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**O'ZBEKISTON RESPUBLIKASI HUDUDLARIDA QISHLOQ XO'JALIGI
SUBYEKTLARI KLASSTERLARI – RIVOJLANISHNING
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**CLUSTERING AGRICULTURAL ENTITIES IN THE REGIONS OF THE
REPUBLIC OF UZBEKISTAN
AS AN ECONOMIC FACTOR OF DEVELOPMENT**

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**КЛАСТЕРИЗАЦИЯ СУБЪЕКТОВ СЕЛЬСКОГО ХОЗЯЙСТВА
РЕГИОНОВ РЕСПУБЛИКИ УЗБЕКИСТАН КАК ЭКОНОМИЧЕСКИЙ
ФАКТОР РАЗВИТИЯ**

**Clustering agricultural entities in the territory of Uzbekistan as a factor for
economic development**

Today, agriculture plays an important role in the development of Uzbekistan's economy. The sector accounts for 27% of the country's GDP at factor cost and 27% of total employment. By 2025, the country's GDP is projected to reach \$100 billion and annual exports are projected to reach \$30 billion. To achieve these figures, the untapped potential of agriculture needs to be utilized to create additional income and employment opportunities. As the changes in the global standards, high value production, massive growth in the demand for agricultural goods, clustering agri

industrial entities would enable this sector to become a driver for economic development similar to ICT, electronics, industrial manufacturing and oil and gas industries.

Agro-clusters are a single vertically integrated system of commercial and dekhan farms, processing industries, storage facilities, transport logistics and trade infrastructure which is needed to plant, process, store and sell agricultural products. In addition to deep processing agricultural products, agro-clusters optimise the activities of crop farmers and provide them with modern equipment and technology, fertilisers, expertise and necessary chemicals on an ongoing basis.

As Uzbekistan have observed a stagnant productivity during the last decade until 2017 in cotton and wheat production, reforms were essential in agricultural sector to meet rising demand for food and other agricultural goods. Therefore, the first agro-cluster in the country was launched in 2017, and by the end of 2021 this figure has reached more than 600. Agro clusters are established to reduce state intervention and support measures into the agriculture, to increase productivity of crop production, to develop an agro processing industry and to increase farmer's income in Uzbekistan.

The development priorities of the Republic of Uzbekistan for 2017-2021 placed great emphasis on modernizing the country's agriculture and processing industry on the basis of intensive and modern technologies and methods. In particular, the presidential decrees of 29 July 2019 "On additional measures for deep processing of agricultural products and further development of food industry" and 11 December 2019 "On additional measures for further development of horticulture and viticulture and creation of value-added chain in the industry" adopted a number of additional measures to create added value in processing products in the processing and marketing system.

The clusters address the following key challenges that farmers face in gaining an advantage over other producers:

1. Uninterrupted supply throughout the year using machinery not available to farmers
2. Providing farmers with the services of agronomists and other agricultural specialists (optimization of production activities)
3. Elimination of financial shortages and uninterrupted supply of all necessary fertilizers and chemicals to the farmers
4. Supporting farmers in finding a customer for fresh and processed agricultural products, and in planning for the future.

Thanks to the clusters - private investments in the development of new types of modern agricultural technologies and introduction of advanced agricultural methods -

deep ploughing, drip irrigation and laser leveling of fields are increased, agrotechnical soil conditions are improved and agrotechnical maps are updated.

According to our analysis, since 2017 cotton cultivation productivity per hectare has increased by 13.6%. With the introduction of the cluster system, the total cotton harvest increased from 2.9 million tons to 3.1 million tons per year by ensuring a seamless link between producers and processors of raw materials.

In 2016-2020, 330.5 thousand hectares of low-yielding cotton and cereal fields have been reduced and replaced by vegetables, potatoes, melons, fodder, oilseeds and pulses.

