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## THE ROLE OF CLUSTERS IN THE ECONOMIC DEVELOPMENT OF RURAL ECONOMY

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### ABSTRACT

*In modern conditions, the clustering of the economy of Uzbekistan, which strengthens the interconnection of its economic entities and gives new impetus to the development of regions, is one of the key factors in increasing their competitiveness. The problems of identifying and assessing regional clusters of Uzbekistan are one of the insufficiently studied, which is associated, first of all, with the complexity of the region as an economic system. The results of the study of the influence of cluster technologies on the process of socio-economic dynamics in the country are presented. The main advantages of fruit and vegetable cluster structures that ensure the development of priority nationally significant spheres of activity are shown.*

**KEYWORDS:** *Region, Development, Subject, Dynamics, Factors, Industry, Fruits And Vegetables, Cluster, Conceptual Approach, Technology, Cluster Model, Type Of Clusters, Area, Production, Processing, Sale, Import, Export.*

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### INTRODUCTION

The agricultural sector of our country, in particular, requires the development of fruit and vegetable growing on the basis of innovative cluster approaches. It has not been long since the introduction of the cluster approach in the reform of the agricultural sector of our country. Given that the cluster sector is relatively new to Uzbekistan, it is important to study the theoretical, methodological and practical basis of cluster development and cluster strategies in economics, especially in the socio-economic systems of the agricultural sector.

Agriculture is an important sector of Uzbekistan's economy, accounting for approximately 28.5% of GDP. It employs about 4.2 million people, accounting for more than 30% of the country's total

employment. The main agricultural crops are cotton and grain, but the abolition of quotas and price control in 2020-2021 is already actively contributing to the diversification of crops, a phased transition to the cultivation of other crops, fruits and vegetables. Exports of agricultural products provided approximately 9.8% of Uzbekistan's external revenues **in 2019 [10]**. To date, 463 agricultural clusters have been operating in all areas of agriculture (cotton-textile direction, grain growing, fruit and vegetable growing, rice growing, etc.). The clusters cover 2.2 million hectares of agricultural land. This year, 270 investment projects will be implemented on the organization of deep processing of cotton for a total of 25.5 trillion soums, 63 projects for fruit and vegetable production worth 589 billion soums, 122 projects for grain growing worth 1 trillion 164 billion soums. As a result, more than 59 thousand new jobs will be created.

The introduction of the cluster approach in the agricultural sector of Uzbekistan is a new and innovative approach. However, due to the practical experience of introducing clusters in the agricultural sector in our country in recent years, there is a lack of practical and theoretical research on clusters in economics. Therefore, the study of clusters in the context of this topic is relevant. Issues of clustering in Uzbekistan in the monographs of B.Berkinov, G.Zohidov and M.Rakhmatov, B.Zaripov, Sh.Khasanov, A.Burkhanov, B.Usmanov, M.Tashboltaev, N.Makhmasobirova, Sh. It has been studied in the scientific works of Mustafakulov and the authors of this article [1], [9].

The main advantage of fruit and vegetable clusters is the presence of an internal competitive environment. A cluster is a reproduction chain of geographically concentrated enterprises and organizations that are in formal and informal communication with each other. The intersection of technological, regional and social proximity in the fruit and vegetable cluster creates a synergistic effect of integration, accelerates the spread of innovations in the early stages of development, and at the same time reduces transaction costs and creates competitive advantages in creating new products and technologies [11]. It is no coincidence that many economists note that “the regions where clusters are formed play a leading role in economic development”.

