FORMATION AND DEVELOPMENT OF SCIENTIFIC AND INNOVATIVE INFRASTRUCTURE OF CLUSTERS IN UZBEKISTAN

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Abstract: The article highlights issues on the formation of scientific-innovative infrastructure of clusters of Uzbekistan. At the same time, the author has developed proposals for the formation of a scientific-innovative infrastructure that will promote the development of integration between cluster members, increase production efficiency, commercialization of innovative projects, develop and implement programs for the development of cotton-textile clusters.

Keywords: cluster, cotton-textile cluster, scientific-innovative infrastructure, research centers.

Introduction: Recently, there has been the most frequent use of the word "cluster", "clustering" in our daily lives. Despite the fact that this term is a new definition in the economy of Uzbekistan, foreign developed countries already have rich experience in organizing and developing economic clusters.

In the national economy of Uzbekistan, in several priority sectors, especially in the cotton industry, work is underway to organize production using this method - a group of enterprises united in a single technological chain, where science, education and production are mutually integrated. In this integration, primary raw materials will go through all the stages of processing in stages, added value is added and turned into high quality final products. We know that a cluster is a technological chain that includes the entire process, starting from the primary processing of raw materials and ending with the production of finished products from it. It will help reduce costs in the cost of production for transportation costs, increase the production of finished products, which have a higher cost than raw materials.

“If the whole system is properly organized on the basis of a scientific approach and modern technologies, the number of jobs can be increased to 1 million. In this regard, it is necessary to create opportunities to increase the yield of cotton on the basis of scientifically based seed production and agricultural technologies, to double the industry's exports through deep processing of raw materials. It is necessary to create scientific centers in each cluster, such as seed, soil and biological laboratories, as well as seed preparation workshops [1].

In this regard, an urgent issue of developing intersectoral relations in the enterprises of the cotton industry complex is the creation of scientific and innovative centers as part of clusters. The cluster became economically beneficial for market participants, it directly led to an increase in production capacity. Achieving the above goals is not feasible without the formation of an appropriate scientific and innovative infrastructure.

Research Methodology: The theoretical and methodological basis of the study are the fundamental concepts, scientific works of famous scientists dealing with the problems of industrial clustering, justified and presented in modern and classical literature, using sources of statistical data, including official data from the Ministry of Agriculture of the Republic of Uzbekistan, the Association of Cotton-Textile Clusters of the Republic of Uzbekistan and the State Committee on Statistics of the Republic of Uzbekistan, as well as individual regulatory documents, reports of relevant departments and organizations, the feasibility and scientific justification of the methods used, such as comparative, economic and statistical, grouping methods, expert assessments.

Literature Review: The tasks of formation and functioning, as well as the implementation of the cluster method in their management of the competitiveness of enterprises, are devoted to the works of foreign scientists of economic science such as: A. Marshall [2], M. Porter [3], A. Weber, S. Rosenfeld, P. Krugman, D. Solier, E. Dahmen [4] and others, as well as researchers from the CIS countries: A.N. Oleinik, N.V. Smorodinskaya [5], D.D. Katukov, E.G. Karpova [6], I.N. Kolosovsky, E.V. Ivanova [7], A.A. Nastin, Yu.V. Yaremenko, A. Shastitko and others. The founders of the "cluster" theory and the most popular researchers in this area are A. Marshall and M. Porter. It is necessary to note the significant scientific works of these two scientists and economists in the emergence and development of the world concept of clusters.

Research on the promotion of the cluster approach in the industry of Uzbekistan was carried out by M.A. Rakhmatov [8], N.M. Makhmudov [9], S.M. Kasymov, S.S. Gulyamov, S. Salikhov, A. Sh. Bekmuradov [10], D. K. Akhmedov, Sh. , M.Tillyakhodzhaev, D.Kurbanova [11], D.Mirzakhalilova [12], G.Zakhidov [13], R.A.Gulyaev [14] and others.

