

LIVESTOCK SECTOR OF THE REPUBLIC OF KAZAKHSTAN:
REALITIES AND INTERNAL RESERVES

ҚАЗАҚСТАН РЕСПУБЛИКАСЫНЫҢ МАЛ ШАРУАШЫЛЫҒЫ САЛАСЫ:
ШЫНДЫҚТАР ЖӘНЕ ІШКІ РЕЗЕРВТЕР

ОТРАСЛЬ ЖИВОТНОВОДСТВА РЕСПУБЛИКИ КАЗАХСТАН:
РЕАЛИИ И ВНУТРЕННИЕ РЕЗЕРВЫ

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Abstract. *The goal* is to show the main directions of increasing the volume of livestock production in Kazakhstan aimed to ensure the country's food security. The article sets the following *objectives* – to analyze the current state of the livestock industry; determine the factors hindering its development; to develop proposals for the introduction of scientific achievements into production. *Results* – an analysis of the current state of agriculture is presented, in particular, the livestock sector (the share of the industry in the structure of gross output of agricultural sector, the presence of livestock, volume of livestock production, etc.). The article presents data characterizing the current state of animal husbandry and the reasons that impede economic growth: irrational distribution of livestock in the context of farm categories, low level of its productivity, lack of a feed market, ineffective use of the potential of natural pastures and hayfields, violation of technologies in the procurement of feed, low proportion of breeding stock animals in the total livestock, etc. The conducted studies allowed us to draw the appropriate *conclusions* – in order to increase the competitiveness of the livestock industry, it is necessary to develop a strategy for its development in the republic, which would allow small households to realize their comparative advantages on market so that the products obtained meet the requirements of food safety and quality from the growing number of

industrial Complex for 2017-2021 operates in the republic, where specific measures were taken to effectively and comprehensively solve the problem of sustainable development of agriculture [1]. This is confirmed in practice by specific results:

- the volume of gross agricultural production on average for 2017-2019 amounted to 4.6 trillion. tenge, or 7.4% in the structure of the country's GNP. In the structure of gross agricultural production, 25.0% falls on agricultural enterprises, 31.0% - on individual entrepreneurs, peasants and farms, and 44.0% - on households;

- labor productivity in agriculture in 2017 amounted to 1,74 thousand tenge, in 2018 - 2,08 thousand tenge and in 2019 2,47 thousand tenge;

- the gross harvest of cereals (including rice) and legumes on average for the analyzed period amounted to 19.4 million tons, potatoes - 3.7 million tons, sunflower - 0.8 million tons, vegetables - 4.0 million tons and etc.;

- produced meat in slaughter weight in 2017 - 1,79 thousand tons, in 2018 - 1,87 thousand tons and in 2019 - 1,975 thousand tons;

- the export of food products in 2019 reached 1 344.6 million US dollars or increased by 8.3% compared to 2017 [2].

For the further development of the agro-industrial complex in the country, it was decided to develop a National Project for 2022-2026. On the development of the agro-industrial complex, where tasks are also set to increase the export of agricultural products by 2.0 times and increase labor productivity by 2.5 times.

Material and methods of research.

Today in Kazakhstan, special attention is paid to the development of the agricultural sector - animal husbandry. There are great potential opportunities for its development in the country. These are huge rangelands that, from an ecological point of view, allow the cultivation of organic, clean products.

Today, the demand for meat is increasing every year in the world. A good market situation is developing for our republic, significantly increase the volume of meat exports to the external market, especially to the market of neighboring countries, such as Russia, China, the United Arab Emirates, etc.

It should be noted that since the beginning of independence in Kazakhstan, ten program documents have been developed, on the basis of which the state policy in the field of the agro-industrial complex of the Republic of Kazakhstan is being implemented.

The results of the study of this industry showed that not all the economic indicators

adopted in the program documents have been achieved. There were objective reasons for this.

For a complete analysis of the current state of the livestock industry in the country, abstract-logical, balance, comparative analysis, monographic methods of economic research were applied. The information base of the study was made up of data from the Committee on Statistics of the Ministry of Economy, the Ministry of Agriculture of the Republic of Kazakhstan, as well as materials published on the pages of the media, including the Internet.

Results and their discussions. In Kazakhstan, agriculture is the main resource, but it is far from being fully utilized. Although the republic has a significant potential for the production of organic and environmentally friendly products, which are in demand not only in the country, but also abroad. The current situation in the agro-industrial complex justifiably gives rise to criticism.

