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# ISSUES FOR IMPROVING ANALYSIS OF AGRICULTURAL SECTORS AND CLUSTER ACTIVITIES IN THE UZBEKISTAN ECONOMY

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**Abstract:** The article addresses the issues of improving the analysis of the activities of the agricultural sector and clusters in the economy of Uzbekistan. Based on the results of research conducted by the authors, recommendations for improving the efficiency of clusters in Uzbekistan were proposed.
**Key word:** cluster, agrocluster, efficiency, food, economic, financial, modern, technology, innovation, intensive, export, import, product.

摘要：本文解决了改进对乌兹别克斯坦经济中农业部门和集群活动的分析的问题。 根据作者进行的研究结果，提出了提高乌兹别克斯坦集群效率的建议。
关键词：集群、农业集群、效率、食品、经济、金融、现代、技术、创新、集约化、出口、进口、产品。

The growth of the world's population from year to year is causing the problem of food security to become more urgent. According to the data, more than 780 million people on the planet still live in extreme poverty, and more than 70% of them earn less than $ 1.9 a day. In the richest countries in the world, more than 30% of children are forced to live in poverty. One in four children under the age of 5 on earth is not tall enough and weighs enough.

At the same time, the number of people suffering from hunger as a result of pandemics around the world will double to 1.6 billion. According to FAO research, more than 820 million people on the planet suffer from malnutrition, a figure that could reach 2 billion by 2050; one in three of the world's population cannot eat on a complete ration; worldwide, 45% of under-5 child deaths occur as a result of malnutrition, and 3.1 million children die each year as a result.

If in the 70s of the twentieth century, one third of the world's population was malnourished, today this figure is 20%. World trade in agricultural products has tripled, while the growth rate of world agricultural production has fallen from 3% to 1.6% in the next decade. At the same time, the volume of agricultural production decreased in 90 countries, including 44 African countries. This is happening in a world where the world's population is growing by 90-100 million people a year and more than 795 million are malnourished. According to a study conducted in

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the United States (109 countries participated), Uzbekistan ranked 64th in the "food security" rating. In calculating the rating, experts took into account the price, volume and quality of food products in the country. In terms of food prices, Uzbekistan ranks 57th, which means that compared to 109 countries around the world, food prices in Uzbekistan are average and not cheap.

In the global economy, production is growing due to the introduction and improvement of an effective corporate governance system. This shows that the share of agricultural products in the structure of the gross domestic product of the world is different (Table 1).

**Table 1**

**Share of agricultural products in the GDP of the world * (in%)**

| № | Countries of the world | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| | **Singapore** | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| | **Switzerland** | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| | **Belgium** | 0.8 | 0.7 | 0.8 | 0.6 | 0.7 | 0.8 |
| | **Germany** | 0.8 | 0.8 | 0.9 | 0.7 | 0.8 | 0.8 |
| | **United States** | 1.1 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 |
| | **Japan** | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| | **Austria** | 1.3 | 1.3 | 1.4 | 1.3 | 1.2 | 1.3 |
| | **Sweden** | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| | **France** | 1.8 | 1.6 | 1.7 | 1.9 | 1.8 | 1.9 |
| | **Poland** | 1.7 | 2.3 | 2.2 | 2.1 | 2.2 | 2.1 |
| | **Estonia** | 3.3 | 2.5 | 2.8 | 2.2 | 2.9 | 2.2 |
| | **Italy** | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.2 |
| | **Russia** | 3.9 | 3.8 | 3.5 | 3.4 | 3.4 | 3.4 |
| | **Spain** | 3.0 | 3.1 | 3.1 | 3.0 | 2.9 | 3.5 |
| | **Bulgaria** | 4.7 | 4.7 | 4.7 | 4.0 | 3.7 | 3.9 |
| | **Hungary** | 4.6 | 4.7 | 4.5 | 4.2 | 3.9 | 4.1 |
| | **Kazakhstan** | 5.0 | 4.8 | 4.9 | 5.0 | 4.8 | 4.8 |
| | **China** | 8.39 | 8.1 | 7.5 | 7.4 | 7.1 | 7.1 |
| | **Azerbaijan** | 6.8 | 6.1 | 6.1 | 5.6 | 6.3 | 7.7 |
| | **Belarus** | 7.2 | 8.0 | 8.7 | 7.7 | 7.8 | 7.8 |
| | **Ukraine** | 14.2 | 13.8 | 12.1 | 12.0 | 10.4 | 10.8 |
| | **Armenia** | 18.9 | 17.8 | 16.4 | 15.3 | 12.7 | 12.3 |
| | **Kyrgyzstan** | 15.4 | 14.3 | 14.3 | 13.1 | 13.0 | 14.6 |
| | **Tajikistan** | 22.0 | 20.4 | 21.2 | 19.2 | 19.1 | 19.1 |
| | **Uzbekistan** | 30.7 | 30.8 | 30.1 | 27.9 | 28.0 | 28.2 |

