

## DEVELOPMENT OF GRAIN PROCESSING ENTERPRISES BASED ON THE CLUSTER SYSTEM IN UZBEKISTAN

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### ABSTRACT

The article focuses on the organization of grain clusters in Uzbekistan, as well as the organizational and theoretical aspects of the role of this system in the agriculture of our country, where there are some problems that the author proposes to solve through cluster networks and the socio-economic situation.

**Keywords:** grain clusters, cluster production management, cluster system, agriculture, agricultural products.

### INTRODUCTION

Agriculture, including the grain market, is one of the main sectors of the economy of Uzbekistan. Its condition has a decisive influence on the level of economic and social development of Uzbekistan: reforms of the agro-industrial complex in the early to mid-1990s provided for the transition of the economy of this sector to market relations, which would lead to increased production efficiency, a way out of stagnation and technological backwardness, and increased competitiveness of the agricultural sector. However, due to underestimation of the peculiarities of the formation and development of the system of agrarian production relations (which developed mainly in the territory of the former USSR), some market mechanisms turned out to be ineffective. In addition, the development of market relations was influenced by a number of negative factors, including at the macro level (shortcomings in the legislative framework of agrarian reform, ineffectiveness of government regulation, imperfections in tax and monetary policies) and at the micro level (many workers were not ready to work in new conditions; did not understand the basics of a market economy; lack of market infrastructure; shortcomings in management, planning and marketing systems; lack of mechanisms to support agribusiness).

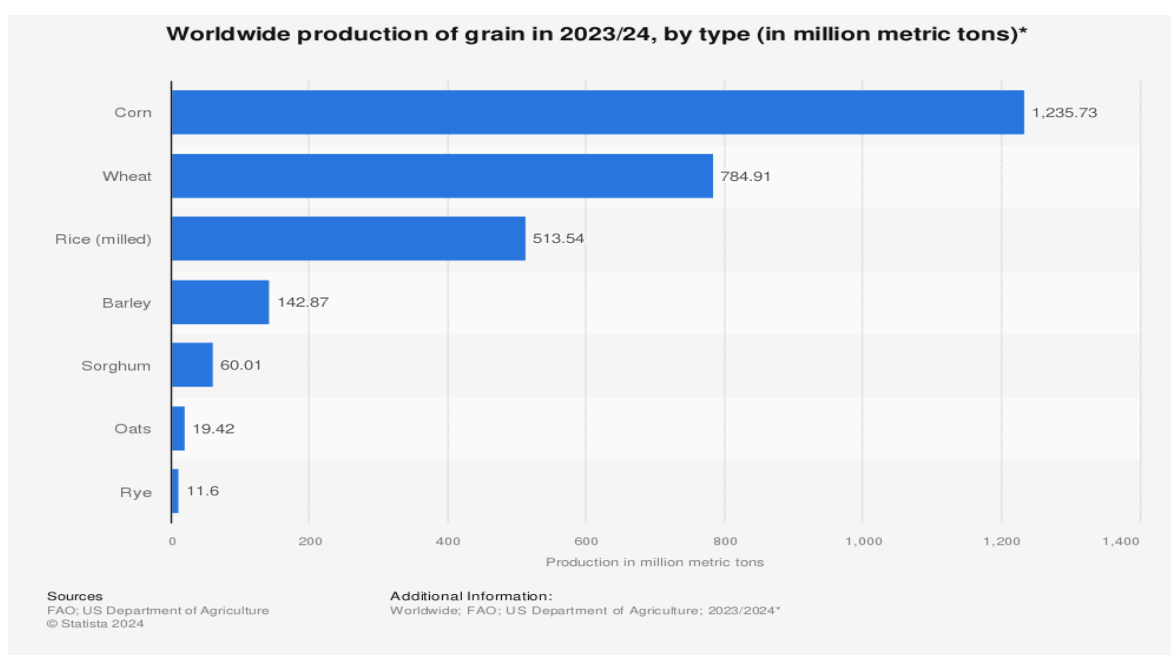
Today, thanks to the country's active agricultural policy, Uzbek grain satisfies demand in the domestic grain market of Uzbekistan. However, the industry faces a number of challenges that prevent it from further realizing its potential for growth and competitiveness. Constraining factors for development are high dependence on natural and climatic conditions, the lag of domestic consumption behind grain production, low levels of structural and technological modernization and innovation activity, underdeveloped production and market infrastructure, as well as price volatility on grain markets. There is an imbalance between the regional distribution of production and the optimal use of regional potential.

