

## Problems and ways of perfection of agroindustrial complex of Kazakhstan in terms of integration

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**Abstract.** It is common knowledge that agricultural policy aims at the dynamic and effective development of not only agricultural production and other sectors of agribusiness, but also providing the basis for this growth in living standards and the social process in the country. New trends in the world rural economy and demography, regional integration processes, global climate changes, the creation of the Customs Union and the planned entry of Kazakhstan into the World Trade Organization, necessitate a rethinking of state approaches to the implementation of agricultural policy. Low level of productivity in the industry, the imperfection of technologies used, small-scale production do not allow to conduct intensive agricultural production on the basis of ensuring the fullest possible utilization of material, labor and other resources, to comply with environmental requirements. These factors reduce the competitiveness of domestic agricultural sector, which in the WTO and Customs Union can lead to the dominance of imports of foreign products, exclusion of local manufacturers from sales markets.

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### Introduction

The role of agriculture for food security of the country, employment growth and economic development of the republic has repeatedly been stressed by the head of state, including the Message of President Nursultan Nazarbayev to the people of Kazakhstan from January 27, 2012, "Socio-Economic Modernization as Main Direction of Development of Kazakhstan". The Vice-Minister of Agriculture M. Tolibaev in his speech at VI Astana Economic Forum noted that by the current moment the bilateral negotiations on market access for agricultural products have been completed, export subsidies, sanitary and phytosanitary measures have been taken; the volume of domestic support to agriculture has been increased. Minister of Agriculture A. Mamyrbekov pointed that in negotiations with the WTO Kazakhstan defends the interests of local farmers in order to ensure adequate protection of the market [1].

Reform of the agricultural sector and its state regulation are the key factors in the formation of the market mechanism of AIC. However, the analysis of market reforms in agriculture shows that only a small part of farmers went on a path of sustainable economic development, using factors of entrepreneurial activity, geographical location, or a high level of soil and climatic factors. Herewith it should be remembered about the basic principles of integration theories formation in agricultural sector.

### Agro-industrial integration theories

In economic literature, agriculture is defined as the activities on growing plants and livestock

farming. The term "agribusiness" has a much broader scope than it follows from the generally accepted definition of "agriculture", and includes agricultural activities, agro-processing, sale and provision of services [2].

Increasing integration into the global economy gives Kazakhstan greater access to financial resources, new technologies and markets, accelerates its development. Integrative factor in the foreign policy of Kazakhstan plays a positive role in the harmonious development of the state by both effective security and the economic progress, since the growing interdependence of states enables them to share and solve complex economic problems, including those in agriculture.

Agro industrial integration is a form of production concentration, at which there is not only the consolidation of agricultural manufacturing, but it also creates a strong production linkages of the agricultural organizations with the enterprises engaged in processing of agricultural products, which produce means of production for integrable enterprises dealing with manufacturing and maintenance, as well as with organizations spheres that bring the end product to the consumer.

The modern agricultural development is inseparable from the solution of its urgent problem: to improve its economic efficiency. This is especially important nowadays, when agriculture transforming qualitatively on a new technical and technological basis, is forced to improve its organizational forms for the purpose of more rational use of all material, financial and human resources. These issues require

in-depth feasibility study. Introduction of advanced technologies in agriculture, its qualitative transformation can produce certain effect especially when they are built on the development of specialization and concentration on the basis of agro-industrial integration.

The analysis of sources of integration shows that socio-economic nature, forms, views and goals of integration have been the subject of heated debate at all stages of public relations development. Integration should be regarded in close relation with the specialization and concentration, since the development of these processes is caused by the social division of labor. In the economic literature, when considering the challenges of integration are the two aspects of this process. On the one hand integration is seen as a universal form of labor organization, on the other hand as a form of organizing production.

Agro-industrial integration as a form of combining of agricultural enterprises with processing industry and trade, obtained the independent development of territorial organization of agroindustrial formations type in the second half of the 80s last century. Their shape, size, composition were the most diverse, but the essence was to integrate the production of agricultural raw materials with storage, processing to finished products and to ensure their sale to consumers. Under the circumstances, the formation of integrated structures in agriculture should focus on the following tasks:

- Improve production and economic relations in the process of production, processing, storage and marketing of agricultural products and raw materials;
- Increase the competitiveness of domestic manufacturers, to create an effective system of industrial, economic and social services for the members of the integrated structures;
- Increase the efficiency of agricultural production and ensure the improvement of well-being of agricultural workers.

Development of agro-industrial integration is an objective economic process that is associated with the social division of labor and specialization on one hand and on the other hand with the necessity of interaction between specialized industries and types of agricultural and industrial production. Agricultural organizations enter into this unifying movement, seeking to reduce the risk associated with the production, its dependence on climatic conditions, spontaneity of market of agricultural products, dictate of processing organizations, the need to improve the competitiveness of industry. Processing and service organizations also seek to secure a stable income due to the reliable resource base, better use of raw materials, enhancing the quality of their products,

reduction of product prices and conquering sales markets.

Currently, agriculture is widely using the following forms of intraeconomic and intereconomic integration: agroindustrial organization, agricultural company, agrokombinat, agro-industrial association, scientific and production association. In recent years, some of these forms of intrasectoral (intereconomic) integration are carried out in the form of financial-industrial groups (in which a specialized unit or organization is engaged in search of prospective investors) and holdings.

Market relations put the agricultural manufacturers in the position under which the effective functioning of manufacturing is largely determined by smoothly running system of production, its industrial processing and subsequent sale of high-quality food commodities and other goods. At the same time the production relations between manufacturers and consumers should be based on supply and demand, competition and the interests of buyers.

Agricultural production does not have enough potential to flexible maneuvering of financial resources. Therefore, the most effective form of combination of agriculture with capital is agro-industrial integration. It promotes productive impact of technological progress on the development of agriculture, which is expressed in the form of organizational and technological integration of the industrial production with the agricultural one. Agroindustrial integration in the modern world practice is often characterized by the formation of powerful agro-industrial complexes which combine in one organizational structure not only large farms, but also divisions of agricultural machinery and equipment, processing and marketing of agricultural products.

