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"GREEN" ECONOMY AND RATIONAL USE OF RESOURCES AS A PROSPECT FOR FOOD SECURITY OF THE COUNTRY

Abstract. Scientists from different countries separately describe the concept of the development of the "green economy", there are many publications on the rational use of resources.

The rational use of resources and the introduction of innovative technologies in the context of globalization are becoming the determining factors for the growth and development of the economy, a balanced, proportional increase in all sectors of the economic complex, including agriculture and the life support of society as a whole. Therefore, it is necessary to focus on the importance of the formation of a "green' economy for the agro-industrial complex and the inclusion of a "green" economy in the national policy on ecology and food security as a key factor.

The research methodology is to study the system of influence of the "green" economy and the reasonable use of available resources on the well-being of the environment, public health in order to ensure the country's food security.

Food security in the world market is ensured by the potential of crop production (cereals, fruits and vegetables, niche crops) and livestock. In this regard, the urgent tasks for the development of agriculture are: rational use of resources; communication of science, research institutes and production in the field of resource provision, in the field of innovation, digitalization; updating of equipment, technology; creation of conditions for the production of competitive types of products; a sufficient level of development of logistics (trade and logistics centers, wholesale distribution and logistics centers); sufficient qualification of agrarians and farmers; warehouse infrastructure for the storage of agricultural products; developed infrastructure for processing crops and livestock, etc.

Hence, the purpose of the article is to study the content of the “green” economy and the rational use of resources and their impact on the country's food security.

Key words: “green” economy, rational use of resources, food security, consumption, agriculture, product competitiveness.

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«ЖАСЫЛ» ЭКОНОМИКА ЖӘНЕ РЕСУРСТАРДЫ ҰТЫМДЫ ПАЙДАЛАНУ ЕЛДІҢ АЗЫҚ-ТҮЛІК ҚАУІПСІЗДІГІНІҢ БОЛАШАҒЫ РЕТІНДЕ

Аннотация. Әртүрлі елдердің ғалымдары «жасыл экономиканы» дамыту тұжырымдамасын жеке сипаттайды, ресурстарды ұтымды пайдалану туралы көптеген жарияланымдар бар. Жаһандану жағдайында ресурстарды ұтымды пайдалану және инновациялық технологияларды енгізу экономиканың өсуі мен дамуының және шаруашылық кешеннің барлық секторларының, соның ішінде ауылшаруашылығының теңгерімді, пропорционалды ұлғаюының және тұтастай алғанда қоғамның тіршілігін қамтамасыз етудің анықтаушы факторына айналуда. Сондықтан аграрлық өнеркәсіптік кешен үшін негізгі фактор ретінде «жасыл» экономиканы қалыптастырудың маңыздылығына және экология мен азық-түлік қауіпсіздігі жөніндегі ұлттық саясатқа «жасыл» экономиканы енгізуге баса назар аудару қажет.

Зерттеу әдістемесі елдің азық-түлік қауіпсіздігін қамтамасыз ету мақсатында «жасыл» экономиканың әсер ету жүйесін және қолда бар ресурстарды қоршаған ортаның әл-ауқатына, халықтың денсаулығына орынды пайдалануды зерттеу болып табылады.

Әлемдік нарықтағы азық-түлік қауіпсіздігі өсімдік шаруашылығы (дәнді дақылдар, жеміс-көкөніс, тауашалық дақылдар) мен мал шаруашылығының әлеуеті арқылы қамтамасыз етіледі. Осыған байланысты ауыл шаруашылығын дамытудың кезек күттірмейтін міндеттері: ресурстарды ұтымды пайдалану; ғылым, ғылыми-зерттеу институттары және өндірісті ресурстармен қамтамасыз ету, инновациялар, цифрландыру салаларындағы байланыс; техниканы, технологияны жаңарту; бәсекеге қабілетті өнім түрлерін өндіру үшін жағдай жасау; логистиканы дамытудың жеткілікті деңгейі (сауда-логистикалық орталықтар, көтерме тарату және логистикалық орталықтар); аграрлық қызметкерлер мен

фермерлердің жеткілікті біліктілігі; ауыл шаруашылығы өнімдерін сақтауға арналған қойма инфрақұрылымы; ауыл шаруашылығы дақылдарын және мал шаруашылығын өңдеудің дамыған инфрақұрылымы және т.б.

