals the volume of resources allocated for their implementation, as a rule, leads to failure to reach final results.

Creation of conditions for sustainable development of Kazakhstan's agrarian sector, assistance in ensuring regional food security, access of domestic agricultural products to the markets of foreign countries - all this is impossible without the active participation of the scientific sphere. Further development and use of new technologies in agriculture, their subsequent introduction into production will contribute to the development of the industry and will enable Kazakhstan to provide a competitive, high-performing agricultural sector.

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MODERN STATE AND PROSPECTS FOR DEVELOPMENT OF KAZAKHSTAN AVIATION MARKET

Abstract. The article discusses the issues related to the state of the air transportation market in the Republic of Kazakhstan, as well as the prospects for the development of this industry. Also analysis of statistical data on the number of transported passengers and cargo for the period from 2011 to 2015 is carried out. Also, the work provides data on the number of airports, airlines and their flights in the context of cities. It is concluded that the development of domestic flights is conditioned by the possibility of subsidizing and more active formation of the population's demand from airports and airlines. Competitiveness of passenger air transportation, taking into account Kazakhstan's geographical realities, is conditioned by the minimum time on the way compared to the other ways of transportation. However, in order to attract demand, airlines should strive to reduce costs by increasing utilization of fleet, reducing maintenance costs, increasing direct ticket sales. For the dynamic development of domestic flights in Kazakhstan, parallel development of the tourism industry and corresponding infrastructure is also necessary.

In the field of cargo transportation, further development prospects are related to the development of the ground handling of transit cargo carriers, the provision of competitive services, beneficial connections to the countries of the Customs Union, the CIS, etc.

Key words: civil aviation, domestic routes, airport, cargo service.

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Аңдатпа. Мақалада Қазақстан Республикасының әуе тасымалдау нарығының жағдайы мен саланың даму келешегі талқыланып, 2011-2015 жыл аралығындағы жолаушылар мен жүк тасымалындағы статистикалық деректерге талдау жасалынған. Ішкі рейстердің дамуын субсидиялау