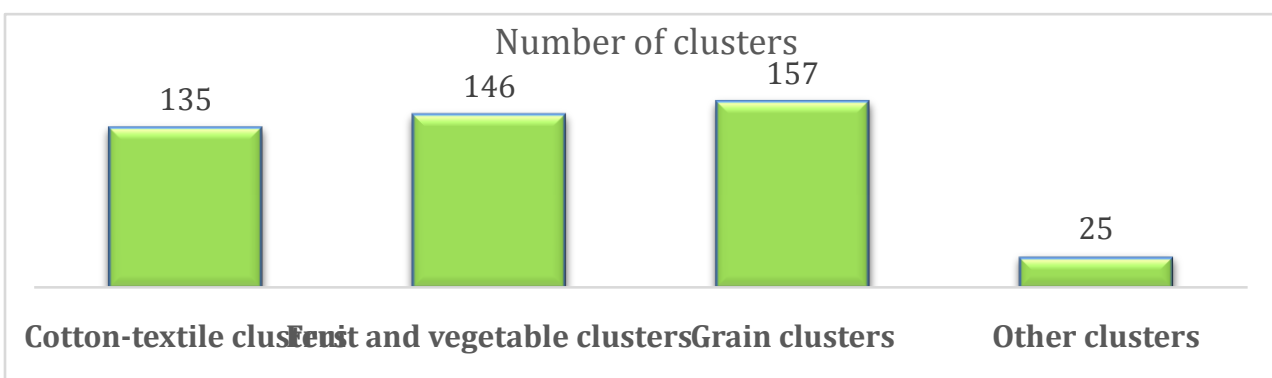
### THE MAIN FINDINGS AND RESULTS

The cluster development model is a conceptual approach that involves the use of clusters as backbone elements of a modern market economy, allowing the country's competitive advantages to be realized within the framework of the international division of labor.

It was found that clusters develop more efficiently if the initial effort was directed “from the bottom up” and the initiative came from the future participants themselves. World practice shows that in the last two decades, the process of cluster formation has been quite active. In general, according to experts, to date, clustering covers about 50 percent of the economies of the leading countries of the world.

**Fig. 1 Types and quantity of agro-clusters in Uzbekistan**

In general, about a third of vegetables and fruits are processed in the world. It is noted that the more developed the economy is, the higher the share of vegetables and fruits is sent for processing. So in the USA up to 50% is processed, in the EU - about 20%, in France - 20%, in Sweden - about 17%, in Belarus - 10%. In Russia, according to various estimates, 15-25% of



harvested vegetables and fruits are **processed** [12].

Fruit and vegetable cluster is a territorially localized, innovation-oriented and integrated structure based on the interaction of independent economic entities, the purpose of which is to implement the Strategy of Agricultural Development of the Republic of Uzbekistan for 2020-2030. There are 135 cotton-textile, 157 grain-growing, 146 fruit and vegetable clusters and 25 other clusters in Uzbekistan (Fig. 1).

The analysis of the current state of formation and development of fruit and vegetable clusters in the country is based on foreign and domestic research on the subject, data from the Ministry of Agriculture of the Republic of Uzbekistan [13], [14].

Clusters first appeared in the developed countries of the west. In the 70s and 80s of the twentieth century, regional programs to support cluster formation emerged in developed European countries. National cluster support programs began to emerge in the second half of the 1990s. The period of rapid spread of cluster initiatives and cluster programs around the world coincided with the early 2000s. Currently, the development of regional clusters in Australia, Brazil, the United Kingdom, Germany, India, Spain, Italy, Canada, Malaysia, Norway, the Republic of Korea, Singapore, Slovenia, the United States, Finland, France, Sweden, Japan and other countries is being targeted as a state policy. 26 EU countries have national cluster development programs.

Today, the cluster approach, which is actively used in foreign practice of regional development management, is considered to be one of the most effective areas of innovation policy. EU countries are working with government programs to develop clusters. The experience of developed countries in clustering the regional economy allows to identify a number of important features of clusters [15]: cluster policy is often aimed at supporting high-tech industries; prospective clusters are not identified by the authorities (in practice, they can set priorities for support), but they constitute a selection of support programs; the authorities will support worthy candidates from the contestants; small and medium enterprises will be the main beneficiaries of government programs; the preparation of applications for European cluster programs involves long periods of time and the selection is done in several stages; as a rule, several leading enterprises are responsible for the implementation of cluster policy at the same time. Depending on the size of the clusters (taking into account one or more parameters) are divided into small, medium and large clusters. For example, the area of land attached to “FayzBashirbekYukalish” LLC operating in Samarkand region is 256 hectares, this figure is 3496 hectares in JV “Agromir” LLC and

Various economically active clusters, ranging in size from local to global. He argues that the formation of clusters is linked to a specific area of the country.

2. Horizontal model: used to describe the inclusion of multiple networks in a large cluster. This model provides for equal conditions for interaction between several industries and companies.

3. Vertical model: clusters - may include enterprises in the (mixed) stages of the production process. Here it is important to determine which of the network participants are the initiator and final executor of the innovation within the cluster. This model characterizes the hierarchical relationship of the stages 4037 hectares in “NaimDiyorbekKishmishBaglari” farm. The average cluster area in the region is 1,660 hectares.