Демек, мақаланың мақсаты – «жасыл» экономиканың мазмұны мен ресурстарды ұтымды пайдалану және олардың елдің азық-түлік қауіпсіздігіне әсерін зерттеу.

Түйін сөздер: «жасыл» экономика, ресурстарды ұтымды пайдалану, азық-түлік қауіпсіздігі, тұтыну, ауыл шаруашылығы, бәсекеге қабілеттілік.

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«ЗЕЛЁНАЯ» ЭКОНОМИКА И РАЦИОНАЛЬНОЕ ИСПОЛЬЗОВАНИЕ РЕСУРСОВ КАК ПЕРСПЕКТИВА ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ СТРАНЫ

Аннотация. Учеными разных стран отдельно описаны концепции развития «зеленой экономики», много публикаций по рациональному использованию ресурсов.

Рациональное использование ресурсов и внедрение инновационных технологий в условиях глобализации становятся определяющими факторами для роста и развития экономики, сбалансированного, пропорционального повышения всех отраслей хозяйственного комплекса, в том числе сельского хозяйства и жизнеобеспечения общества в целом. Следовательно, необходимо акцентировать внимание на важность формирования «зеленой» экономики для агропромышленного комплекса и включения «зеленой» экономики в национальную политику по экологии и продовольственной безопасности как ключевой фактор.

Методология исследования заключается в изучении системы влияния «зеленой» экономики и разумного использования имеющихся ресурсов на благосостояние окружающей среды, здоровья населения с целью обеспечения продовольственной безопасности страны.

Продовольственная безопасность на мировом рынке обеспечивается за счет потенциала растениеводства (зерновых, плодовоовощных, нишевых культур) и животноводства. В связи с этим актуальными задачами для развития сельского

хозяйства становятся: рациональное использование ресурсов; связь науки, НИИ и производства в области ресурсного обеспечения, в области инноваций, цифровизации; обновление техники, технологии; создание условий для производства конкурентных видов продукции; достаточный уровень развития логистики (торгово-логистических центров, оптово-распределительных и логистических центров); достаточная квалификация аграриев и фермеров; складская инфраструктура по хранению сельскохозяйственной продукции; развитая инфраструктура по переработке растениеводства и животноводства и др.

Отсюда, целью статьи является изучение содержания «зеленой» экономики и рационального использования ресурсов и их влияние на продовольственную безопасность страны.

Ключевые слова: «зелёная» экономика, рациональное использование ресурсов, продовольственная безопасность, потребление, сельское хозяйство, конкурентоспособность продукции.

Introduction. The main task of the agricultural sector of Kazakhstan is to fully support the population through the potential of crop and livestock production and its own production, based on the rational use of resources, the use of modern safe technologies to obtain a quality product that promotes human health and development.

Our country has sufficient reserves for dynamic growth and development. In the last two decades, the agriculture of the republic has been developing steadily. Growth for individual products is observed from 30% and above. On average, the number of livestock during this period increased from 1.5 to 2.5 times. All this contributed to a significant improvement in the food supply of the country's population in comparison with the period of the formation of Kazakhstan's independence.

The most important directions in improving production both in crop production and in animal husbandry are the reduction of production costs, the effective implementation of modern achievements in the scientific and technical process; allocation of funds and investment in research and development work; creation of an integrated information system aimed at the relationship between universities, research institutes and production; state support in the form of incentives for loans for the purchase of equipment, premises, re-equipment and rearmament of production, etc.

Here, highly efficient resource-saving technologies are of primary importance, which are beneficial for agricultural producers from a financial point of view and can reduce the environmental burden on the environment nationwide. It is possible to provide tax benefits or exemption from paying taxes in the initial periods; exchange of experience in the field of expanding the number of cattle and small cattle, birds, rabbits, application of best practices; increasing the equipment of factories with equipment and machinery, improving the technology for obtaining environmentally friendly (organic) products; improvement of the system of relations between the industry and the introduction of missing industries: the creation of breeding and

selection centers, the establishment of the production of veterinary drugs, high-quality cheap premixes of domestic production, etc.; creation and promotion of a Kazakhstani product, development of promotional activities in promoting the product on the domestic market and state assistance in the field of product certification; organization of joint trade missions and establishment of coordination in contracts between manufacturers of the EAEU member states and foreign partners, etc.