The main trends in the development of the agrarian economy remain crisis phenomena caused by a variety of factors, in particular, the negative macroeconomic situation in the country, regional characteristics of production organization in the sectors of agriculture, low levels of development and utilization of productive capacity in agricultural, processing and service enterprises. This is due to the following factors:

- The lack of effective state protection in relation to agriculture,
- Unequal exchange between agriculture and service sectors,
- Increased unprofitability in all sectors of agriculture, lower incomes and demand for food products,
- Disintegrated system of manufacturing organization in agro-industrial complexes,

- Monopoly of some sectors in relation to other,
- The lack of economically viable regional agricultural policy,
- Ineffective support of rational forms of cooperation and integration in agriculture,
- Weak original material-technical base of industries and agricultural enterprises,
- Insufficient human capacity of companies,
- Shortcomings in the organization of agricultural production and its low efficiency.

#### **Experience of implementation of agrarian policy in foreign countries**

Agrarian policy in different countries has singularities in setting its goals and methods of implementation of strategic tasks. Developed countries are the main group of countries in the world economy. They occupy a dominant position in the global agrifood system. They account for over 60% of world production and consumption of agricultural products, as well as a large share of world trade and international capital movements. Agriculture retains the role of one of the leading sectors of material production in advanced countries. By the current time there has been a shift of agricultural production to the machine stage of development in agriculture of developed countries. Agricultural sector is characterized by the widespread introduction of scientific and technical progress, which is accompanied by rearrangement of the material-technical base of agriculture, integrated mechanization and automation of farming. It is characterized by a greater concentration of agricultural manufacturing and cooperation.

However, since the second half of the 90s in the world there has been a steady downward trend in the share of developed countries in the global agrifood system because of the high growth rates of the agricultural sector in several developing countries, especially China and India. Almost all developed countries show the decline in the share of agriculture in GDP and it ranges from 3-10%, the share of employment in the agricultural sector is also low 3-5%. It should be noted that the agricultural markets can play a more effective role if they are supported by more open political initiatives [3]. In the world agriculture, as well as in the world economy as a whole, one can trace the influence the three economic centers of North America, Western Europe and Asia.

The agrarian policy of the state plays a special role in the development of agriculture in advanced countries. It is a set of measures of economic, social, legislative nature undertaken by the state to change the position of the agricultural sector and people employed in it.

In general, an agricultural policy of developed countries is based on creating and maintaining the most favorable conditions for the growth of farming. This is the fulfilled system of public legal and economic guarantees, subsidies, grants, loans under government programs for small and medium-sized businesses, pricing, promotion of cooperation, a developed system of logistics, processing and marketing of agricultural products. Agrarian policy in developed countries is characterized by the following features:

- succession and continuity of perfection of agricultural policy;
- forethought and diversity;
- systematic scientific approach to problem solving;
- longstanding practical approbation of government measures;
- transparency and openness;
- full financial support of the adopted state programs;
- simultaneous solution of environmental problems.

Nevertheless agricultural policy has its own characteristics in various developed countries:

USA: preconditions for AIC successful development are created at all stages. An important feature is the detailed analysis and reasonableness of the activities implemented. Any form of public intervention should not hinder the development of agro-industrial complex but rather contribute to its development. A characteristic feature of the state agrarian policy is comprehensive support of private farms, maintaining social stability.

EU: implementation of common agricultural policy which is focused on providing a relatively low consumer prices for food and on adaptation of the member states to unified system of standards and requirements. The main arm of government regulation of the agricultural sector is its pricing policy. The basic principle is the protectionist policy. As for the U.S. and for the EU it is noteworthy that the government allocates fairly large funding for the introduction of modern technologies and the development of more productive varieties of plants and animals.

Japan: in this country agricultural producers are the most protected by the state. There are the largest budget allocations of all developed countries.

Australia and New Zealand: they are characterized by the lowest degree of government interference. Agricultural policy is aimed at the independence of rural development. State supports only well-defined projects to improve the efficiency of farming, as well as those farms that were

affected by the natural disasters and adverse climatic circumstances [4].

EEC developed countries focus on the conservation of guaranteed prices in the market conditions. Agrarian policy technique lies in the use of market mechanisms to regulate prices. Agrarian policy instruments are protectionism in relation to its producers of food products via customs duties and the use of price mechanism. The essence of the price mechanism is to maintain the balance of supply and demand in the market which preserves stable market prices. In case of excess of supply over demand market prices are reduced, in this period the government makes purchases at low prices, which are called intervention prices. In case of excess of demand over supply, which leads to the attainment of the highest reference price, the market is replenished with hot commodities from state reserves, which leads to the establishment of a guaranteed price on the market. The effectiveness of such agrarian policy is confirmed by the low level of inflation and the satisfaction of the demand for provisions in the EEC countries.

Experience of the EEC on state regulation of the balance in the market through market mechanisms showed its advantage over the Liberals trying to eliminate state regulation and to conduct agricultural policy on the basis of self-regulation of the market. Agricultural policy in the Soviet Union was based on the planning of farming industry, the state monopoly on foreign trade and maintaining low prices for means of production. In the last years of the Soviet Union it was sufficient to sell 80 tons of wheat for the purchase of a 150 hp tractor, while in the United States it was required to sell almost 5 times more wheat for this purpose. At the same time, the agricultural sector of the Russian Federation was 5 times more energy intensive and 4 times more metal-intensive than in the U.S. Investment in agriculture in the USSR were larger than in the United States. Ranking first in the world for the production of fertilizers, tractors and combine harvesters, USSR lagged significantly behind countries with developed market economies on capital productivity and efficiency of agricultural production. Production growth was achieved due to higher increase in costs, and by the time of the Soviet Union collapse the possibility of increasing costs for the further development of the agrarian sector were exhausted [5].

Post-Soviet Russia had a matter of choosing the evolutionary or revolutionary way to transform the agrarian sector. Food production crisis dragged on, to overcome that it was required a long period, that is the evolutionary path of transformation looked preferable. The other factors dictated the benefits of evolutionary choice: the employees' need to adapt to new conditions, environmental conditions, lack of

competitiveness of many industries in the world market, the lack of the necessary financial resources.

Liberals, who came to power in Russia, have chosen a revolutionary way of transformations known as shock therapy. Their choice was substantiated by the irreversibility of revolutionary changes, willingness of the population to the revolutionary transformations, the need for rapid replacement of inefficient state ownership with more efficient private one, confidence of the democratic Russia in support from developed countries. Revolutionary practice of liberal reforms of the agricultural sector of Russia revealed the shortcomings of this path.