The development of agriculture and the regulation of markets for agricultural products, raw materials and food in the period 2022-2026 will require improvement of the entire grain chain using the latest concepts and management approaches, including clustering methods. World experience in creating economic clusters clearly shows that the cluster model is an effective way to increase competitiveness and create a synergistic effect by integrating the efforts of the

state and business. The creation of a system of regional grain clusters as an auxiliary element of the national strategy for the development of grain farming is an urgent task of modern agricultural management.

Grain clusters are created and function under certain conditions. It uses modern and innovative technologies for growing or purchasing grain crops, sorting, storage, processing (under contract), production and supply of finished products to domestic and foreign markets. The cluster consists of stably operating livestock, poultry, fish farming and other grain processing organizations with the necessary infrastructure, property and other means, mainly with high potential.

According to the International Grains Council, global grain production growth in 2023-2024 will reach its highest level ever (2,307 million tons).



**Drawing 1. Worldwide production of grain in 2023-2024, by type**

The transition to a cluster system in a short time created the preconditions for decisive changes in the agricultural sector of the republic. Now all cluster activities are aimed at obtaining economic benefits for both farmers and clusters, as well as increasing income by obtaining more products than provided for in the contract.

The introduction of market principles for the production and sale of grain depends on the fact that grains are one of the main consumer goods. A good harvest makes wheat more abundant and other foodstuffs cheaper.

As the head of our state emphasized, this is a very important issue directly related to the well-being of the residents of the republic. And the leading role here is given to clusters. The task is to continue work to expand the capabilities of clusters to increase the efficiency of the agro-industrial complex.

The cluster approach to grain growing began to take root, based on the successful experience of the cotton cluster. And this was done taking into account the current prospects for the development of the local agro-industrial sector outlined by the President of the country, such

as increasing agricultural yields in the next five years at least twice, deep processing of raw materials, increasing employment and income of the population.

To optimize the operation of the grain market in Uzbekistan, experts proposed introducing a system of clusters in order to combine the production of wheat, flour and bread into one production chain. This, according to experts, will allow us to get rid of unnecessary intermediaries and significantly reduce the cost of producing the final product – bread. This will accordingly make it possible to reduce the price of bread on store shelves for end consumers.

Currently, there are 157 grain clusters operating in Uzbekistan, with 1,038 thousand hectares of land assigned to them. Cooperation is underway with 36 thousand farms to grow grain on an area of 957 thousand hectares.

In 2020, grain clusters implemented 65 projects worth 547.2 billion UZS (including 193.3 billion UZS of own funds, 353.9 billion UZS bank loans) and 20.3 million dollars, and created 3,695 permanent jobs. In 2021, 83 clusters implemented 122 investment projects worth 1 trillion 164 billion UZS. The clusters commissioned open areas for storing 234 thousand tons of grain, closed storage facilities for 166 thousand tons of grain, workshops with a production capacity of 156 thousand tons of flour products, 3.8 thousand tons of bread and bakery products and 79 thousand tons feed There are 10 agricultural clusters of grain crop producers in the Tashkent region.