Taken together, all this determines the insufficient level of food security in Kazakhstan and makes it necessary to assess it and develop measures to improve it, taking into account the "green" economy and the rational use of available resources, which reflects the relevance of this article.

Research Materials and methods. The materials for the study were the statistical data of the Committee on Statistics of the Ministry of Economy of the Republic of Kazakhstan. In addition, the results of studies conducted by the authors of this article were used.

When analyzing the main scientific problems disclosed in the study, the following methods were used:

- the method of scientific abstraction, when the authors single out the most important components of the "green" economy, the prospects for the development of food security;

- positive and normative analysis, where positive options for the development of the "green economy", rational use of resources are expressed as a fact, and value judgments are given on the economic policy of the country's food security;

- statistical - in order to conduct research and systematize the collected materials, the authors collected and studied statistical data on the development of agricultural production, as well as production for a number of years;

- comparative - according to the materials of statistical data, a comparative analysis of the development of agricultural production over the past twenty years, as well as with the period of formation of the Republic of Kazakhstan, was carried out.

Result and discussion. The use of different research methods will make it possible to successfully implement the "green" economy, rationally use the available resources, develop agriculture, and ensure the country's food security. For this need:

- large-scale introduction of renewable and alternative energy sources will effectively contribute to the innovative development of the national economy and sustainable growth of the country, improve the quality of life of the population and preserve natural resources. The introduction of green technologies in Kazakhstan is designed to increase the efficiency of the economy by 60% and reduce water consumption by almost 50%, improve the welfare of the population;

- improvement of technological processes of manufactured raw materials and materials, as well as finished products through high-quality training of production personnel and optimization of the structure. An important role here is played by financial and information flows, as well as the application of the latest achievements of the scientific and technical process;

- updating the material and technical base, the use of multi-operational

agricultural machines and equipment, the differentiation of agricultural technologies in accordance with the specifics of agricultural zones and territories, the use of plant and soil protection biotechnologies. It is necessary to expand the storage and transportation infrastructure (logistics and packaging). The problem of compulsory insurance in crop production remains;

- in order to improve the processes of development of agriculture and agricultural products, it is necessary to invest in research and development work, create an integrated information system aimed at the relationship between universities, research institutes and production; creation and promotion of a Kazakhstani product, an increase in promotional activities in promoting the product on the domestic market and assistance to the state in the field of product certification; organization of joint trade missions and establishment of coordination in contracts between manufacturers of the EAEU member states and foreign partners, etc.

"Green" economy is an economy designed to improve people's living standards while minimizing environmental risks.

One of the areas of activity of the "green economy" is considered Sustainable Agriculture Rural Development). Here it is important, while maintaining a balance of renewable and non-renewable resources, to reduce possible damage to ecosystems, to ensure the production of food products with a high level and safety for health (Gromova, 2014:1). At the same time, SARD aims to increase the production of food products that ensure food security and at the same time increase the level of food production at a stable level.

Today, Kazakhstan, like other states, is gradually developing in this direction. The development of the green economy should be determined both at the state level, taking into account the regional approach, and at the international level. Kazakhstan has developed state programs, the Strategy for Sustainable Development of the Republic of Kazakhstan. An important state document has become the Green Economy Transit Program of the Republic of Kazakhstan, adopted in 2013, which includes 3 stages of green economy implementation: 2013-2020 - Formation of green infrastructure in Kazakhstan (rational use of resources, increasing the efficiency of environmental protection activities). 2020-2030 - Energy saving and innovation (introduction of alternative energy sources and respect for natural resources). 2030-2050 - Green economy of the Republic of Kazakhstan (introduction of digital technologies and restoration of natural potential) (Alpysbayev, 2021:2).

