

Development of the agricultural sector in the Republic of Tatarstan

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Abstract. The article describes the current level of agricultural development in the Republic of Tatarstan. The current state of agriculture is determined, the description of the agricultural park of the Republic of Tatarstan and Russia is presented, performance indicators of agricultural enterprises and directions for further development of the agricultural sector are analyzed.

1 Introduction

At the present stage of economic development with a sharp increase in the world population, much attention is paid to the intensification of agricultural production.

Due to its geographical features and historical development, Russia, where the Republic of Tatarstan is located, has always been an industrial and agrarian state, focusing on agriculture, which consists of large-scale segments of food production, exchange and consumption. High efficiency of the agricultural sector is a fundamental factor for both the material and social well-being of society, national security of the country.

Development of the agricultural production in Russia depends on its development in each region. In this regard, it is very important to determine the results and development trends in the agricultural sector of the Republic of Tatarstan.

2 Materials and Methods

The main information base for the study was data published on the official websites of the Federal State Statistics Service of the Russian Federation and the Republic of Tatarstan, the Ministry of Agriculture and Food of the Republic of Tatarstan, dissertations, monographs and publications.

The study used comparison methods, strategic analysis methods, tabular and graphical methods for presenting data, as well analogies, economic-statistical, monographic, computational, and abstract-logical methods.

3 Results

The Republic of Tatarstan is one of the most economically developed regions of Russia consisting of 43 municipal districts and 2 urban districts (Kazan and Naberezhnye Chelny). The Republic of Tatarstan occupies one of the central parts of the large industrial

and geographical region of the Russian Federation – the Volga region. The main transport and river highways connecting the northern, southern, eastern and western parts of the country, converge on the territory of the republic. The area is 6783.7 thousand hectares [6].

Each year, the Republic of Tatarstan shows high macroeconomic indicators, which allow it to be among the donor regions of the Russian Federation. Among the regions, Tatarstan is usually in the top ten by gross regional product, and ranks 4th in the agricultural sector [3, 5, 7].

In agriculture of the Republic of Tatarstan, there are 139 large enterprises producing dairy products; 10 enterprises processing meat; 3 sugar factories and 6 distilleries. In 2018, the gross regional product amounted to 2115.5 billion rubles, which is 102.8 % of the level of 2017. Figure 1 shows the structure of the gross regional product for 2018.

As can be seen from Figure 1, the share of agriculture in the total structure of the gross regional product of the Republic of Tatarstan was 12.1 %. In general, the agricultural sector produced products totaling to 256.1 billion rubles, which is 5.2 % more than in 2017 [8].

The development of agriculture is facilitated by natural and climatic conditions: the territory is characterized by a temperate continental climate, with fairly warm summers and moderately cold winters. July is the warmest month with a temperature of 17–19 degrees, and January is the coldest month with an average temperature of 12–13 degrees below zero. The duration of the period with temperatures above zero is 210 days, the duration of the cold period is 160 days. 470–550 mm of precipitation falls annually.

The agricultural sector is developing, which is facilitated by climatic conditions, state support, large investment in agriculture, etc. Occupying 2.3 % of agricultural land, the Republic of Tatarstan produces 4.6 % of agricultural products and does not depend on imports. It has a significant potential for increasing agricultural food exports:

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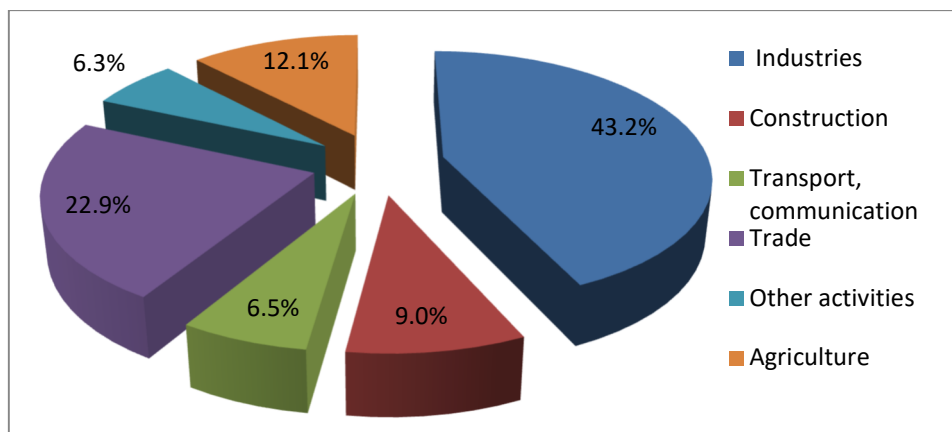


Fig. 1. The share of agriculture in the the gross regional product of the Republic of Tatarstan for 2018

- the volume of exports of agricultural and food products amounted to 176 million dollars, showing an increase of 23 million dollars in relation to 2017;
- the volume of imports of agricultural and food products amounted to 52 million dollars, showing an increase of \$ 12 million in relation to 2017;
- specific exports (mln. USD / mln. inhabitants) amounted to 45, in Russia – 140;
- specific imports amounted to 13, in Russia –193 [9].