**Table 1 Grain clusters in Tashkent region**

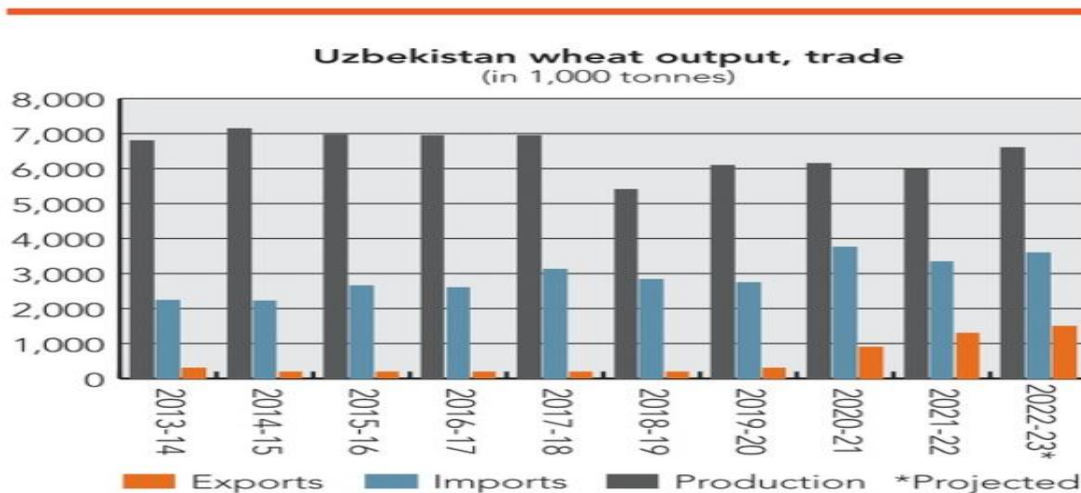
No	Grain clusters	Number of clusters	Assigned land areas of grain clusters, hectares
	<b>Tashkent region</b>	10	142050
1.	LLC “ARK BEKOBOD	1	19448
2.	LLC “MELEK AGRO DON”	1	18556
3.	LLC “SANTA GROUP AGRO”	1	10255
4.	LLC “REAL TEX TASHKENT”	1	7800
5.	LLC “EVERYDAY”	1	13609
6.	LLC “ADZ OQQO’RG’ON AGRO CLASSTER”	1	29200
7.	LLC “TCT CLUSTER”	1	9150
8.	LLC “NURLI DIYOR AG’O”	1	10222
9.	LLC “CHINOZ OLTIN DON AGRO KLASTER”	1	2630
10.	<i>LLC “AL BASIR PARRANDA”</i>	1	21180

\*LLC - Limited Liability Company

142.05 thousand hectares of land area are assigned to the existing 10 grain clusters of the Tashkent region. Cooperation is underway with 2,659 farms to grow grain on an area of 115.485 thousand hectares.

Clusters and farmers in the region are using advanced technologies to grow crops with good results.

Departing from traditional farming methods, agricultural enterprises strive to control the quality of raw materials and finished products, which is especially important for grain producers, especially in grain clusters.



**Drawing 2. Uzbekistan wheat output, trade**

Accelerating the process of clustering in the agricultural sector requires government support for business integration initiatives. Last October, at a teleconference on the development of a system of agricultural clusters, the country's leadership announced the creation of a wide range of opportunities for the development of clusters, in particular the creation of a grain cluster, where farmers will have the right to freely sell their wheat at market prices. The decree of the head of state of November 15, 2021 "On the introduction of market principles to ensure free competition in the production and sale of grain crops" formalized the President's initiative in the form of a specific legislative document. The measures envisaged by him represent a new stage of reforms aimed at increasing the competitiveness of the agricultural and food industries, ensuring price stability in the domestic market and increasing investment attractiveness through a complete rejection of government purchases of food in excess of the established quantity within the framework of unlimited exchange transactions.

The grain cluster has a laboratory with modern equipment for qualitative and systematic analysis of a wide range of analyses, which is a great advantage for agricultural enterprises. Ultimately, the commodity and financial indicators of the entire agro-industrial complex depend on the correct and complete functioning of grain laboratories.

Product quality indicators are regularly monitored by inspectors of the regional department "Uzagroinspection" and district departments.

Thus, the department for monitoring the use of raw cotton, grains, seeds and products of the Inspection Department carried out 319 control activities in 2021. In particular, during the period of grain reception, samples stored in the laboratory were rechecked, and in five cases it was revealed that the established standards were exceeded between analyses. Administrative fines were imposed on eight employees who did not take samples in accordance with the established international standard requirements. They were sent to responsible persons of

grain enterprises that violated the established requirements for the purchase of grain and laboratory research.

However, there are still a number of problems that need to be addressed. The first problem is the lack of land. Scientists at research institutes are actively working to develop new high-yielding varieties. In recent years, more than 15 local varieties of grain crops have been registered by the state.

However, it should be noted that the land owned by scientific institutions is not enough to organize primary seed production and propagation of seeds of these varieties. In addition, at present, scientific institutions conduct research only on the creation of new varieties, testing foreign varieties and selecting high-yielding varieties in republican conditions. At the same time, there is an acute shortage of land for large-scale propagation and approval of new varieties and their introduction into production.

Currently, grain seeds are propagated on 85,000 hectares of land in 62 elite seed farms and 3,136 farms of the Seed Production and Development Center.