* *Author's development on the basis of statistics of countries of the world*

It can be seen that in the last five years, the share of agricultural products in world GDP is around 1% in Singapore, Switzerland, Belgium, Germany, USA, Japan, Austria, 1-2% in Sweden, France, Poland, Estonia, Italy, 3% in Russia and 5% in Kazakhstan. %, In China it is 7%, in Kyrgyzstan it is 14%, in Tajikistan it is 19%, while in Uzbekistan it is 28% on average. This indicates that our country has a wide range of opportunities and economic issues for the effective organization of agricultural production and the provision of the population with quality food products.

At the same time, almost 98% of the time spent on production in Western Europe is spent on logistics (supply of raw materials,

transportation of finished products, their warehousing and storage). Only 2% of the total time is spent on production and 50% on transportation. In addition, in Western European countries, the cost of logistics for all activities accounts for 13 percent of the value of GDP. The distribution of this value is as follows: 41 percent is spent on transportation, 21 percent on product storage, 23 percent on inventories, and 15 percent on administrative expenses.

Despite the fact that our country annually produces more than 16 million tons of fruits and vegetables, melons and legumes, about 1.5 million tons of meat, about 10 million tons of milk, the level of their industrial processing is on average 15-20%. The agro-industrial system is not well developed, and storage and sorting services for agricultural products are not in demand, leading to a waste of about 30 percent of the harvest.

Only 3-4% of vegetables and 11% of fruits grown in our country are exported. So, there are still aspects that need to be studied and introduced in this regard. The highest exports of fruit products are in the United States, Spain and Mexico, while the highest exports of vegetables are in China, the Netherlands and Spain. Analyzing the difference between domestic consumption and export of fruits and vegetables in Uzbekistan, in recent years an average of 52.8% of legumes are exported, the rest for domestic consumption, grapes 13.2%, fruits 9.6%, vegetables 4.6%. i, 1.7% of melons are exported, the rest is domestically consumed.

According to the data, 20% of grain, 40% of potatoes and 33% of vegetables die before reaching consumers due to low labor productivity and backwardness of production culture.

Due to the fact that the technology of storage of agricultural products in our country is far behind, every year 20-40% of potatoes, tomatoes, cabbage, beets, carrots and other vegetables and fruits are wasted. The development of the world market is largely related to the appearance of agricultural products. It envisages sorting, packaging, packaging and timely delivery of products to the consumer.

In accordance with the world community, Uzbekistan is also carrying out large-scale reforms aimed at providing the population with basic foodstuffs, strengthening the raw material base of the processing industry, improving the quality of agricultural products and export potential. As a result of reforms implemented during the years of independence, there is a tendency to change the share of agricultural products in the country's GDP (Table 2).

**Table 2**
**The main macroeconomic indicators of agricultural development in the country *, (in%)**

| Year | Annual growth rates of gross agricultural output, in% | The share of agriculture in GDP, in% |
|---|---|---|
| **2000** | 103,1 | 34,4 |
| **2002** | 106,0 | 34,5 |
| **2004** | 108,9 | 30,,8 |
| **2006** | 106,7 | 27,9 |
| **2008** | 104,5 | 21,9 |
| **2010** | 106,3 | 30,6 |
| **2012** | 107,2 | 32,6 |
| **2014** | 106,3 | 31,8 |
| **2016** | 106,3 | 32,1 |
| **2018** | 100,2 | 30,0 |
| **2020** | 102,8 | 28,2 |

** Author's development on the basis of data of the State Statistics Committee of the Republic of Uzbekistan*

During the years of independence, significant work has been done to reform agriculture. The introduction of advanced equipment and technologies in production has accelerated from year to year, increasing the efficiency of use of limited land and water resources. As a result of radical economic reforms and structural changes, the average annual growth rate of gross agricultural output in the period 2000-2020 has been growing. In particular, this figure was higher than the average of 5.5% in 2000-2020 compared to previous years, and in 2020 it was 2.8%. In recent years, there has been a downward trend in the share of agricultural GDP in the country's GDP. According to the State Statistics Committee of the Republic of Uzbekistan, in 2000 the share of agriculture in GDP was 34.4%, in 2020 this figure decreased to 28.2% (Table 2).