Despite the fact that over the past five years, about 2.4 trillion tenge were sent to the agro-industrial complex, the share of agriculture in the country's GDP does not exceed 4.5%. The export potential is not up to the mark. The issues of high-grade food security of the population remain. We import half of the food and products consumed in the country. Here we need a new and verified approach to the development of the industry [3]. During the presentation of the projects «Industrialization Map» and the ceremony of awarding the winners of the «Paryz» and «Altyn Sapa» awards, it was noted that in Kazakhstan during the years of industrialization, 1 250 new enterprises were launched, more than 300 thousand jobs were created. Today 110 countries in the world consume our products. In recent years, more than 500 types of products have begun to be produced, previously not produced in the country, and about 50 new types of goods have been exported [4].

According to the Statistics Committee of the Ministry of Economy of the Republic of Kazakhstan, the volume of production in the manufacturing sector for the analyzed period increased more than 3 times, and its share in the structure of industry increased to 42%. Manufacturing products in the total volume of Kazakhstani exports reached 32%.

In 2020, the volume of industrial production (goods, services) by type of economic activity in the republic amounted to 29 380 billion tenge, of which food production reached 1 708 billion tenge, which is about 6.0%.

However, in practice, the use of specialized average annual production capacities is

still not high. For example, the use of capacities for processing sausages and meat products, meat by-products or animal blood is 41.5%, milk - 45%, butter - 39.2%, hard cheeses - 52.6% [5]. The reason for the low level of processing of meat and meat products, milk and dairy products is:

- placement of the main livestock of animals in the household (cattle - 22.0%, sheep and goats - 55.9%, pigs - 61.0%, camels - 52.6%);
- low level of productivity of animals, in particular, the average milk yield per 1 cow (2 355 kg);
- lack of a feed market, natural pastures and hayfields are not effectively used;
- low quality feed, which is associated with a violation of the technology of their procurement;
- low proportion of breeding animals in the total livestock population [6].

To improve the efficiency of the livestock industry, the Ministry of Agriculture, together with business, has developed a sectoral program for the development of beef cattle breeding for 2018-2027. The goal of the program is to increase the export potential of the industry. The main operator of this program is the Fund for Financial Support of Agriculture.

In 2020, 8,300 rural entrepreneurs received microcredits for 31.1 billion tenge. Compared to the previous year, the amount has more than doubled. In 2020 alone, more than 10 thousand rural entrepreneurs in the

amount of 50 billion tenge received preferential loans through the Fund for Financial Support of Agriculture. Concessional loans were aimed at opening livestock farms, family greenhouses, and the construction of rural infrastructure facilities [7].

Kazakhstan needs to more effectively use its competitive advantages, in particular, in the production of environmentally friendly products. The country's agricultural market pays attention not only to increasing the volume of agricultural production, but also to increasing the level of its profitability. The level of profitability of agricultural production in agricultural enterprises as a whole in Kazakhstan in 2020 amounted to 34.2%, while in 2016 it was equal to 28.5%, including for crop production - 41.5% and 38.7% and for livestock - 22.0% and 9.9%, respectively. In recent years, the profitability of the livestock industry has significantly increased, which indicates that this direction of agricultural development in the country has a competitive advantage, although the share of livestock production in the structure of gross output remains practically at the same level over the years, within 44.0% (table 1).

As can be seen from table 1, in 2020 compared to 2016, the gross agricultural output increased by almost 56%, of which the share of the crop growing industry increased by 54.4% and livestock by 57.8%, respectively increase in production.

Table 1 - Gross agricultural production for 2016-2020, billion tenge

Indicator	Year					
	2016	2017	2018	2019	2020	2020 к 2016, %
Rural total the farm	3 321,7	3 701, 4	4 092, 3	4 497, 6	5 177, 9	155,9
including:						
-plant growing	1 825,2	2 047,6	2 249,2	2 411,5	2 817, 7	154,4
-animal husbandry	1 469, 9	1 621,5	1 810, 9	2050,4	2 319, 5	157,8

Note: data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan: "Agriculture, Forestry and Fisheries", Nur-Sultan, 2020, p. 134.

The leading industry in animal husbandry is cattle breeding. The main region for breeding cattle (cattle) is the northern one. More than 35% of the total cattle livestock are located in this region. In the south and southeast of the country - 30% of the total number of cattle (table 2).

From the data in table 2, it can be seen that the number of cattle in 2020 compared to 2016 increased by 20.5%, of which in the northern region by 11.1%, in the central region - 16.2%, in the eastern region - 19.7%, western - 25.5% and southern - 24.8%.