Price liberalization, nullification of state regulation and support led to galloping inflation, which in a short time leveled the Russian food prices with the world ones, at the same time reducing the real incomes of the majority of the population, even in comparison with the Soviet period. Rapid privatization of service industries with granting full autonomy to private owners has led to a sharp decrease in the production of agricultural machinery. Over 9 years of transformations tractor production declined by almost 10 times, tractor plows by more than 5 times, cultivators by 60 times, milking machines by 42 times, the production of potato harvesters ceased completely.

In the same period production was reduced as well as the opportunity of small-scale producers to purchase not only agricultural machinery, but also fertilizers. The use of mineral fertilizers was reduced by 9 times. The sharp reduction in livestock population led to a decrease in the use of organic fertilizers by 4 times.

The sharp decline in resources has resulted in instability and decline of agricultural production. It became apparent that it was necessary to change the course of agricultural policy, which included illiberal methods: state regulation, protection of the national market. The new course includes:

- cooperation of agricultural complex sectors;
- introduction of modern technologies;
- personnel training in modern agricultural production;
- balancing the prices for industrial products, processing industries and agriculture;
- decrease in lending interest rates;
- support in attracting investors and establishment of fund of state investments;
- procurement of food products for the state reserve;
- transfer of social service to village self-government bodies and development of this sector;
- granting of tax privileges.

Customs policies on protection of their commodity producers have become more flexible. Customs duties were increased on those products that reduce the competitiveness of domestic manufacturers and customs duty on import of modern technological equipment and missing raw materials were reduced or completely removed [5]

Studying the experience of U.S. farmers has shown that large-scale farm production was much more efficient than small one. Small farms make up 72 % of all U.S. farmers and produce 10% of income, and 28 % of large farmers produce 90 % of income. At the same time, small farmers use 4 times more land and fixed assets and 7 times more labor. Smallholder farmers do not have enough financial resources for implementation of advanced and innovative technologies. Low competitiveness of small farmers versus large ones often leads to their bankruptcy. Studying the experience of the United States has allowed us to analyze the impact of hasty privatization and to go towards the creation of large-scale agricultural production, which was particularly important given the shortage of financial, human and technical resources.

The global financial crisis has interfered with the objectives of agricultural policy. A number of legislative acts were worked out in the post-crisis period. They were aimed at the development of basic science and applied research in the field of agriculture, market regulation, the development of various sectors of agricultural production, development of a strategy to provide it with modern technology.

The Agrarian Policy Strategy of the Russian Federation for 2011-2020 has been designed as well as the Water Strategy and the Modernization Strategy of Agroindustrial Complex up to 2020. Only in the Russian Agricultural Academy more than thirteen thousand researchers in 2009 developed about a thousand types and varieties of innovative products and services, more than 300 new technologies, produced at experimental stations hundreds of new hybrids, new breeds of animals, food products with increased biological value, vaccines and plant protection products and etc.

Creating plant varieties resistant to low temperatures allowed expanding the use of land resources in the north for cultivation of winter wheat, corn and soybeans. Scientists solved the problem of soil protection against degradation, resources and energy saving, yield increase and environmental safety. There were developed a number of livestock breeds with enhanced meat and milk productivity and butterfat content, sheep with refined wool. Among the energy-saving technologies it is possible to name application of solar cells using nanotechnology, with 20% efficiency and service life of 40 years.

Reliable preventive mass epidemics warning systems were introduced in the area of livestock and poultry. A number of innovative products and new manufacturing technologies were implemented in the processing industry. These include the production of bakery products for diabetics with reduced glycemic index, foods for the prevention of iodine deficiency, high-quality products for children, pregnant and nursing mothers.

The economists promote actively the establishment of a legislative framework which promotes the development the agrarian sector, as well as the integration processes within the Customs Union. Despite the fact that science funding in Russia is low, scientists are making a great contribution to the development of the strategic objectives of the agricultural complex.

Economist Intelligence Unit conducted several interviews within the study "Agriculture in fast-growing markets" which included the experts and market players from Brazil, China, India and Russia (BRIC countries) [15]. Under the document these countries are now "locomotives" of the global agricultural sector. According to EIU, they have a lot to teach not only developing (e.g., African) but also developed countries. What can farmers from other countries learn in BRIC?

Fewer subsidies. In Europe and North America, traditionally the state spends considerable sums on subsidies to farmers. BRIC countries prefer other methods of stimulation, which create a more competitive, open innovation business environment, including small farms. In China, after the boom of supermarkets in the mid-2000s, a state program has been operating that allows large retailers and local farmers to interact. The system of intervention in grain markets works in Russia, which enable producers to sell their grain to the state when it is cheaper than a certain minimum price, and vice versa to acquire it at a maximum fixed price when the market price exceeds it. This gives farmers the relative confidence in how much money they can get for their crops. In Brazil, the state participates in insurance of farmers from crop failures and natural disasters.

More innovations. This refers to advances in exploitation of soils and development of new varieties. It is not enough to obtain a new variety of radish in the laboratory; farmers need to have successfully implemented it. In 2009, India launched the project "Maps of soil health." Hundreds of laboratories were created across the country. They analyze the quality of the soil in each field, and issue recommendations to its owners on how it is better to fertilize so that the soil is not degraded. Brazil is quite successful in the area of varieties breeding, they once imported apples from Argentina, and after creating some special, tropic fruit

varieties, it started their import. Such innovations may face opposition in many European countries that strongly oppose genetically modified foods.

However, in developing economies the situation is not as rosy as we would like. Here are the main limitations specified by EIU surveyed experts.

**Infrastructure.** Lack of necessary infrastructure facilities boosts up the food prices in Brazil and Russia. The Russian Federation in particular needs huge investments in the development of railway transportation.

**Introduction of technologies.** Innovations are not always implemented because of either lack of information or access to them, or will of regulators. In China as the brake for modernization serves the fact that a third of the labor force are employed in agriculture. This makes it difficult to promote mechanization and labor productivity in the industry. India has the potential of doubling the fields where people can gather two harvests per year (from 36% to 70%) but this practice is not common everywhere in the country [6].

Let us consider the practice of development of the agricultural sector in Kazakhstan in terms of WTO accession.