There is a high proportion of the rural population in the republic - more than 43%. Therefore, alternative energy sources are necessary for the development of the country's agricultural regions. Kazakhstan has developed laws in the field of renewable energy, and taken measures to provide support: access to the electricity system, benefits and preferences. Kazakhstan is the only country in Central Asia with the ability to generate solar and wind energy for the development of renewable energy (Bajzholova, 2018:3).

By the beginning of 2020, the number of power plants based on renewable energy sources in the republic increased to 55, and the capacity increased by almost 18%

compared to 2019, which happened with the commissioning of new hydroelectric power plants and wind farms.

In order to support and preserve natural biodiversity, as well as to organize and develop sustainable agricultural production, along with the breeding of individual monoculturists, special-purpose lending is needed for upcoming "green" projects in agriculture and forestry. It is important that animals, feed and fertilizer are considered as a whole. For example, for balanced animal husbandry, it is proposed to keep one head of cattle per hectare of fodder crops. Here there is a uniform distribution of feed and fertilizer, and the cattle is in the fresh air. For example, when marking the territories of "green technologies", Scottish farmers post signs "free - range eggs", which means buy eggs of chickens kept on the field. This is most often not observed in agriculture, since the environment is polluted with animal waste (Gromova, 2014:1).

In 2020, a "pandemic" crisis has emerged that humanity has not encountered before. This crisis can either postpone the solution of certain environmental problems, including the "green" economy, due to the reorientation of funds for sanitary and epidemiological measures of the society, or vice versa, a healthy environment and healthy food will be perceived as preventive measures to prevent a Covid pandemic and gain a person of sustainable immunity against it. The FAO is already warning about a possible transition "to a less diverse diet", that "decreasing incomes and uncertainty make people spend less and lead to a reduction in demand", for many the crisis level is becoming an acute form of food insecurity (Food and Agriculture Organization (FAO), 2020:4).

Recently, the increase in organic agriculture production is 20–30% per year. Its main difference is that it does not involve the intensive use of mineral fertilizers and herbicide pesticides. Speaking about the intensity of mineral fertilizers, most often only 50% of nitrogen is consumed by cultivated plants, and the rest of its amount simply pollutes nature (Gromova, 2014:1).

To solve this problem, it is proposed to use organic fertilizers obtained locally more widely in their farms. The use of mineral fertilizers of a natural type is also recommended. At the same time, along with the correct crop rotation system, the planting of legumes is proposed.

It is important to abandon synthetic plant growth stimulants and genetically modified seeds.

Organic agriculture does not refuse new technologies. Here it is important to apply a scientific, systematic approach, when intensive technologies are developed and applied, which are based on hydrotechnical reclamation, agroforestry, precision seeding technologies, the latest methods of minimizing tillage, it is important here not to harm the earth and nature in general. Of great importance in organic agriculture is the correct crop rotation, pest control methods.

An example is a small production experience of growing citrus crops in Kazakhstan. Citrus crops are grown by amateur gardeners in indoor conditions, mini-farms or individual farmers in Shymkent, Kentau, Tolebi and Saryagash regions of the South

Kazakhstan region. On a total area of only 20 hectares, these crops are grown in South Kazakhstan, which is negligible for this region. Since it is here that the climatic conditions are suitable for the development of the production of citrus crops. Pest control is mainly carried out without the help of chemistry, other predatory insects are launched - entomophages. Fertilizers use only natural. Therefore, the product is environmentally friendly. As farmers note, lemons do not require any extra costs and hassle, they start heating greenhouses when it is minus seven degrees outside. At the same time, coal consumption is minimal (Mashkovskaya,12:5).

Some believe that the "green" economy completely denies the use of chemistry, does not perceive it as a science. In fact, it is precisely with the help of scientific methods of using chemicals that an increase in production is achieved, the shelf life of agricultural products increases, as well as labor productivity.

For example, citrus peels are widely used both in the food industry and in animal husbandry. In world practice, citrus fruits are widely used for the production of pectin. Wet residues after its production are also used in cattle feeding. Citrus pomace is a productive feed for low protein cows. Studies conducted by American scientists from the Agricultural Research Service (ARS) have shown that feeding cattle with citrus peels significantly reduces the spread of pathogenic bacteria (for example, E. coli and salmonella) in the gastrointestinal tract. This, in turn, reduces the level of contamination of meat with pathogens, and also reduces the need for antibiotics that are injected into animals for their safety. Which, in turn, leads to an increase in demand for citrus waste. Cows are happy to consume citrus peel (Gridneva, 15: 2020).