In the structure of the cattle population, 39.2% is occupied by the southern, 22.7% - northern, 17.2% - western, 13.5% - eastern and 7.4% - central regions.

In recent years, there has been a redistribution of the cattle population. In 2016-2020 their share in households increased from 44.7% to 85.3%, while the share of agricultural enterprises during this period significantly decreased - from 69.1% to 7.1%. The share of peasant farms increased from 0.05% to 8.03%. Currently, 55.1% of the cattle livestock are housed in private households of the population, 9.6% of animals - in agricultural enterprises and 35.3% - in peasant farms (table 3).

Table 4 - Slaughtered on the farm or sold for slaughter of livestock and poultry by species in Kazakhstan for 2015-2020, thousand tons

Indicators	Years						Production structure in 2020, %
	2015	2016	2017	2018	2019	2020, 2015 in %	
Total for the republic	931,0	960,7	1 017,6	1 059,6	1 120,6	120,3	100
including cattle	416,8	430,6	450,4	477,4	501,3	120,3	44,7
sheep and goats	165,1	169,2	171,4	170,6	171,4	103,8	15,3
horses	101,5	107,8	117,5	126,5	132,0	130,0	11,8
porks	95,3	93,9	91,9	86,1	86,4	90,7	7,7
camels	6,1	6,5	6,6	6,7	6,8	111,5	0,6
birds	146,1	152,7	179,6	192,2	222,7	152,4	19,9

Note: data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan: "Agriculture, Forestry and Fisheries", Nur-Sultan, 2020, p. 134.

Over the years the production of camel meat has decreased. For example, in 2020 compared to 2015 it decreased by almost 10.0%. Kazakhstanis consume more beef and lamb (table 5).

Over the past 5 years per capita meat production in the republic has fluctuated from 53 kg in 2015 to 60.9 kg in 2020. Most of all the population of the country consumes beef meat.

Table 5 - Meat production in Kazakhstan, on average per capita, 2016-2020, kg

Product name	2016	2017	2018	2019	2020
Total for the republic	53,4	54,4	56,8	58,3	60,9
Beef	23,9	24,4	25,1	26,3	27,2
Mutton	9,5	9,5	9,6	9,4	9,3
horsemeat	5,8	6,1	6,5	6,9	7,2
Pork	5,5	5,3	5,2	4,8	4,7
Camel meat	0,4	0,4	0,4	0,4	0,4
Poultry	8,3	8,7	10,0	10,5	12,1

Calculated by the author based on the data of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan: "Agriculture, Forestry and Fisheries", Nur-Sultan, 2020, p. 134.

In 2020 compared to 2015 it increased by 13.8%. The fastest growing poultry meat production in the country. The average per capita consumption of poultry meat in 2019 is 12.1 kg, which is 3.8 kg more than in 2015.

Many experts predict, that by 2020 the country may face a shortage of beef and the demand for it will increase by 1.8%. To avoid this situation, it will be necessary to reform the system of production and replenishment of livestock. These reforms will require large investments. However, based on the experience of developed countries, this industry will be quite profitable and on average its profit will be about 40% [9].

According to the Meat Union of the Republic of Kazakhstan, each Kazakhstani on average consumes almost 61 kg of meat per

year. In total in 2020 the republic produced 1 120.6 thousand tons of meat of all types. Meanwhile, Kazakhstan has all the necessary conditions for the development of beef cattle breeding. Low cost of feed production (about 190.0 million hectares of pasture land), which will increase production livestock products [10].

According to official data, in recent years only 81.2 million hectares or 43% of pastures have been used for cattle grazing in the republic, of which 76.8 million hectares of pastures have been allocated to reserve lands due to their lack of water supply and remoteness from settlements. The number of grazing livestock in the republic amounted to 14.9 million conventional heads in terms of cattle and 1 conventional head of cattle accounts for only 3.3 tons of feed. If we take into account that

the need for feed for 1 head of cattle per 180 grazing days is 6.3 tons, then the deficit of pasture feed from 81.2 million hectares of pastures will be 52.3%, i.e. the existing fodder stock of pastures can provide only 7.4 million conventional heads of cattle [11].

Therefore, the discrepancy between the balance between livestock and pasture resources has a negative impact on the condition and productivity of pastures, the yield of livestock products, as well as its quality.