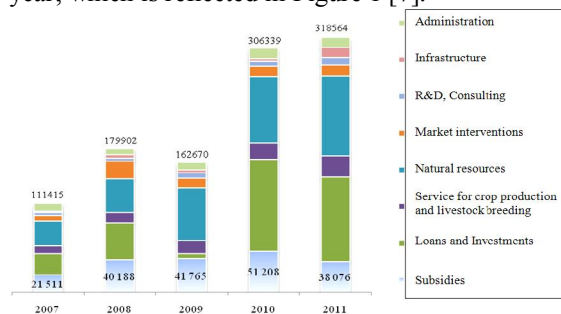
### Agricultural market in Kazakhstan

An important factor in the successful accession of Kazakhstan to the WTO is increasing the overall competitiveness of the economy of the republic, including its agricultural sector. Since independence, agrarian and industrial complex of Kazakhstan has achieved significant results: constant growth of production on the basis of market relations, increase in efficiency and labor productivity, renewal of fixed assets and infrastructure industry, achieving self-sufficiency in basic foodstuffs, there has been a significant increase in exports of cereals, oilseeds, fishery products. In 2011, the share of agriculture in gross domestic product was 5.1 %, labor productivity employment in agriculture from 2005 to 2011 increased from 304.2 thousand tenge per employee to 498 thousand with an average annual growth of 9.3% per year; about 7.48 million people lived in the countryside, or more than 45 % of the total population of Kazakhstan.

Agriculture of Kazakhstan has integrated into the global food markets and is actively involved in the formation of the trade balance. However, it must be emphasized that despite the positive trend of the development of agriculture, the share of the agricultural sector in the country's GDP of 5.1 % is not enough to solve the problem of national food security. Due to the low level of competitiveness of agricultural products in the domestic market there is a high share of imports of basic food products.

Appropriate measures were taken by the government of the Republic to increase the competitiveness of the agricultural sector. In 2011, agriculture employed 2,196.1 thousand people (26% of total employment), of which hired workers 604.8 thousand people (27.5 % of employment in the sector), the self-employed 1,591.3 million people (72.5 % of employment in the sector). The sown area in Kazakhstan amounted to 21,083 thousand hectares in 2011. Wheat occupied about 65.7 % (13,848.9 thousand hectares) of all the acreage. In 2011 grain crops were given 76.9% (16,219.4 thousand hectares) of farmland. The number of livestock at the beginning of 2012 was 5.7 million heads of great cattle, 18.1 million heads of small cattle, 1.6 million horses, 1.2 million pigs, 0.17 million camels, and 32.9 million poultry.

With the support of the Ministry of Agriculture cash infusion in agribusiness grows each year, which is reflected in Figure 1 [7].



**Figure 1. The amount of budget funds allocated for the development of agriculture, 2007-2011, million tenge [8]**

However, despite this agriculture does not have fewer problems. There are challenges of insufficient utilization of budget funds allocated for the implementation of advanced technologies in agricultural production. Production volume of agricultural products of pre-reform Soviet period was not achieved (Table 1).

**Table 1. The volume of agricultural production\***

#	Type of product	1990	2012
1	Cereals and Legumes (thousand tons)	28,487.7	12,864.8
2	Sugar beet (thousand tons)	1,043.7	151.6
3	Cattle (thousand heads)	9,757.2	5,690.0
4	Sheep and goats (thousand heads)	35,660.5	17,633.3
5	Pigs (thousand heads)	3,223.8	1,031.6
6	Poultry (million heads)	59.9	33.5
7	Meat (thousand tons)	2,633.7	1,637.0
8	Milk (thousand tons)	5,641.6	4,851.6

Note: According to the Agency of Republic of Kazakhstan on Statistics [9]

### What are the challenges of agricultural sphere in Kazakhstan now?

#### 1. Poor infrastructure of agrarian and industrial complex

Everyone knows that the grain harvest in 2011 was unusually large. It can be only compared to

the Soviet period. However, for the farmers it was a "holiday with tears in their eyes" as there was a big problem with the storage of the crop.

The main problem of the grain market in the country has been the lack of capacity for grain storage since long ago to the present day. All large elevators were put into operation before 1991. Those storages that are constructed today are basically mini-complexes which can accommodate up to 30 thousand tons of grain. In 2011, the peasants in fact left to rot the bread grown with their own hands on the currents and outdoor areas. As a result, the price per ton of wheat fell to 10 thousand, and many farms simply collapsed. The solution could be new markets and the development of domestic grain milling industry.

Kazakhstan needs to have a well-adjusted transport system to be able to export grain and flour. According to the National Corporation "Kazakhstan temirzholy", grain inventory park in the country currently amounts to 5.2 thousand units of cars, of which just over 4000 meet all the requirements. At the same time the annual need for grain truck in Kazakhstan is estimated to 9-10.5 thousand units [10].

Having convinced that Kazakhstan does not have any problems with infrastructure and transportation, investors will invest more money in our agriculture. And this, in turn, will have a positive impact on the economy as a whole.

## 2. Diversification of grain production

Problems of monocultural orientation of the grain industry issue the challenge to diversify plant cultivation. Agriculture Ministry proposes to grow more forage crops, oilseeds, etc., but there are not enough enterprises for processing of oilseeds and other crops, there is no foreign sales market, there is no special equipment and fertilizers.

## 3. The livestock problem

In the Soviet period Kazakhstan had the status of one of the major livestock republics whose share accounted for about 20 % of the total output. In recent years there has been an inexorable process of declining in livestock production. According to estimates of the Kazakh Statistics Agency, there was a reduction in of cattle population by more than 7% in Kazakhstan in October 2011 compared to 2010.

Milk production is declining on average by 2.5% over the past 4 years [10].

The volume of agricultural production released was by 17.8 % less in January – December of 2012 than in the same period in 2011 [9].

In livestock the volume of output was 1.016 trillion tenge (3.9% down), in crop 917.6 billion tenge (27.7 % down).

According to the Statistics Agency, as of January 1, 2013 compared to the same date in 2012, the number of cattle decreased by 0.6 % (to 5.7

million heads), sheep by 1.1% (15.3 million heads) goats by 2.4% (2.6 million), pigs by 12.3 % (1.1 million heads), camels by 0.4% (172.6 thousand heads) [9].

Despite the decline in the main indicators of livestock, President Nursultan Nazarbayev outlined the task to the farmers: to export 60 thousand tons of meat by 2016, and 180 thousand tons by 2020.