It should be noted that the use of chemistry requires great attention, its uncontrolled use can lead to dangerous consequences both for humanity and for nature.

The goal of organic agriculture is to bring farming, animal husbandry and aquaculture closer to the natural processes of ecosystems, achieved by excluding GMOs, pesticides, fertilizers, veterinary drugs introduced from outside from the entire agricultural cycle from production and delivery to the consumer, strict adherence to the rules and standards of organic production. At the same time, there are a number of negative trends, as there are high risks for human health, since the use of organic fertilizers instead of mineral fertilizers can lead to the fact that vegetables become a source of salmonellosis; the presence of low labor productivity (on average minus 30-50%), which is smoothed out due to a higher price for organic products. On the positive side, organic farming increases the amount of labor employed in agricultural production. A significant step in the development of organic agriculture was the adoption in 2015 of the law of the Republic of Kazakhstan "On the production of organic products" (Law of the Republic of Kazakhstan, 2019:7).

Important measures that motivate organic production, in our opinion, are: financial support (subsidizing, concessional lending, grants), especially during the conversion period; tax preferences, insurance of risks arising from the production of organic products; organization of exhibitions, fairs, competitions; development of the domestic market; encouraging the consumption of organic food in schools, kindergartens, hospitals, the army and government agencies.

If at present it is mainly cereals and oilseeds that are certified for organic production, then in the short-term certification should be extended to vegetable, fruit and berry and melon crops. Certification of fodder crops, pastures and hayfields will allow the production of organic livestock products.

In the context of globalization, ensuring food security based on the "green" economy and rational use of resources in modern society comes to the fore and becomes a key factor in the country's security. This is connected with the provision of food to the population in terms of the physiology of its life support, and also determines the political independence of the country, ensuring stability and economic growth.

According to the Global Food Security Index (GFSI), Kazakhstan in 2019 in the global food security index, according to the results of static data from the British magazine The Economist - Economist Intelligence Unit, as well as the American multinational company Dupon, improved its position in one year by 9 lines, taking 48th place among 113 countries of the world. This indicator in 2018 was in 57th position in the world. Kazakhstan in 2020 ranked 32 in terms of food security (Karimova Zh.,2020:8).

According to the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, the level of self-sufficiency on average for 2020 amounted to the production of meat - 271.61%, milk - 94.91%, eggs - 57.1%, grain - 126%, potatoes - 54.0%, fruit and berry crops - 47.7%, vegetables and melons - 84.3% (Statistics Committee, 2021:9).

Let's consider how the production of the main types of agricultural products changed from 2001 to 2020 (Table 1).

Table 1 - Comparative analysis of the production of the main types of agricultural products for 2001 and 2020, thousand tons

Products	2001	2020	2020, by 2001 in %
Corn	15 896,9	17428, 6	109,62
Vegetables	2 301,0	4 368,2	189,84
Fruits and berries	2 171,2	2 382,1	109,71
Milk	3 922,9	5 865,1	149,51
Egg, million pieces	1 855,3	5 513,4	297,17
Potato	21 84,9	3 912,8	179,08
Meat	1855,3	1975,5	106,48
Note: (Statistics Committee, 2021:9).			

The table shows that the largest changes over the past twenty years have occurred in the production of eggs (three times), the cultivation of vegetables (almost two times), so the production of potatoes increased by 79%. Milk production increased by almost 50%. For other positions, changes are observed on average by 10%.

For the republic, grain is the main export crop, our country was self-sufficient in 1990 by 170.2%, in 2020. - by 124.4%. Recently, there has been an increase in production per capita for many types of products (Table 2).

Table 2 - Production of products in Kazakhstan, kg. per capita

Products	2001	2020	2020, by 2001 in %
Corn	1 070	1 192	104,1
Vegetables / gourds	120	329,8	100,4
Oilseeds	12	15,2	101,3
Egg, million pieces	125	193	68,2
Potato	147	140,1	70,8
Meat	12,6	169,9	129,6
Milk	264	252,6	82,4
Note: (Statistics Committee, 2021:9).			