As mentioned above, this problem is intensifying against the background of a steady increase in the number of animals in the population. Therefore, a large share of degraded pastures falls on lands located near settlements, especially within 5 km around the village. The main reason is oversaturation with livestock, which leads to the problem of cattle overcrowding. In particular, due to overgrazing 27.1 million hectares of pastures were de-graded, of which 14 million hectares were completely withdrawn from use, which led to a violation of the norms of the permissible load of grazing on pastures.

The development of land relations due to the fact that the state gave land to rural entrepreneurs for long-term lease limited the ability to move farm animals using seasonal pastures, which created the prerequisites for the concentration of livestock around settlements and watering places close to them. Thus, the load of animals per unit area in the natural economic zones of only South-East Kazakhstan exceeds the permissible limit by 3-5 and more times. This led to a discrepancy between the pasture feed stock and the grazing needs of animals for pasture feed. So, at present the productivity of 1 hectare of pasture land by regions, taking into account non-watered areas, does not exceed 250 fodder units.

Conclusions

It should be noted that the issues of distant pasture breeding in Kazakhstan were practically not considered for more than 25 years, which led to the fact that pasture lands were used ineffectively. Many farmers have stopped roaming to summer pastures or winter pastures for economic reasons:

- firstly, it is the lack of proper infrastructure;
- secondly, the lack of financial resources for the migration and movement of animals;
- thirdly, being located closer to the village, farmers can sell milk, kumis, butter at the local market. Moreover the second prevails, in view of the fact that for some it is the only source of income.

World practice has shown that animals that graze in flocks and herds on distant pastures are more well-fed than those that, European countries [12].

For the effective use of rangelands it is necessary to solve the following issues:

- issues of watering of pastures, over the next 10 years to put into circulation an additional 50 million hectares, in distant pastures - to equip wells and drill wells;
- strengthening the fight against desertification of rangelands;
- provision of an information database on pasture lands, which would make it possible to assess the conditions of pasture animal husbandry and their rational use;
- creation of the necessary socio-economic conditions for livestock breeders for the development of distant pasture animal husbandry.

Thus, solving the problems of the effective use of pasture lands in Kazakhstan will make it possible to steadily manage forage resources, preserve the ecological integrity of the republic's pasture ecosystems in the environment, and thereby ensure the country's food security.

References

- [1] Государственная программа развития АПК на 2017-2021 годы [Электронный ресурс].- 2018.- URL: <https://primeminister.kz>. (дата обращения: 28.04.2021).
- [2] Данные Комитета по статистике Министерства национальной экономики Республики Казахстан по выполнению показателей, принятых Государственной программой развития агропромышленного комплекса на 2017-2021 годы [Электронный ресурс]. – 2020.- URL: <https://stat.gov.kz> (дата обращения: 28.04.2021).
- [3] Токаев, К.-Ж.К. Послание Президента Республики Казахстан народу Казахстана: «Конструктивный общественный диалог – основа стабильности и процветания Казахстана» [Электронный ресурс].- 2019.-URL: <https://primeminister.kz> (дата обращения: 30.04.2021).
- [4] Участие в презентации проектов карты индустриализации и церемонии награждения победителей премий «Парыз» и «Алтын сапа» [Электронный ресурс].-2018.-URL:<https://www.akorda.kz> (дата обращения: 30.04.2021).
- [5] Промышленность Казахстана и его регионов за 2015-2016гг.: статистический сборник МНЭ РК.- Астана, 2020г.- 204с.
- [6] Макроэкономические механизмы и инструменты регулирования индустриально-инновационного развития АПК РК / под редакцией академика НАН РК Есполова Т.И.- Алматы, 2017.- 573 с.

[7] Фермеры Казахстана получили займы на 50 млрд тенге в 2018г. [Электронный ресурс].- 2018.- URL: <https://kursiv.kz/news/biznes> (дата обращения: 30.04.2021).

[8] Токаев, К.-Ж.К. Казахстану необходимы новые подходы к развитию АПК [Электронный ресурс]. - 2020. - URL: <https://www.World-nan.kz> (дата обращения: 30.04. 2021).

[9] Стратегия экономической безопасности и социальной стабильности Казахстана: коллективная монография / под ред. Академика НАН РК А.А. Сатыбалдина.- Алматы: Институт экономики КН МОН РК, 2019.-740с.

[10] Идрисова, А.Р. В очередь – за казахстанским мясом. Главные проблемы и достижения животноводства [Электронный ресурс].- 2018.- URL: <https://rus.azattyq-ruhy.kz> (дата обращения: 30.04.2021).