Compare: in 2011, Kazakhstan was able to export only 300 tons of meat. This begs the question: how will Kazakhstan increase its capacity of meat in such a short period, if it has reduced the export of meat by 600 times for 20 years of independence? Even by the most conservative estimates, the Kazakhstan livestock needs at least 8 years of hard work to reach the goal. And given the fact that we do not cover completely even domestic demand for meat, and are forced to import it from Argentina and other countries, it may require a decade [10].

Currently, it is impossible to carry out meat production on an industrial scale in the country, since the main cattle is concentrated in households.

The causes of livestock weak productivity in Kazakhstan are low proportion of breeding stock, the shortage of high-quality forage, inadequate cattle growing conditions. Due to the fact that most of the herd is concentrated in the households, the livestock industry has such characteristics as low genetic potential of animals and the associated low productivity, lack of modern technology of maintenance of cattle, feeding and other technologies which provide efficiency and product quality, inadequate animal health care. Livestock productivity indicators are shown in Figure 2.

As a result of the agrarian policy the import share in the consumption of products in Kazakhstan remains very high (Table 2).

## 4. Wear and tear

According to officials from the Ministry of Agriculture, Kazakhstan is provided with sufficient amount of agricultural machinery for seasonal work. However, in practice there is a great imbalance of agricultural potential with level of technical security of agrarian and industrial complex of the country.

The existing farm machinery depreciation is about 87%, which affects negatively the timing and quality of agricultural activities [8]. The main problem in terms of agricultural machinery for farmers is inaccessibility of existing leasing programs, the absence of own production of farm machinery (available assembly production does not cover the needs in agricultural machines).

## 5. Efficient use of land resources

Inventory of agricultural lands was launched on behalf of the President of Kazakhstan. The term of inventory is 2012-2014.

The territory of Kazakhstan is 272.49 million hectares, of which the agricultural land area is 222.24 million hectares. In general, 40 % of the total area of agricultural land or 91 million hectares are involved in the agricultural turnover in the country. In 2012, the inventory was carried out over an area of 31 million hectares. The inventory covered one third of the area of all the regions.

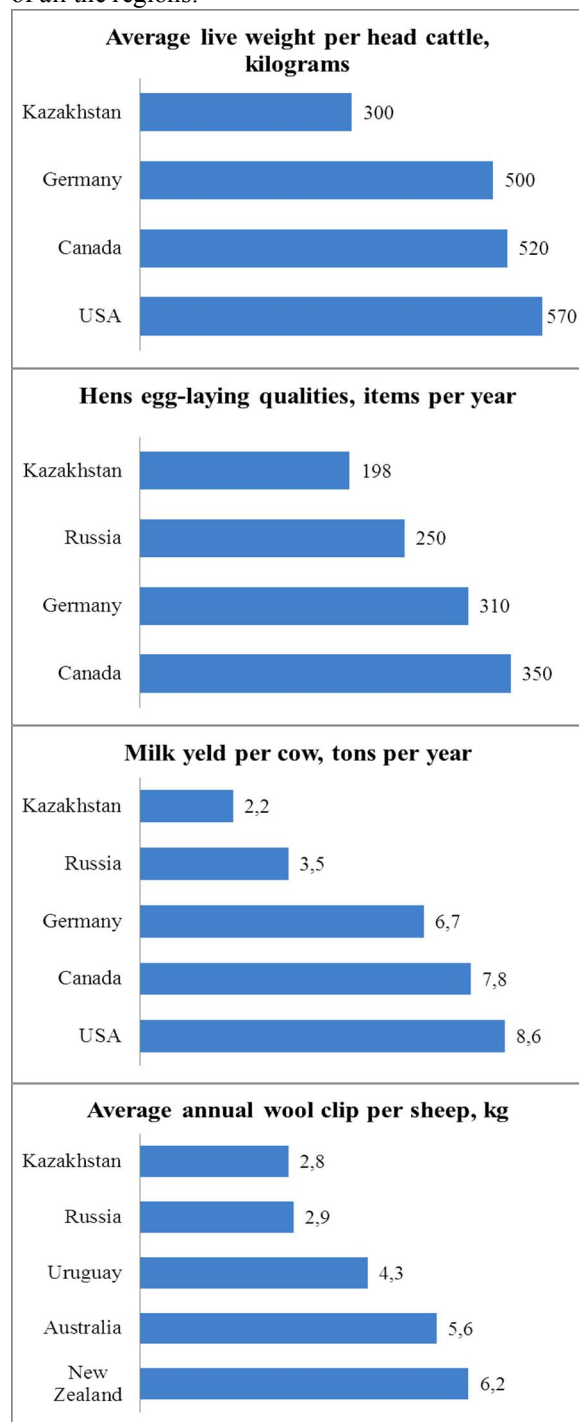


Figure 2 – Indicators of livestock productivity

Table 2. The import share in the consumption of products in Kazakhstan in 2009-2011 (thousand tons) [8]

Product	Import	Consumption	Share of imports in consumption
In average for 2009 - 2011, thousand tons			
Grain	110.0	11,973.7	0.92%
Grain processing products	43.8	1,989.8	2.20%
Fish and fish products	67.2	88.7	75.72%
Eggs and egg products, mln items	33.4	3,565.5	0.94%
Milk and dairy products	870.6	5,756.8	15.12%
Meat and meat products	209.2	1,122.2	18.64%
Vegetables, melons and processed products	193.2	3,169.0	6.10%
Sunflower seeds	28.7	316.4	9.06%
Vegetable oil and oil-containing products	165.4	342.3	48.33%
Sugar beet	0.0	173.6	0.00%
Potato and processed products	145.3	2,518.7	5.77%
Fruits, grapes and processed products	573.6	678.3	84.57%

The inventory identified seven thousand unused agricultural land areas of more than 3 million hectares, of which 400 thousands are arable lands [11]. Thus, tens of thousands of hectares of agricultural land are not used for their intended purpose.

## 6. Development of greenhouse farming

During the Soviet times, the development of greenhouse agriculture in Kazakhstan was planned from the center. There were greenhouse complexes ranging from 6 to 30 acres in all regions of the country. More than 150 hectares of greenhouse blocks of Dutch design were built in Kazakhstan during the period from 1970 to 1990. With the collapse of the Soviet Union the construction of greenhouses was discontinued but there were left about 30 acres of pre-existing ones. [21] The rest of the greenhouses fell into disrepair for various reasons and were dismantled, which affected the production of vegetables in the off-season.