Imports of agricultural products is minimal, especially in comparison with the Russian Federation, the bulk of it is breeding animals (live animals: poultry – 30 % and cattle –60 %) and drinks. Agriculture is an important element of the economy of Tatarstan. It grows wheat, barley and peas; the most promising processed products are flour, oil, cereals [4].

The dynamics of the gross regional product (GRP) for 2013–2018 is presented in Table 1.

Table 1. Dynamics of the gross regional product of the Republic of Tatarstan for the period 2013–2018 [10]

Name	2013	2014	2015	2016	2017	2018	Deviation of 2018 to 2013	
							Abs., +/-	Rel., %
Gross regional product, billion rubles	1551	1661	1867	1937	2116	2224	+673	143.39
The share of the agro-industrial complex in the structure of the GRP of Tatarstan, %	10.3	11.2	11.8	12	12.1	12.5	+2.2	–

Both the dynamics of the gross regional product (+673 billion rubles) and the share of agribusiness in the structure of GRP (+2.2 percentage points) showed positive trends.

Dairy farming is highly developed in the Republic of Tatarstan; milk production exceeds the Russian level 2 times. A similar trend is observed in the cultivation of beets. Table 2 presents the current state of the agro-industrial complex of the Republic of Tatarstan for 2018 by types of products.

The availability of agricultural products in the Republic of Tatarstan is higher than in Russia.

The Republic of Tatarstan supports its agriculture, which is reflected in the technical re-equipment program, due to which the availability of equipment is significantly higher than the average for Russia (table 3) [1, 2].

In Tatarstan, there are a large number of different investment parks and “green zones” that have available and fertile land for leasing. A list of such organizations is presented in Table 4.

Zarital Park is an infrastructure complex for farms and entrepreneurs producing meat and dairy production, and vegetables and fruits.

The Baltach Agroindustrial Park is the first Russian project for small and medium-sized businesses working in the halal industry dealing with production and processing of agricultural products grown by private farmers.

Table 2. The current state of agriculture in the Republic of Tatarstan for 2018 [10]

Name	Quantity, units	Specific indicator for 1 million people, %		Deviation of the specific gravity of the Republic of Tatarstan to the Russian Federation, +/-
		In Tatarstan	In Russia	
Livestock, including:				
- bird, million heads	17.1	4.4	3.8	+0.6
- Cattle, including: thousand heads	1024	262.6	127	+135.6
- cows, thousand heads	354	91	55.9	+35.1
- sheep and goats, thousand heads	357	91.5	167.1	-75.6
- pigs, thousand heads	460	117.8	159.3	-41.5
Crop production, including:				
- grain, thousand tons	4868	1248.2	922.3	+325.9
- sugar beet, thousand tons	3100	794.9	353.8	+441.1
- potato, thousand tons	1467	376.1	201.6	+174.5
- vegetables, thousand tons	405	103.9	111.6	-7.7
Basic food products, including:				
- milk, thousand tons	1824	467.1	212	+255.1
- egg, mln.	1188	304.5	305	-0.5
- cattle and poultry for slaughter, thousand tons	325	83.2	70.2	+13

Table 3. Characteristics of the agricultural park of the Republic of Tatarstan and Russia for 2018 [10]

Name	Quantity, units	The number of units of equipment per 1 thousand hectares of agricultural land		Deviation of the number of machines in the Republic of Tatarstan to the number of machines in the Russian Federation, +/-
		In Tatarstan	In Russia	
Combine harvesters	3419	1.1	0.7	+0.4
Tractors	13705	4.6	2.7	+1.9
Seeders	6374	2.1	1	+1.1
Cultivators	5790	1.9	1.1	+0.8
Forage harvesters	920	0.3	0.2	+0.1
Total	30208	10	5.7	+4.3

Table 4. List of investment parks, providing land for agricultural business in the Republic of Tatarstan as of December 31, 2019 [8]