The second problem is post-harvest seed collection. Until now, rural grain farming has been primarily about growing commercial grain, with seed purchase agreements and site-specific seed collection being of secondary importance.

This means that harvesting occurs primarily in commercial grain fields. If for some reason the district does not fulfill contracts for the supply of commercial grain until the last moment, then farms that previously entered into contracts for the supply of seeds and received permission to use the land have to deliver commercial grain from their seed fields for these purposes.

As a result, after the end of the harvest, seeds were collected from fields from which marketable grain had already been harvested. This leads, firstly, to failure to fulfill the contract for the supply of seeds, and secondly, to a decrease in the quality and varietal purity of seeds. As a result, farmers have become disillusioned with seed sowing and prefer to grow commercial grain in recent years. If we analyze only the 2021 harvest, then 105.9 percent of the terms of contracts for the sale of food concluded with business organizations were fulfilled. However, only 95.8% of contracts for the supply of seeds were fulfilled. That is, out of 137 regions specialized in seed production, 53 (38.6%) did not meet the forecast indicators for the delivery of grain seeds. In fact, sowing takes place on agricultural lands where all the necessary conditions for sowing are available (soil fertility, water supply and technical support).

The third issue is soil and fertilizers. It is well known that wheat quality indicators depend on the nutrients in the soil. Russian breeding varieties, grown on a large scale in our country, place high demands on soil nutrition. For example, in some regions of Russia, the humus content in the soil is 4.5-5.5%. In these areas, the application of 90 kg of phosphates, 60 kg of potash fertilizers and 70 kg of nitrogen per hectare allows obtaining high-quality grain weighing 850 g/liter with a gluten content of 30-32 percent.

In most of the country's cultivated areas, the humus content in the soil is about 0.7-1.0 percent. In addition, the content of available phosphorus and potassium in the soil is insufficient everywhere. Grain fields receive 45-50 kg of phosphorus fertilizers per hectare instead of 90-110 kg of phosphorus fertilizers, 15-25 kg of potash fertilizers per hectare instead of 60-80 kg of potash fertilizers.

Soil fertility is declining year-by-year due to lack of nutrients in the soil and burning of wheat stubble instead of incorporating it into the soil after harvesting.

This means that 20 percent of Uzbekistan's grain fields are annually replaced by new promising high-yielding varieties, rather than low-yielding, biologically obsolete ones. Outdated varieties of winter wheat were excluded from the state register and replaced by 4 new Russian ones (Timiryazevka-150, Vekha, Soberbash, Elanchik - in all territories of the republic) and 8 local ones (Kadr, Nodir - in the Fergana Valley, "Shukrona", "Shams" - in the Southern regions, "Semrug", "Istiklol-20" - in the Syrdarya and Jizzakh regions, "Utkir", "Shurtanbay-1" - in the Republic of Karakalpakstan and the Khorezm region) high-yielding, disease and pest resistant varieties of winter wheat.

Also by expanding the land area of research institutes, seed production of new generation varieties was established. The varieties planted on 85 thousand hectares of grain fields of the Seed Development Center, in the context of varieties and generations, will be placed on the basis of proposals from the Council of Ministers of the Republic of Karakalpakstan and regional governments.

In connection with the Decree of the President of the Republic of Uzbekistan No.PP-10 dated November 10, 2021, 20 separately located workshops for the procurement of seed grain in the "Uzdonmakhsulot" JSC system were transferred to the Seed Development Center, modernized, and provided with high-quality seeds that meet international standards.

Today, work continues in the seed shops; modern equipment for cleaning and sorting seeds, as well as color sorters, are gradually being completely modernized. On 85,000 hectares of the country's land, grain crop seeds are being tested for next year's harvest, most of which have already been completed.

To increase soil fertility (humus content), a grain + alfalfa - cotton crop rotation will be introduced from 2022 on 50,000 hectares of ineffective grain fields with a yield of less than 40 US cents/ha. Post-harvest stubble will be incorporated into the soil rather than burned.

In Uzbekistan, the development of food industry enterprises is based on a cluster system in which farms producing agricultural products and enterprises for their processing are linked by mutually beneficial cooperation. In other words, the development of agricultural cooperatives as an alternative system of cooperation in clusters, the inclusion of agricultural producers in the production system, their participation in the processing process and interest in the results of processing are important incentives for grain processing enterprises to develop the production of final products and make a profit.

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