Despite the fact that there is a wide economic literature devoted to the consideration of various aspects of economic clusters and their role in the development of the national economy, a number of problems still need further research. There are different opinions and definitions in the interpretation of its categorical concepts, there is a deviation in the correct organization of quantitative and qualitative constituent elements that prevent the transition of internal enterprises to the global path of development.

Analysis and results: It is known that scientific and production integration is the main factor in the development of economic entities, in particular cotton and textile clusters in a market economy. If in our republic the clustering of industry, including the cotton industry, is a relatively new practice, then in developed countries there is sufficient experience in the evolution of industrial clusters.

The data show that, until today, industrial clusters have been developed in many sectors of the economy in almost all states, regardless of their level of economic development. In developed countries (EU, USA) they have become a natural step in the evolution of industrial production methods and in developing countries (China, India, Argentina) clusters are the main way to achieve world-class in the formation of various sectors of the economy and access to international markets. According to the European Cluster Observatory [15], in 2020 in 28 countries of Western and Eastern Europe there were 2301 clusters in various sectors of the economy, with a total of 42 million employees. At the same time, 11.5% of them work in the agro-industrial complex, employing 4.5 million people.

Currently, intensive work is underway to create scientific centers at the cotton and textile clusters of the republic. With 21 clusters, these centers will be engaged in the introduction of innovations and scientific and technological achievements in cotton growing, which is determined by the Resolution of the Cabinet of Ministers dated June 22, 2020 No. 397 “On measures to further improve cotton and textile production” [16].

According to the Decree, the proposal of the Ministry of Agriculture of the Republic of Uzbekistan, the Uztokimachiliksanoat Association, the Council of Ministers of the Republic of Karakalpakstan and the khokimiyats on the gradual creation of scientific centers for the introduction of innovations, scientific achievements and innovations was approved.

Today, these scientific centers, in cooperation with higher educational and scientific institutions, conduct research and development work aimed at solving urgent problems in the development of cotton growing, the cultivation of world-class raw cotton, the introduction of innovative technologies for the rational use of resources and the increase in production. In addition, the Decree approved a list of clusters under which scientific centers will be organized by 2023 in the context of the regions of the republic.

Conclusions and recommendations. Today, an important issue in developing a strategy for the development of cotton and textile clusters is the creation of a scientific and innovative infrastructure. "Innovation infrastructure - organizations that contribute to the implementation of innovative activities (innovation and technology centers, technology incubators, technology parks, educational and business centers and other specialized organizations" [17]

It is recommended to create such a scientific and innovative infrastructure that will promote the development of integration between cluster members, increase production efficiency, develop and implement programs for the development of cotton and textile clusters; commercialization of scientific developments.

It should be noted that the formation of a class of advanced clusters serves the development of not only one industry or region, but also the economy of our country, increases its competitiveness. Each cluster must be based on innovation. This can be achieved by deepening the integration of production and science, higher education. In this regard, promising cooperation is being established on the development of clusters between the Association of Cotton and Textile Clusters of Uzbekistan and the Research Center "Scientific Foundations and Problems of the Development of the Economy of Uzbekistan" at the Tashkent State University of Economics.

To date, an agreement has been reached between the Association, the university and the center on the establishment of cooperation relations in five areas with the involvement of foreign specialists. These are academic activities, research activities, international cooperation, innovation activities, digital technologies.

For example, if we consider academic activities, in the near future it is planned to open a joint faculty that will train highly qualified personnel for the industry, develop a special program to develop the integration of production and the education system for bachelors and masters, create a textbook called "Cluster Economics" and implement many tasks, such as the formation of a set of teaching materials. In addition, special training courses will be organized aimed at improving the skills of logistics in the value chain, building national brands,

marketing and advertising, and exports. In general, steps have been set today for another important cooperation towards the prospects of the cluster system, which will soon begin to bring positive results.

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