By 2010, there were 19 glasshouses and about 1 thousand greenhouses operating in Kazakhstan. They give only 3% of the total volume of fruits and vegetables grown in the country. Compare: in Russia 5.4% of fruits and vegetables are produced in greenhouses, in Poland about 8%. Whereas in Kazakhstan up to 70 % of vegetables are grown in the households [10]. For this reason in early spring Kazakhstan carries out massive purchases of vegetables in neighboring countries: China, Kyrgyzstan and Uzbekistan. This situation suited the authorities until the financial crisis. During the crisis, they had to analyze some of the factors of inflation in the country. High prices for early vegetables just became one of those factors.

The problem is that the products of greenhouses in Kazakhstan are uncompetitive in terms of price because of high tariffs for heat and light. Thus, in the summer of 2009 a high-tech greenhouse in South Kazakhstan specializing in tomatoes grew very expensive products: the cost price of 1 kg of tomatoes was 120 tenge. Director of "Asia -Trade -1" (who was running the greenhouse) M. Snabaev referred to the



high cost of gas. It was consumed in the amount of 40-50 thousand tenge per day [12]

### 7. Small commodity production

The main volume of agricultural products is produced by scattered households or small farms. The main producers of all kinds of meat are still farming households which keep 82.4% of cattle, 70.2 % of sheep and goats, 78.6 % of pigs, 72 % of horses and 47.6 % of poultry [9] However, the world practice shows greater efficiency of large agricultural formations. Because of their separation and small size, the farmers do not have access to state subsidies and other forms of state support, cannot introduce innovations, etc. However, the farmers are in no hurry to merge into larger formations due to the imperfections of taxation. A peasant farm is subjected to land tax in size 0.1 of the cadastral value of land as a physical entity, in cooperation and formation of a legal entity the tax increases by several times. Currently, farms bear much smaller tax burden of agricultural enterprises as legal entities that already leads to the creation of farms around some agricultural enterprises and tax evasion.

### 8. Agricultural crop yields

Yields for major crops are low in comparison with world indices of yields.

Thus, the problem of increasing the yield becomes of paramount importance.

### 9. Quality of food products in Kazakhstan

Kazakhstan products marked with GOST has left the shop windows because producing a quality product has become too costly due to the ever - increasing cost of raw materials, officials requests, etc.

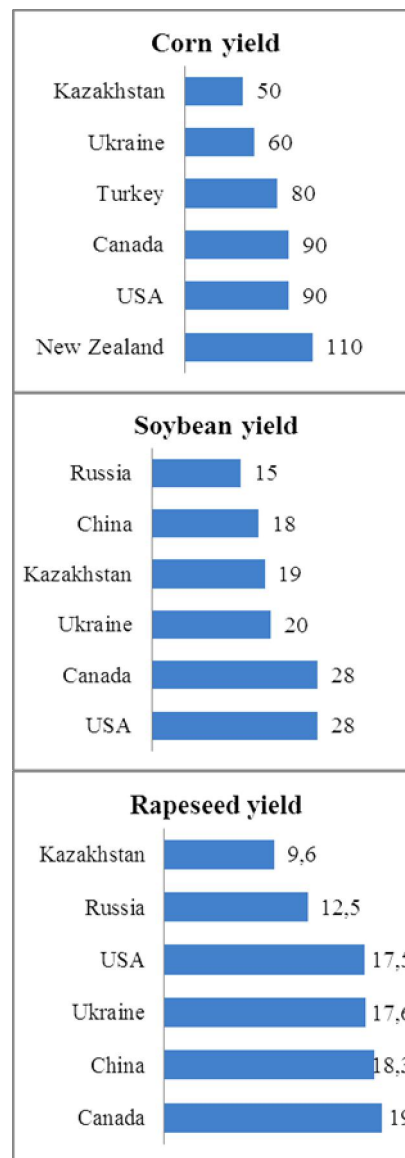
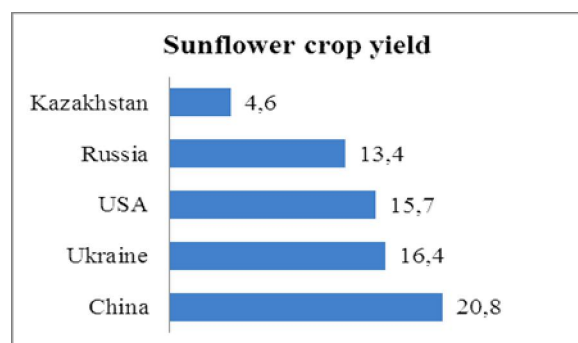
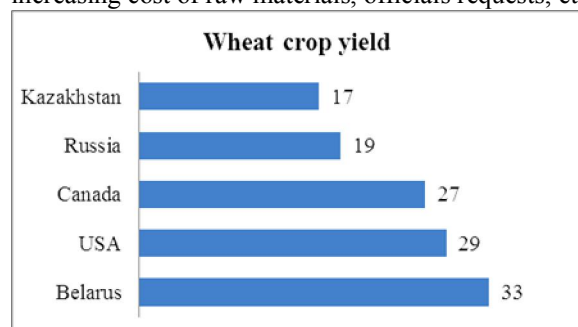


Figure 3. Comparison of yields of major agricultural crops, quintals per hectare [8]

Today it is very difficult to buy quality canned stewed meat of Kazakh production that meets the GOST standards, whereas in Soviet times Peter and Paul ate the stew, even in Germany people ate the canned meat produced in Petropavlovsk, Kazakhstan. The same story with sausages, cheeses, pasta and others.

**The question arises: How effective is the agrarian policy in Kazakhstan, if Kazakhstan has not reached the level of 1990 for 20 years?**

In this connection it is necessary to provide an analysis of the functioning and features of state regulation of agro-industrial complex of Kazakhstan.

### Development of agriculture in Kazakhstan in terms of integration

Kazakhstan's accession to the Customs Union and eventually to WTO puts domestic agriculture in the more stringent conditions of competition in both domestic and foreign markets. World experience shows that integration is not always conducive to the growth of agricultural production efficiency. Thus, after Poland's joining to the EU, economic results of farms specializing in the production of crops deteriorated [13]

After joining of the Slovak Republic to the EU in 2003 almost half of the agricultural firms became unprofitable, and many of them were threatened with destruction [14].