Name	Free area, ha
Industrial park "Technopolis " Himgrad "	131
Innovative Industrial Park " Technopolis " Himgrad "	28.9
Industrial park "Kazan Silicone"	77,2
Industrial park "KIP Master"	13.8
Industrial Park " Tyurnasevo "	6.7
Industrial Park Synergy	4.3
TOSER "Nizhnekamsk"	20
Industrial park "Chistopol"	292
Industrial site "Urussu"	19.5
Halal industrial park " Baltacha "	15.6
JSC "SEZ" Innopolis "	192.7
Industrial Park SEZ "PPT" Alabuga "	3867
Industrial Park "Kama Polyany"	250
Industrial park "M-7"	39.5
Industrial park " Sokury "	24
Industrial Park "Tyulyachi"	33
Industrial Park Chelny	37
Industrial Park " Yeast "	19.1
Infrastructural complex Park " Zarital "	1825

The logistics center "Agromir-Kazan" began to function in 2018 in order to create a wholesale distribution center and retail park. It is located in Pestrechin district. It is expected that the turnover of the project will exceed 700 thousand tons per year.

The agriculture of the Republic of Tatarstan shows positive development trends. Table 5 presents an analysis of the effectiveness of agricultural activities by years.

All performance indicators have positive trends.

The agriculture of the Republic of Tatarstan is a successful and efficient field. To develop it, capital investments are required. With the state support, the projects implemented contributed to greater productivity of agricultural enterprises (Table 6).

At this stage, projects whose implementation is projected in the near future are being implemented (Table 7).

Table 5. Performance indicators of agricultural enterprises in the Republic of Tatarstan for 2016-2018. [10]

Name	2016	2017	2018	Deviation in 2018 to 2016	
				Abs., +/-	Rel. %
The share of agricultural entrepreneurs in the total number of employed population, %	8.3	8.6	8.7	+0.4	104.82
The share of gross agricultural production in the growth of gross regional product, %	11.8	12	12.1	+0.3	102.54
The ratio of the wage growth rate of agricultural entrepreneurs to the wage growth rate in the region, %	108,99	104.78	106.25	-2.74	97.49
Gross income of agricultural enterprises per unit of basic agricultural production and circulating assets, thousand rub.	5.81	5.84	6.07	+0.26	104.48
The net income of agricultural enterprises, mln rub.	7062	7563	8068	+1006	114.25
Entrepreneurial income of agricultural enterprises, mln rub.	6891	7303	7669	+778	111.29

Table 6. Implementation of projects for the development of agricultural enterprises of the Republic of Tatarstan for 2015-2018. [9]

Name	The volume of investments, mln rub.	Number of objects, units	Capacity input
Construction and modernization of dairy facilities	3227.3	27	11500 heads
Vegetable and potato storages	127.6	2	8 tons
Greenhouse facilities	389	2	2.1 ha
Overhaul of cowsheds	1681.6	352	-
Construction of silo-silage trenches	204.5	129	-
Overhaul of vegetable and potato storages	166.7	28	-
Overhaul of fleets	33,4	14	-
Construction of access roads to family farms and livestock complexes	200	32	25.4 km
Other	133.9	93	-
Total	6164	-	-

Capital investment contributes to the development of agriculture. All measures for the development of agricultural entrepreneurship are implemented within the state program "Development of agriculture and regulation of agricultural products, raw materials and food

markets in the Republic of Tatarstan for 2013–2021", which includes the achievement of the following goals:

- increasing the competitiveness of agricultural products in the domestic and foreign markets on the basis of innovative development of the agricultural sector;

- increasing the financial stability of agricultural producers;
- increasing the efficiency of land management, greening of production;
- sustainable development of rural areas.

Table 7. Projects for the development of agricultural enterprises of the Republic of Tatarstan [9]

Company name	Type of the project	Project Duration	The volume of investments, mln rub.	Capacity input
LLC Chelny Broiler	Poultry slaughtering enterprise	2017–2019	4254.4	10500 heads/h
LLC " Aznakay "	Construction of a livestock facility for 2000 milk cows	2018–2019	1007	12,000 tons per year
APK Food Program LLC	Construction of a farm for growing young cattle	2017–2019	1250	10,000 heads
Phoenix LLC	Construction of a pig breeding facility	2017–2019	1087	65,000 heads
LLC " AyzhiesAgro "	Construction of a champignon facility	2018–2019	1067	5600 tons per year
LLC TK Maysky	Construction of block greenhouses	2018–2019	921	5.14 ha
LLC "Biosphere Fish"	Construction of a sterlet rearing facility	2017–2019	625	5 mln in year
LLC " Miramol "	Construction of a dairy farm	2017–2022	2200	4800 heads of dairy herd
PC " Agrosila . Chelny-IPK »	Chicken Meat Processing Plant	2018–2020	3100	144 tons per day
Farm " Ramaevskoe "	Duck production enterprise	2018–2020	250	2250000 pcs. ducks per year

Within this program, the volume of financial resources allocated will amount to 182,172.015 million rubles, including from the federal budget, the budget of the Republic of Tatarstan and extrabudgetary funds (Table 8).