[11] В очередь – за казахстанским мясом. Главные проблемы и достижения животноводства [Электронный ресурс].- 2018.- URL: <https://rus.azattyq-ruhy.kz>. Azattyq Rýhy, 30.11.2020 г. (дата обращения: 4.05.2021).

[12] Шымырбаева, Г. Остановить деградацию пастбищ / Г. Шымырбаева // Казахстанская правда.- 2013.- 2 августа.

References

[1] Gosudarstvennaja programma razvitija APK na 2017-2021 gody [State program for AIC development in 2017-2021]. – 2018 - Available at: <https://primeminister.kz> (date of access: 29.04.2021) [in Russian].

[2] Dannye Komiteta po statistike Ministerstva nacional'noj ekonomiki Respubliki Kazahstan po vypolneniju pokazatelej, prinjatyh Gosudarstvennoj programmoj razvitija agropromyshlennogo kompleksa na 2017-2021 gody [Data of the Statistics Committee of Ministry of National Economy of the Republic of Kazakhstan on the implementation of indicators adopted by the State Program for AIC development in 2017-2021].- 2020.- Available at: <https://stat.gov.kz> (date of access: 28.04.2021) [in Russian].

[3] Tokaev K.-Zh.K. Poslanie Prezidenta Respubliki Kazahstan narodu Kazahstana: «Konstruktivnyj obshhestvennyj dialog – osnova stabil'nosti i процветания Казахстана [Message from the President of the Republic of Kazakhstan to the people of Kazakhstan: "Constructive public dialogue is the basis of stability and prosperity in Kazakhstan"].- 2019- Available at: <https://primeminister.kz> (date of access: 30.04.2021) [in Russian].

[4] Uchastie v prezentacii proektov Karty industrializacii i ceremonii nagrazhdenija pobeditelej premij «Paryz» i «Altyn sapa» [Participation in the presentation of the Industrialization Map projects and the award ceremony for the winners of the "Paryz" and "Altyn Sapa" awards]. – 2018 - Available at: <https://www.akorda.kz> (date of access: 30.04.2021) [in Russian].

[5] Promyshlennost' Kazahstana i ego regionov za 2015-2016 gg.: statisticheskij sbornik MNE RK [Industry of Kazakhstan and its regions for 2015-2016: statistical collection of the Ministry of National Economy of the Republic of Kazakhstan Astana]. Astana, 2020, 204 p.

[6] Espolov, T.I. (2017). Makroekonomicheskie mehanizmy i instrumenty regulirovanija industrial'no-innovacionnogo razvitija APK RK [Macroeconomic mechanisms and instruments for regulating industrial and innovative development of the agro-industrial complex of the Republic of Kazakhstan]. Almaty, 573 p. [in Russian].

[7] Fermery Kazahstana poluchili zajmy na 50 mlrd tenge v 2018g. [Farmers of Kazakhstan received loans for 50 billion tenge in 2018.]. – 2018 - Available at: <https://kursiv.kz/news/biznes> (date of access: 30.04.2021) [in Russian].

[8] Tokaev K.-Zh.K. Kazakhstanu neobhodimy novye podhody k razvitiju APK [Kazakhstan needs new approaches to the development of the agro-industrial complex]. – 2020 - Available at: <https://www.World-nan.kz> (date of access: 30.04.2021) [in Russian].

[9] Sатыбалдин, А.А. (2019). Strategija ekonomicheskoj bezopasnosti i social'noj stabil'nosti Kazahstana: kollektivnaya monografiya [Strategy of economic security and social stability of Kazakhstan: collective monograph], Almaty: Institut ekonomiki KN MON RK, 740 p. [in Russian].

[10] Idrisova A.R. v ochered' – za kazahstanskim mjasom. Glavnye problemy i dostizhenija zhivotnovodstva [Livestock main problems and achievements].- 2018 - Available at: <https://rus.azattyq-ruhy.kz> (date of access: 30.04.2021) [in Russian].

[11] V ochered' – za kazahstanskim myasom. Glavnye problemy i dostizhenija zhivotnovodstva [In line - for Kazakhstani meat. The main problems and achievements of animal husbandry]. – 2018 - Available at: <https://rus.azattyqruhy.kz>. Azattyq Rýhy, 30.11.2020 g. (date of access: 04.05.2021) [in Russian].

[12] Shymyrbaeva G. (2013). Ostanovit degradaciju pastbishh [Stop pasture degradation]. Kazakhstanskaya Pravda, 2 avgusta.

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