One of the most important factors of competitiveness of domestic agricultural production is its scientific provision. Sustainable development of agrifood market can only be achieved on the basis of innovation.

International cooperation in the Republic of Kazakhstan is carried out on several fronts:

The first: the use of germinal plasm and the source material of foreign breeding for developing new varieties, hybrids of agricultural crops.

Second: transfer and adaptation of engineering and technology. Localization of foreign technologies is carried out taking into account their adaptation to the conditions of Kazakhstan.

Third: joint research with foreign research organizations.

Fourth: improvement of professional skills and training in foreign centers; this is direction of international integration.

In the Customs Union Kazakhstan will raise the level of state support in agricultural sector up to 10% of the value of gross agricultural production [15].

Agricultural engineering is an important direction of agrarian cooperation between Kazakhstan and Belarus. Currently the joint-stock company "KazAgroFinance" is working closely with Belarusian companies for the purchase of farm machinery for its onward transfer to Kazakh farmers in leasing. "The company has purchased more than 5000 pieces of equipment manufactured in Belarus" [16].

JSC "KazAgroInnovation" is the structure which has a strong scientific and intellectual potential, the necessary research and experimental infrastructure to provide scientific development of agro industrial complex. The company comprises 23 research organizations with 26 branches, 14 experimental farms and 6 specialized centers.

Joint-stock company "KazAgroInnovation" has created an appropriate regulatory framework, signed 31 memoranda with international centers, foreign academies of agricultural sciences and

research organizations. Research organizations actively cooperate with 37 research departments of the Russian Federation. Agreements were accepted for scientific cooperation and deepening the integration with research organizations in Russia and Belarus within the Customs Union.

One of the strategic foreign partners of Kazakhstan is the Consultative Group on International Agricultural Research (CGIAR), which unites fourteen research centers in different directions; subsidiaries are working with more than half of them to improve germplasm, diversification of crop production and resource-saving technologies. They are: International Center for Agricultural Research in Dry Areas ICARDA, International Maize and Wheat Improvement Center CIMMYT, the International Plant Genetic Resources Institute IPGRI, International Potato Center CIP, the World Vegetable Center (AVRDC), etc.

The Republic of Kazakhstan works to develop new drought-, salt-tolerant varieties in conjunction with the Australian Centre for Plant Functional Genomics. This is the purposeful selection work at the level of genes, which allows obtaining varieties with high competitive advantage.

In the livestock industry our country cooperates with the French National Institute for Agricultural Research (INRA). Productivity is determined at the DNA level; new breeds of animals are created and adapted to Kazakhstan conditions.

The technology of industrial production of virus-free potato mini-tubers was adapted by Kazakhstan and South Korean scientists. A special plant for the production of such minitubers is being built on the basis of domestic Research Institute of Potato and Vegetable Growing. Thanks to the project, Kazakhstan will get quality seed potatoes which can meet the demand throughout the country. This plant also allows reducing the period of seed production by almost 2 times to which it requires almost 5-6 years under the traditional scheme.

The President of the country Nursultan Nazarbayev instructed to establish the Kazakh- Israeli Foundation for Agrarian Studies. The main direction of the foundation will be the joint research and promotion of advanced technologies in the field of agro-industry, including advanced irrigation systems in agriculture.

It is known, under drip irrigation the water use efficiency reaches 85-97 %, compared with surface irrigation the figure is 25-30 %, with spray irrigation it is 50-60%. The moisture is not lost, only the root layer is humidified and the aisles remain dry. Expenditure norms of mineral fertilizers also decline by 3-4 times, and crop productivity increases by 1.5-2 times.

To adapt the best Israeli drip irrigation technology to Kazakhstan conditions a joint project company "AgroTechIrrigation" was founded by the Centre for Commercialization of agricultural technologies JSC "KazAgroInnovation" and the Israeli company «NaanDanJainIrrigation».

The Mexican ridge-furrow cultivation technology of grain crops was adapted jointly with CIMMYT for the use on the irrigated lands of southern Kazakhstan. Its distinctive feature lies in the fact that the seeding is made in the ridges and irrigation into the furrows. This technology allows a 30-40 % reduction in the rate of irrigation, reduces the norm of seeding by almost 2 times: if it is normally required 200 kg of seeds of grain crops such as wheat, with this technology seeding rate is only 100 kg.

Since 2009, "KazAgroInnovation" has been cooperating with the German company "GFA Consulting Group GmbH" within the framework of Kazakh-German agrarian and political dialogue. This company provides consulting services in the field of economic policy in agriculture and land legislation improvement in the country. The International Centre for dissemination of knowledge was created with the participation of the University of Hohenheim (Stuttgart) combining collaborative opportunities. That was the German Agricultural Centre (NemATs) in the village Chaglinka of Akmola region on the basis of the North Kazakhstan Institute of Agriculture. The idea of establishing the center is that the German side demonstrates their technique, technology and conducts training seminars for the farmers.

There are 8 centers for the dissemination of knowledge based on research institutes in the system of "KazAgroInnovation" in different regions of Kazakhstan. This facilitates the introduction of scientific development in agriculture and processing sphere, increase the competitiveness of domestic agricultural production [18].

According to the rules of the WTO, commitments in the field of agriculture of the countries acceding to the WTO, cover domestic support, market access and export subsidies, and the tax incentives are not regarded as subsidies.

Due to the objective features the agricultural production needs a variety of measures of state support, which is generally accepted in the agrarian policy of WTO member countries.

All measures of the state support of agriculture are subdivided according to the classification of the WTO into the measures of "green", "yellow" (or "amber") and "blue" baskets. Distribution of measures by baskets is made depending on whether they have a distorting effect on trade, or do not have.

The "green" basket includes measures which have no distorting effect on trade, so these support measures can be used without any restrictions and the WTO members do not commit themselves to reduce them. Such measures may include actions aimed at maintaining and creating marketing, information, financial and transport infrastructure, to compensate for losses in the event of any disaster, the measures aimed at farmers income insurance, research, professional training, consulting development, information security in rural areas, veterinary services, research, etc. [18].