## **RESULTS AND DISCUSSIONS**

Research on clusters and cluster systems highlights many features that are unique to clusters. According to Yu.L. Vladimirov [16]: “The processes of cluster identification, description and characterization are not standardized. Different researchers develop their own methods (approaches). Typically, cluster enterprises in the formation process: it goes through stages such as advocacy and motivation of potential participants, overall strategy development, pilot design, strategic design and self-regulation”. However, many scientific literatures have different approaches to the principles of cluster formation. There are seven main models that are currently

encountered in practice and cover various combinations of factors. In turn, the model of cluster policy 7 - is the basis for the selection of one or another strategy of the clusters being formed or operating:

1. Geographical model: involves the construction of clusters related to production or innovation processes;
4. Literary model: different sectors (networks) can be combined into a cluster, which will be able to make new connections (combinations) based on their scale effect (in other words, resource-saving effect by increasing the scale of large-scale production). In this model, the integration of different sectors of a network into a cluster creates new opportunities for development.
5. Technological model: represents a set of enterprises in different industries using the same technology (for example, a biotechnology cluster). This model reflects a set of networks connected by the same technology.
6. Centralized (focus) model: a cluster of firms centered on a single center, which can be a leading large enterprise, a research institute, or a university that is a consumer of knowledge and innovation.
7. Quality model: the existence and interaction of firms within a cluster is characterized by quality categories. It will be important not only for the cooperation of companies, but also for how this cooperation will be implemented.

Clusters vary in size, breadth of coverage, level of development, and dependence on sectors. The nature of the networks allows the boundaries of the cluster to change [2]. It occurs as a result of the emergence of new industries or firms, as well as development outcomes or changes in the business environment. It should be noted that clusters operate in both developed and developing countries. The difference is seen in more developed clusters - the availability of a specialized supplier base, a developed wide range of interconnected networks, and deeper relationships with consumers.

According to the Ministry of Agriculture of the Republic of Uzbekistan, in 2020 in the country will be 146, allocated to them 116 thousand 24 hectares of land. 10033 farms with 85,524 hectares of arable land are attached to the clusters. Studies show that fruit and vegetable clusters in Uzbekistan are organized in the forms "Independent" (first direction), "*Preparation and processing*" and "*Mixed*" (second direction). At present, there are 11 "*Independent*", 16 "*Mixed*" and 120 "*Preparation-processing*" clusters in the Republic. The total land area attached to fruit and vegetable clusters in Uzbekistan is 30,102 hectares, of which 18,600 hectares or 61.8% are accounted for by processing and processing, 7,309 hectares or 24.3% by independent clusters and 4,193 hectares or 13.9% by mixed clusters.

In Uzbekistan, over the past four years, 52,000 hectares of new vineyards have been established and 210 billion soums of subsidies have been allocated to the sector. During this period, the share of grapes in fruit and vegetable exports has doubled. Today, farms in our country grow grapes on 90,000 hectares. 900,000 people are employed in this network on a permanent and seasonal basis. Analyzes show that there are great opportunities in this area. In particular, grape sales are the third largest in the world market, with demand growing by an average of \$ 350 million annually. Uzbekistan's export potential for grapes is projected to reach at least \$ 600 million over the next four years, \$ 500 million for raisins and \$ 100 million for natural wine. Both the economic efficiency and social significance of viticulture are great.

## CONCLUSION

1. Establishment and development of clusters in our country is an optimal and innovative form of organization of agricultural production. Competitive advantages of agricultural enterprises, which are part of the fruit and vegetable cluster, will be formed, and most importantly, flexibility and ability to respond quickly to all changes in the market will increase.

2. Within 146 fruit and vegetable clusters operating in the country, the clusters operating in a mixed form are independent in terms of land area, production, coverage of fruit and vegetable clusters, number of attached farms, volume of products for domestic consumption, processing and export, and shows that the preparation is higher than in the processing clusters.

3. Mixed clusters - fruit and vegetable clusters account for 57.8% of the total land area, 79.0% of the total fruit and vegetable production. Mixed clusters provide 84.3% of the total agricultural output of domestic fruit and vegetable clusters of the republic. Correspondingly, these figures are 73.9 percent in processing and 78.9 percent in exports. It is known that agricultural products grown by fruit and vegetable clusters are exported to foreign countries in fresh and processed form. In 2020, 54.3% of the total agricultural output grown in fruit and vegetable clusters will be processed and exported.

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