In Kazakhstan, the number of heads of cattle in 2020 amounted to 9 million heads, which is twice as much as in 2001 (Table 3).

Table 3 - Dynamics of changes in the livestock of farm animals in Kazakhstan 2001-2020
Animal population, thous. heads

Type of livestock	2001	2020	2020, by 2001 in %
Cattle	4 293,56	9 005,1	209,73
Goats and sheep	10 478,6	17 736,2	169,26
Horses	989,5	3 118,2	315,13
Camels	103,9	221,5	213,18
Bird, million heads	21,2	43,2	203,77
Note: (Statistics Committee, 2021:9). Note: (Statistics Committee, 2021:9).			

In 2020, the number of goats and sheep is 17.7 million heads. and compared with 2001, the growth rate was 69.3%. The number of horses in 2001 was 989.5 thousand heads, the increase over the past twenty years amounted to 2128.7 thousand heads. (more than 3 times), the number of camels increased 2 times from 103.9 thousand head. up to 221.5 thousand head. (Statistics Committee, 2021:9).

It should be noted that the production of vegetable products is seasonal. According to medical standards, an average of 120 kilograms of vegetables per person is required per year, and this standard is met in Kazakhstan. Since 2001, domestic production of vegetables and gourds has approached the standard consumption in the republic (Azretbergenova, 2021:10).

According to the recommendations of the World Health Organization for proper intake of fiber and the prevention of diseases such as heart attack, cancer, diabetes and obesity, it is necessary to increase the consumption of vegetables and fruits to at least 400 grams per day, which also helps to reduce the risk of contracting non-communicable diseases. Scientists from the German Nutrition Society believe that the optimal rate of consumption of fresh vegetables and fruits per person should be: 146 kg/h - vegetables and 91 kg/h - fruits. In Ukraine, 163 kg of vegetables and melons are consumed per person, while residents of Russia consume 79 kg at a rate of 120-140 kg. In the Republic of Belarus, this figure is 135 kg per inhabitant of the country (11).

On average, during the harvest season, the consumption of the most popular vegetables such as tomatoes and cucumbers is 5.6 kg and 3.7 kg, respectively, per capita. But in other periods, they are most sensitive to seasonal fluctuations - their consumption from autumn to spring is 4-11 times less than the above-mentioned volume (Dremova, 2020:12).

In Kazakhstan, in 2018, fruit consumption per capita averaged 77.9 kg, in 2019 - 77.4 kg (Akimbekova, G.U, 2018:13).

Most fruits are consumed by residents of the Mangistau region, on average 101.8 kilograms per capita. Almaty occupies the second place in the list in terms of fruit consumption. Each resident of the southern capital ate an average of 99.4 kilograms of fruit in 2020. The lowest fruit consumption is observed in Shymkent, where on average only 61.3 kilograms per person. Fruit consumption in households in Kazakhstan per capita for 2020 amounted to 86.7 kg. This is 11.7% higher than in 2019 (WHO has determined the norm WHO has determined the norm…, 2016: 14).

Residents of Kazakhstan on average consume 11-12 liters per year. juices, with preference given to orange and apple juices. For comparison, in Russia this figure is 16-18 liters, in Germany - 43-45 liters. Most per capita juice consumption is observed in the United States, where 1 person accounts for an average of 70-80 liters (Gridneva, 2020:15).

At the end of 2020 the average provision of meat in the diet of consumed food in Kazakhstan per capita was about 7.95%. It should be noted that the consumption of meat and meat products in Kazakhstan is close to the WHO standards and amounts to 78.9 kg, and according to WHO - 80 kg. Milk and dairy products occupy (252.6 l) 25.2% of the total diet; eggs - 19.40% (193 pieces); vegetables (including potatoes) - 14% (139.8 kg); bakery products and cereal products - 13.6% (136.3 kg) (10, p. 25-26). The share of livestock products in the diet of the population was more than 50%. This had a significant impact on market demand (Table 4).