The measures of "green" basket are reflected in Annex 2 to the Agreement on Agriculture. If the government support measures meet the criteria for "green" baskets, they can be used without any restrictions. When a WTO member country introduces a new program to support agriculture, these support measures should be notified (ie, they must go through a formal notification in accordance with established procedure) in the WTO. At the same WTO member should justify the notified measures criteria for the "green" basket. This implies, first, that funding should not come at the expense of consumers, but from the state budget through the government program, and, secondly, that support should not have the effect of supporting producer prices.

Support within the "green box" is essential for agriculture, since the advantages of price competitiveness in the production of one country may be offset by a decrease in transportation costs and lower costs of sales in another country, and in the long term the effectiveness of the "green" basket measures are comparable to that of direct subsidies.

In contrast to the "green" basket, the measures of the "yellow" one have a distorting effect on trade, and such measures are limited to the extent that a country agrees when joining the WTO. Agricultural negotiations are conducted on the basis of levels of funding the industry allocated by the state for a certain representative period, usually three years preceding the time of accession. As a result, the maximum level of support is determined in the framework of the "yellow" basket, which is fixed in the form of aggregated support measures, the so-called AMS (Aggregate Measurement of Support).

Acceding countries coordinate this indicator with the WTO members, and the commitments in terms of support are recorded in the list annexed to the instrument of accession. If AMS is not coordinated and is not fixed, the support under the "yellow" box can only be provided within the level of "de minimis". "De minimis" is the proportion of support in gross value of production, which is 5% in developed countries, and 10% in developing countries.

Product-specific and product nonspecific support are calculated separately in AMS. Support for a particular product or article relates to product specific support. If support is not tied to a particular product, then that is product nonspecific support.

Examples of specific support may be subsidies for certain products, offset part of the cost of mixed fodder, mineral fertilizers, price support of interventional procurement of any good, etc. Electricity consumption of agricultural manufacturers on concessional terms, loans to farmers on favorable terms, payment benefits for the cost of fuels and lubricants are non-specific support.

"Blue" basket which is released under the agreement on agriculture includes measures aimed at limiting production. This is support for programs of limiting production, for example, when compensation payments are tied to a fixed area and yields, or a fixed number of livestock. These measures are generally used in the European Union [19].

Export subsidies are prohibited under the WTO; however, agriculture is an exception. A number of countries have recorded in their enumeration the use of export subsidies in a defined volume and commitments to reduce them. In the new round of WTO negotiations aimed at further liberalization of trade, it was agreed that the developed countries would have stopped using export subsidies by 2013. And for developing countries the refusal to use export subsidies should occur in 2017. However, until now these agreements are not fully made.

In addition to the issues of domestic support, export duties, the issue of access to the market is significant to the Agreement on Agriculture. In addition, the developed countries in the WTO use different kinds of entry barriers to imports into its market to protect individual sensitive segments of its agriculture [20].

Accession to the WTO has both positives and negative consequences.

The positive aspects of joining the WTO should include bringing the relevant domestic law that regulate the foreign trade activity, in line with international requirements, which provides stable and predictable environment for exporters and importers of agricultural products.

Thanks to the introduction of civilized market relations in agriculture, the investment climate has improved, which will help to increase foreign investment, the influx of new technologies.

Reduction of customs duties, the elimination of trade barriers, ensures the supply of cheap imports.

A country, which joined the WTO, receives the most favored with regard to all WTO member countries, thereby ensuring their exporters access to previously closed markets. Liberalization of foreign

trade increases competition in the world markets, forcing exporters to expand the range and improve product quality, reduce costs.

WTO agreement on the settlement of trade disputes, provides domestic producers the right to protection from unfair competition on world markets, the opportunity to participate in shaping the rules of international trade in accordance with the national interests.

Along with the apparent benefits to be gained from joining the WTO, the process also detects some negative aspects and risks.

The WTO rules do not take into account the differences between the natural and economic conditions of agriculture in different countries, especially in transition economies, in which the reforms were accompanied by a sharp drop in agricultural production. Such countries as the U.S., Australia, the European Union are the largest exporters of agricultural products, have more favorable natural and economic conditions for agriculture, in contrast to the CIS countries. Besides, as the founders of the General Agreement on Tariffs and Trade (GATT / WTO), these countries have historically had significant preferences, such as export subsidies to agriculture, and are obviously in a better position than the new members of the WTO.

Numerous WTO agreements reduce the ability of the state in customs tariff regulation of foreign economic activity. Reducing import tariffs does not only decrease the revenues, but also deprives the government of an important tool to protect domestic producers because of easier access of foreign goods in the domestic market, which may lead to a reduction in the production of its own products [21]

The decrease in the share of domestic food producers in the domestic market has a negative impact on employment in the related industries, particularly in the food industry.

Joining the WTO will lead to the situation in the domestic market when small and medium-sized businesses will have to compete in terms of international standards with the products of multinational corporations.

Membership in the WTO involves execution of the "Agreement on the Application of Sanitary and Phytosanitary Measures" associated with international procedures for sanitary control of imported products. Since national legislation must be "harmonized", i.e. brought into compliance with the WTO rules, in so far as the local laws and regulations relating to the inspection of food imports and safety measures of imported food products may be declared barriers, unfair obstacles to trade.

More or less a full analysis of the implications of WTO accession is possible only after

several years of experience in the application of the WTO agreements. The positive effect of WTO accession should be expected in the long term, when increasing the competitiveness of domestic production and the associated increase in exports will offset the negative consequences of membership in this organization.

### Conclusion

Summarizing the above, we denote the key conclusion that it is necessary to reconsider the priorities of agrarian policy by bringing it into line with international practice, where the key principles will be to ensure equal competitive conditions for all agricultural subjects with the principles of justice and fairness of government support measures. The role of peasants' households (farms) should also be rethought and conditions for their formation and ongoing developments should be created. Farmers with their business interests and motivations for high performance at a proper state support can really ensure achieving the goals and pace of development in agriculture outlined by the head of the state.

Cooperation, research and learning from the world leaders in agriculture will improve the competitiveness of agro-industrial complex and ensure the growth of foreign investments. Within the new Agricultural Development Program for 2020, a large-scale modernization of agriculture will start, aiming at improving the competitiveness of the agricultural sector and rural economy development [22]. The program implementation will enable agribusiness of the country to enter into the integration process with the lowest costs in the framework of the Customs Union and the World Trade Organization.

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