Table 8. The volume of resource support for implementing the program by years

Year	Volume of investment, million rubles		
	from the budget of the Republic of Tatarstan	from the federal budget	from extrabudgetary sources
2013	7821.363	11078.526	3.437
2014	10387.324	9851.733	966.204
2015	14863.995	11989.745	205.3
2016	11862.463	10175.709	175.589
2017	16038.935	8277.268	361.309
2018	11172.012	6619.157	511.486
2019	8237.355	5881.844	422.052
2020	8237.355	5881.844	411.342
2021	8251.363	8971.899	411.342
Total	96886.172	81817.782	3468.061

4 Conclusion

Today, the policy of the Republic of Tatarstan is aimed at the developing the following promising areas:

- production of seeds of all types of crop products, especially those that are actively zoned in the Republic of Tatarstan;
- construction of processing complexes and factories for the production of such types of products as juices, compotes, canned fish, desserts obtained from various types of berries and fruits; mushrooms; fermented, pickled and salted concentrates;
- further development of commercial fish farms of intensive type with the development of recycling water supply systems for growing valuable fish species, especially sturgeon;

- further construction and reconstruction of enterprises for the production of various dairy products based on the processing of milk from various animals;
- construction of centers for processing agricultural crop products in order to obtain various food additives;
- active construction of logistics centers for the purchase and sale of agricultural products.

For the implementation and development of all of the above areas in the Republic of Tatarstan, there are the following reserves:

- a large arable land giving high yields;
- a large percentage of imports (especially in large cities);
- the need to increase the provision of the republic with its own ecological agricultural products;
- availability of a sufficient amount of various types of manufactured products ready for processing.

Thus, we can note that agriculture in the Republic of Tatarstan has a vector of development and an increase in the efficiency of activities, since the calculation of the main indicators characterizing the performance of entrepreneurs has revealed a positive trend for the periods under consideration. The increase in the share of employed agricultural entrepreneurs in the total employed population and the share of the gross agricultural product in the growth of the gross regional product, as well as an increase in capital productivity, net and entrepreneurial income of agricultural enterprises, indicate the progress in the development of agricultural entrepreneurship in Tatarstan.

Today, the Republic of Tatarstan is developing its agriculture in the improved conditions of production activities, which include: almost ideal natural and climatic conditions, close to the optimal ones of Krasnodar; the location of agricultural enterprises in one of the developed regions located in the geographical center of Russia, which directly affects the effectiveness of all agricultural production; constant effective

measures carried out by the authorities of the republic, contributing to the further steady and accelerated development of the entire agricultural complex of the republic.

References

1. N.M. Asadullin, L.N. Asadullin, M.M. Khismatullin, *The concept of efficient use of resources during the technical operation of agricultural machinery*, Bull. of Kazan SAU, **3(21)**, 17–19 (2011)
2. N.M. Asadullin, *Current problems of the use of trucks in agriculture*, Bull. of Kazan SAU, **4-2(56)**, 44–48 (2019)
3. I.G. Gainutdinov, F.N. Mukhametgaliev, D.F. Khafizov et al., *Issues of the development of small forms of management and cooperation in rural areas*, Bull. of Kazan SAU, **1(52)**, 138–144 (2019)
4. L.V. Mikhailova, D.R. Nigmatzyanova, *Management of diversification processes in the agricultural sector based on the development of small agribusiness*, Vector of Econ., **10(28)**, 108 (2018)
5. F.N. Mukhametgaliev, L.F. Sitdikova, F.F. Mukhametgalieva et al., *Trends in the formation of modern agri-food policy of Russia*, Probl. of forecast., **2(173)**, 73–77 (2019)
6. L.F. Sitdikova, D.I. Fayzrakhmanov, F.N. Mukhametgaliev, *Strategic objectives of agricultural development in the Republic of Tatarstan*, Herald of the Kazan State Agrar. Univer., **10(1(35))**, 45–50 (2015)
7. D.I. Fayzrakhmanov, L.F. Khaziev, *Risks associated with innovation and investment in the agricultural sector*, Bull. of Kazan SAU, **3(41)**, 107–113 (2016)
8. *The agro-industrial complex of the Republic of Tatarstan*, Retrieved from: http://agro.tatarstan.ru/eng/file/pub/pub_209266
9. *The Ministry of Agriculture and Food of the Republic of Tatarstan*, Retrieved from: <http://agro.tatarstan.ru/rus/plans>.
10. *Territorial authority of the Federal State Statistics Service for the Republic of Tatarstan*, Retrieved from: <http://tatstat.gks.ru>