Table 4 - Food consumption in Kazakhstan, kg per capita

Products	2001	2020	WHO regulation	Consumption % to the standard	
				2001	2020
Bakery products	120	136,8	120	100	114
Sugar	26	41,5	36	72,2	115,2
Vegetables	83	95	140	59,3	67,9
Fruit	10	52	80	12,5	65
Oilseeds	11	19,5	13	84,6	150
Egg	109	193	243	44,8	48,9
Potato	66	47,5	97	68,0	48,9
Meat	44	78,9	80	55,0	98,5
Milk	235	252,6	360	65,3	114
Note: (Statistics Committee (2021. Statistics Committee (2021:9).					

In 2020, the situation in the agricultural industry of Kazakhstan remained stable, despite the crisis due to the coronavirus pandemic. At the end of 2020, the volume

of gross output in the rural sector increased by 2.2%, and food production increased by 2.3%.

At the level of food security, the population of the republic consumes 100% of bread products, 95% of potatoes, and 86% of fresh vegetables (Azretbergenova, 2021: 10).

An analysis of the domestic food market in Kazakhstan showed that the market for flour and flour products in Kazakhstan is provided entirely by domestic production, the level of provision with canned products is more than 50%, for sausage - more than 60%, dairy - more than 20%, fermented milk products - about 80%, for sugar - about 70%, for confectionery products - about 50% and for the production of juices - about 70%.

The level of food security is determined by the share of imports of products in the market capacity. The greatest dependence on the external market for: fruits - 67.9% in the structure of market capacity, poultry meat - 49.9%, vegetable oil - 39.0%, sugar - 38.9% (including own production and imported raw materials). In addition, a large share of imports in the market capacity is occupied by canned products (up to 96%). Thus, the share of imports for many products remains high and exceeds the threshold level - 20% of imports in the capacity of the domestic market (Azretbergenova, 2021: 10).

Practice has shown that there is a certain system of measures to eliminate internal and external threats to food security:

Firstly, the improvement of the system of economic relations in production-purchase-processing-storage - transportation - sales.

Secondly, the motivation for the transition from small-scale production to medium- and large-scale production of the agro-industrial complex, including livestock and crop production on an industrial basis.

Thirdly, the effective interaction of state and market regulation of the price of agricultural products to increase competitiveness in the domestic and foreign markets.

Fourthly, improving the system of taxation of agricultural producers to create tax incentives.

Fifthly, the reduction of tariffs for transit through the territory of the CIS countries in order to increase the export potential of the grain of the Republic of Kazakhstan.

The Government of the Republic of Kazakhstan and local regional authorities are actively working on food pricing policy to prevent a food crisis and the availability of socially significant food products.

The key indicators of international food supply are known: the level of carry-over stocks of grain in the world, where the threshold stock should be 60 days, available in storage until a new harvest (20% per year of world consumption) and the volume of grain production per capita of the country (Zhartaj, 2015:16). A decrease in the level of stock below this level may affect a sharp increase in the world price of grain, destabilize the world grain market, as well as change the situation on the world market of importing countries. In Kazakhstan, the level of grain stock is 90 days, which is 25% of annual consumption.

Food security should be aimed at meeting the needs of the country's population in providing food, according to the criteria (Dadalko, 2014:17):

- food production by domestic producers of at least 80% of the total production;
- the level of energy needs of a person per day;
- ensuring the quality of food products in accordance with the requirements of the regulations;
- formation of an insurance stock of food products at the level of 25% with constant replenishment of its volume;
- the possibility of meeting, through imports, food needs that are not produced domestically;
- production of 1 ton of grain per person.

Conclusion. Any country cannot fully provide itself with all types of food due to soil and climatic conditions, but at the same time, Kazakhstan has reserves for import substitution for crop production, namely, for niche crops.

With the growth of the world population, as well as the general increase in global demand for food products with IVF status and not containing antibiotics and GMOs, promising niches are being created for environmentally friendly products of the agro-industrial sector of Kazakhstan with access to the world market. This requires the rational use of resources; connection of science and production in the field of innovation and digitalization, in the field of resource provision; qualified personnel, a sufficient level of development of logistics, an appropriate infrastructure for growing, processing and storing agricultural products.

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