In 2020, total merchandise exports amounted to \$13,097 million, 1.4 times more than in 2016. Of this, \$ 1.3 billion (9.7%) was exports of fresh agricultural products and \$ 478 million was exports of value-added agricultural products in 2020. Exports of processed agricultural products in 2020 increased by 2.3 times compared to 2016.

Today, the country is gradually establishing clusters in the cotton and textile sectors, as well as in the horticultural and pharmaceutical sectors. Fruit and vegetable clusters have been functioning since 2020 and have processed a total of 237,400 tons of fruit and vegetables during the year, of which 163,900 tons of fruit and vegetables were exported to foreign markets.

The number of registered food processing enterprises increased from 8,050 in 2014-15 to 12,065 in 2017-2018 and to 20,000 in 2020. The sector accounts for 9.8% of total industrial investment in Uzbekistan. In addition, the sector is considered to be the 4th largest FDI acceptor in Uzbekistan, and production in the food industry in 2020 increased by 189% compared to 2016, reaching 42.4 trillion UZS.

	2016	2017	2018	2019	2020
Total exports - million USD	8,974	10,079	10,920	14,023	13,097
Agricultural products - million USD	1,274	1,230	1,177	1,608	1,281
Share in total exports	14%	12%	10,7%	11%	9,7%
Processed agricultural products - million USD	210	281	337	372	478
Share in total exports	2,3%	2,7%	3,1%	2,6%	3,6%

Table 1. Dynamics of agricultural exports

In addition, agro-clusters play an important role in increasing farmers' and people's incomes, as well as improving resource efficiency and preventing production losses. Cotton processing clusters have increased mechanization of cotton harvesting from 1% in 2018 to 5% in 2019 (Zoria S. 2020).

In a short period of time, activities based on the cluster system in our country have started to show positive results. During 2017-2020, 101.7 thousand ha of drip irrigation, 3.5 thousand ha of irrigation, 4.2 thousand ha of water saving systems and 146.8 thousand ha of flexible pipes were introduced on a total area of 256.3 thousand ha.

Currently there are 463 agro-clusters operating in the country, including 122 cotton and textile clusters, covering 1,033 thousand ha (100%), including 26,800 farms, 157 grain clusters, covering 1,038 thousand ha (100%), including 36 000 farmers who have established cooperation on the basis of contracts. Cooperation has been established between 146 fruit and vegetable clusters and 10 000 farms on 116 thousand ha (35%) of land, 29 rice clusters on 21 thousand ha and 9 pharmaceutical clusters on 1,4 thousand ha (Minselkhoz, 2021).

Conclusion

Overall, the cluster system plays an important role in improving living standards by increasing the interest of the enterprises, attracting industrial production to the rural areas, rising employment, and increasing the country's export potential through the introduction of innovative technologies in the industry which is highly competitive.

Nevertheless, to promote equal development, competition between the clusters and private farmers should be maintained and ensured by law. Farmers' right should be maintained to avoid monopoly power in the market. The following market failures are identified:

1. Many of the farmers yet did not fully understand how clusters work and the obligations of the parties within the cluster due top-down approach in organizing the clusters;
2. Financial obligations of the cluster members are not made on time to the farmers which is increase financial burden on the farmers during plantation and there is no legal responsibility against it.
3. Current system in practice created a monopoly in regions while contracting farmers to single cluster which set the prices potentially lower than the market prices.
4. Farmers are not given the right to decide with whom to cooperate.

The economic importance and potential benefits of clusters should be promoted and explained for its members. Thus, cluster organization will be initiated by the

private sector. The government should provide workshops to improve the understanding of the joint benefits within the cluster system.

Further improvement of the competitiveness of Uzbekistan's agro-industrial sector is associated with the introduction of new technologies and innovations in the production of goods and services. Furthermore, the following areas should be paid special attention to develop clusters complexes in the country:

- Digitalization of enterprises are also necessary to support the further development of the agro-processing industry.
- Improving basic infrastructure and services
- Improving skilled level of the labour force in the regions