In 2018, the share of agriculture in Uzbekistan's GDP was 30.0%. In 2018, 53.2% of agricultural production was plant products, 46.8% were livestock products. In 2017, 3.7 million people were employed in agriculture (27.2% of the total number of employed). Almost half of the country's population lives in rural areas.

In 2020, the share of agriculture, forestry and fisheries in GDP was 28.2%, with agricultural growth of 2.9%, fisheries growth of 19.8% and forestry growth of 1.7%. In 2020, the total volume of agricultural, forestry and fishery products (services) amounted to 260.3 trillion soums, an increase of 3% compared to the corresponding period of 2019. Correspondingly, the sector grew 3.1 percent in 2019. Nevertheless, the prices of basic foodstuffs continue to rise.

If we look at the analysis of food exports in the country in 2000-2020, over the past years, the volume of food products in Uzbekistan has increased in proportion to the growth of exports (Table 3).

In 2000, the country exported a total of 3108.3 thousand US dollars, of which 3%, or food products worth 95.5 thousand US dollars. By 2020, a total of 15,102.3 thousand US dollars worth of products were exported, of which 9%, or 1,336.2 thousand US dollars were exported. The volume of food exports is growing from year to year, in particular, the share of food exports in the total volume of exports is an average of 6%.

**Table 3**
**Export of food products in the republic ***
**(thousand US dollars)**

| Year | Total exports in Uzbekistan (thousand US dollars) | Food exports (thousand US dollars) | The share of food exports in total exports of Uzbekistan (in%) |
|---|---|---|---|
| **2000** | 3108,3 | 95,5 | 3 |
| **2002** | 2925,3 | 74,3 | 3 |
| **2004** | 3720,6 | 107,2 | 3 |
| **2006** | 6300,0 | 398,7 | 6 |
| **2008** | 11391,0 | 443,4 | 4 |
| **2010** | 12804,9 | 1056,2 | 8 |
| **2012** | 13455,4 | 736,9 | 5 |
| **2014** | 13532,0 | 1631,2 | 12 |
| **2016** | 12078,4 | 644,9 | 5 |
| **2018** | 13990,4 | 1029,9 | 7 |
| **2020** | 15102,3 | 1336,2 | 9 |
| **MEDIUM:** | | | **6** |

* *Author's development on the basis of data of the State Statistics Committee of the Republic of Uzbekistan*

Today, more than 80 types of agricultural products grown in our country are exported to 66 countries around the world. In 2010, cotton fiber accounted for 11.3% of exports, but by 2018 this figure had dropped to 1.6%. At the same time, the lack of a systematic system of effective market mechanisms, especially in the development of fruit and vegetable growing and viticulture in the industry, the lack of a scientific approach leads to underutilization of the existing potential of the industry. According to estimates, there is an opportunity to earn 7 times more from grapes, 6 times more from cherries and 5 times more from walnuts than from raw cotton grown on 1 hectare.

Among the existing risks for agriculture in Uzbekistan in 2020 are the difficulties associated with the export of local fruit and vegetable products. Over the past three years, exports of these products have grown from $ 570 million to $ 1.3 billion. However, the purchasing power of the population in Russia and Kazakhstan, the main importers of local vegetables and fruits, is expected to decline, as well as the demand for these products due to the devaluation of their national currencies. In many cases, the sale of Uzbek agricultural products at lower prices than those of competitors, such as in Turkey and Chile, could lead to a relative increase in demand for fruits and vegetables grown in Uzbekistan in 2020.

Despite a number of achievements, there are many untapped opportunities for the agro-industrial sector to become a market and export-oriented economy, increase production and processing, increase farmers' incomes, create new jobs, ensure food security and sustainable use of natural resources. available.

Although scientific research on the socio-economic development of the agricultural sector has been conducted, the organizational and economic mechanisms of the agricultural sector in the context of global, green and digital economies and prospects for improving their efficiency, including the theory and practice of innovation management have not been adequately studied.

The more industrialized the agricultural sector, the higher the export potential of the state, the more jobs will be created in rural areas, the better off the people will be. In addition, today's topical issue of food security requires the rational use of natural and material resources, the widespread introduction of resource-saving (water-saving, high-yield) technologies, seeds, biotechnology, science and innovation. .

From this point of view, since 2017, modern forms of production - cluster and cooperative system - are being rapidly introduced in the agricultural sector of the country to create an infrastructure based on advanced technologies.

In Uzbekistan, too, the successful establishment and operation of regional agro-clusters will increase public confidence in economic policy. It is no coincidence that confidence in this regard is high in the United States and Europe. Because in these areas, the state will form clusters that will plant "seedlings of trust" for small and medium-sized businesses, and will provide full support. Eventually, their clusters have already become a source of trust and a business incubator. This idea can also be explained by the fact that they have very few, if any, barriers to accessing the cluster compared to all other places.

During 2017-2021, 5 decrees, 8 resolutions and 9 Government decrees of the President of the Republic of Uzbekistan were adopted on the introduction of market mechanisms in the agricultural sector and the creation of an effective management system in the sector. The state order in the cultivation of cotton and grain was abolished, and market principles were introduced to ensure free competition in agriculture.

2020 of the President of the Republic of Uzbekistan

Resolutions No. PQ-4633 of March 6 "On measures for the widespread introduction of market principles in the cotton sector" and No. PP-4634 "On measures for the widespread introduction of market principles in the cultivation, purchase and sale of grain" has launched an entirely new phase in the field of the introduction of mechanisms.

In the past short period, we can see in the results that this system has justified itself in every way.

In particular, in 2017-2021, a system of clusters will be widely introduced in all sectors, including 463 agro-clusters (122 cotton and textile, 1,033.8 thousand ha (3 million tons 100%), 157 grain, 1,038.1 thousand ha (7 , 2 million tons, 100%), 146 fruits and vegetables, 116 thousand ha (1 million 567 thousand tons, 9%), 29 rice 21.1 thousand ha (98.7 thousand tons 16.5%)

1,406 ha of land were attached to 9 pharmaceutical clusters).

Cotton and textile clusters alone have attracted a total of $ 1.411 billion in investments in 2018-2020. In particular, in the field of primary processing of cotton for 27 projects worth 115 million dollars with a capacity of 1169 thousand tons, 41 yarn production projects with a capacity of 548 thousand tons for 831 million dollars, 34 fabric production and dyeing projects with a capacity of 161 thousand tons. $ 234 million, $ 234 million was involved in 23 knitwear (sewing) projects with a capacity of 148,000 tons.

In 18 of the existing clusters (14.7%) there are 5 stages of cotton processing, in 22 (18%) 4 stages, in 30 (24.5%) 3 stages, in 36 (29.5%) 2 stages and 16 stages (13.3%) covered 1 stage (100% share in total cotton processing).

Grain clusters produce 538 thousand tons of flour per year (18% of total flour production), 263.8 thousand tons of mixed fodder, 54.3 thousand tons of bakery products, 221.0 tons of fruit and vegetable clusters. modern refrigerated warehouses with a capacity of 68 thousand tons, processing 683.2 thousand tons (share in the total processing of fruits and vegetables 24.4%), sorting 84.0 thousand tons, packaging 44.0 thousand tons, 53.0 thousand tons product drying facilities were commissioned.

18.5% of gross agricultural output is produced by agro-clusters.

As a result of this work, more than 152,000 new jobs have been created in the regions over the past 5 years.

Particular attention was also paid to improving the income of producers by ensuring that clusters achieve high productivity through the rational use of natural and material resources.

As a result of the introduction of science, innovation and advanced technologies in the industry by clusters, in 2016-2020, the yield of cotton will increase from 26.4 ts / ha to 30 ts / ha (+ 3.6ts / ha), grain yield from 57.8 ts / ha Increased by 64.1 ts / ha (+6.3 ts / ha).

As a result of the introduction of the cluster system, the material interest of producers has increased by 1.5 times. In particular, the

average monthly salary of a worker in the production of raw cotton in 2017 amounted to 750-800 thousand soums, and by 2021 - 2.5 million soums. soums (2.4 times more).

In 2019-2021, 394.3 thousand hectares of land were re-used by clusters and their partners (farms). Water-saving technologies have been introduced on 256,000 hectares of land.

As a result of our analysis, we consider it expedient to plan the activities of clusters from the organizational and economic point of view on the basis of the following proposals:

- increase the share of agricultural production in the production of agricultural products to 35% through the widespread introduction of scientific achievements, innovative results and best practices;

- all in deep processing of cotton by clusters

Coverage of 5 stages (fiber, yarn, fabric, fabric dyeing and finished products), the share of fruit and vegetable processing to 55%, the share of production to 60%, the share of grain processing

45 percent delivery;

- increase the processing of agricultural products in cooperatives and clusters by 5-7 times, the volume of exports by 2-3 times, the creation of additional jobs by 3-4 times;

- Development of cooperation, in particular, to increase the share of cooperation in the markets of Uzbekistan by 15%, the share of exports and processing of agricultural products by 17%, the share of employment in agriculture by 15%;

- implementation of comprehensive measures to introduce full market mechanisms in the agricultural sector, limit administrative interventions, create a free competitive environment, privatize state property on a conditional basis, ensure the free operation of agro-industrial clusters and cooperatives;

- Improving the mechanisms of financing of agro-industrial clusters and cooperatives, in particular, the introduction of new mechanisms for lending, compensation and subsidies;

- Particular attention will be paid to the introduction of tax and customs benefits for agro-industrial clusters and cooperatives, the creation of preferences in attracting direct investment, the development of mechanisms for the provision of benefits and privileges.

As a result of these activities, agro-industrial clusters and cooperatives will create new value chains and new jobs, accelerate industrialization, implement new investment projects, develop modern services in the agricultural sector, increase producers' incomes and provide people with guaranteed food products. provided.

To improve the legal framework for the regulation of contractual relations between clusters and farms, we propose the following:

- In the process of reforms in the agricultural sector, first of all, priority is given to the level of ensuring the interests of farms. Today, the cooperation of clusters and farmers is organized on the basis of full market principles;

- At present, 157 grain clusters cultivate grain on 957 thousand hectares of land with 36.0 thousand farms, 122 cotton and textile clusters in 135 districts cultivate cotton on 864 thousand hectares with 26.8 thousand farms. , 146 fruit and vegetable clusters are working on the basis of futures contracts for the cultivation of fruits and vegetables on 85.5 thousand hectares of land with 10 thousand farms;

- Today, there is a need to strengthen the legal framework for the regulation of contractual relations between clusters and farms, to ensure

the free operation of agro-industrial clusters and cooperatives.

In this regard, the legal status of agro-industrial clusters, the establishment and termination of agro-industrial clusters in all areas, the definition of competent authorities for monitoring their activities, the definition of rights and obligations of clusters, the conclusion of contracts, areas of cooperation, government support mechanisms are complete. We believe that the Regulation on the Procedure for Organizing the Activities of Agro-Industrial Clusters should be approved by the Government in order to disclose, as well as to introduce a unified approach to agro-industrial clusters.

It should be noted that currently there is no single approach to the organization of agro-industrial clusters in the country, in particular, more than 10 normative legal acts do not define the legal status of agro-industrial clusters, the order of organization, its criteria, rights and obligations, grounds for liquidation. .

This, in turn, leads to a sharp increase in administrative interventions (local governments) in the process of organizing and liquidating agro-industrial clusters. As a result, inadequate clusters are being set up through the intervention of local governments, or, conversely, well-functioning clusters are being shut down.

Most importantly, in order to prevent administrative interference, the status of the agro-industrial cluster and the abolition of land lease rights should be strictly defined only on the basis of a court decision.

In addition, it is necessary to ensure the free operation of farms with agro-industrial clusters, including the abolition of the practice of mandatory attachment of agricultural producers to agro-industrial clusters.

Today, along with agro-industrial clusters, special attention is paid to the development of agricultural cooperatives.

However, the fact that the organization of agricultural cooperatives, including membership and corporate governance, is not regulated by law creates a number of problems in practice.

In conclusion, to improve the analysis of the activities of the agricultural sector and clusters in the economy of Uzbekistan, we recommend the following:

classification and organization of cluster activities on the basis of the study of cluster theory and its scientific and methodological improvement;

analysis of views on evaluating the effectiveness of organizational, economic and financial mechanisms of cluster activities;

improvement of organizational and economic mechanisms of state coordination of cluster activities;

Improving the system of indicators representing the financial results of clusters and the methodology of their analysis;

improvement of methods for evaluating the effectiveness of services provided by clusters;

development of a methodology for evaluating the effectiveness of cluster activities on the basis of a complex indicator.

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