

## CLUSTER IS AN IMPORTANT FACTOR IN REDUCING PRODUCTION COSTS AND ENSURING ECONOMIC GROWTH

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**Abstract:** This article analyzes the implementation of the innovative cluster system in Uzbekistan's agriculture and its economic, social, and environmental effects. In particular, it explores the interconnection between innovation, integration, and the production chain through the example of the "BCT Cluster" project being carried out in the Bukhara region. The article substantiates the role of the cluster model in harmonizing scientific, educational, and production processes, as well as its significance for sustainable development.

**Keywords:** Innovation, cluster, agro-industry, integration, biohumus, biogas, agriculture, export, industrialization, education, human resources.

The wide application of innovations to the agrarian network, the deepening of the processing of raw materials grown on our land in ourselves is a requirement of today's time. After all, the more industrialized agriculture, the greater the economic and export potential of the state, the higher the living well-being of the population. Therefore, in Uzbekistan, at the next time, serious attention is paid to the creation of infrastructure based on advanced technologies, the introduction of the cluster method in agriculture. One such innovation project was implemented in the Bukhara region. When it comes to KEZI, we would like to note that the fundamental changes carried out in Uzbekistan by President Shavkat Mirziyoyev in all aspects of society have ushered in a new era of development. In fact, the leaders of the true nation, who, feeling the breath of that era in the midst of changes, correctly overtook the progress of the land, are found little in the world. For example, with the new reforms of Li Kuan Yu, who ruled Singapore in the second half of the last century, it is possible to know the backward state in a short time among the most progressive countries in the world, or from the reforms that led Den Xiaopin, who, after the "Cultural Revolution", took control of China, almost in a state of He created a second new generation of Chinese leaders, laid the foundation for new thinking and thinking, became the initiator of economic reforms in the chin territory. As a result, the people fell back from the ravine, restored Gaddi, realized their identity, worked as a Tanu soul. And in a short time, this state not only achieved economic social stability, but also joined one of the largest representatives of the world market, the leaders of the planet. Innovation initiatives being implemented in Uzbekistan by President Shavkat Mirziyoev are reminiscent of the "Singapore miracle" and Den Xiaopin reforms. His pioneering ideas on the application of the cluster system in Cotton, an important branch of agriculture alone, as well as his work as an innovator, are a vivid confirmation of this. As part of the visit of President Shavkat Mirziyoyev to the Bukhara region, he highly appreciated the work carried out in this direction and made valuable proposals and recommendations for their further improvement. It should be noted that within the implementation of the decision of the head of state on December 21, 2016 "on the program of measures for the further development of the textile and sewing and knitting industry in 2017 - 2019", a foreign enterprise "BCT Cluster" was established in this area. To do this, an investment of us \$ 123.1 million was directed, modern, tinted, dyeing and weaving factories produced in the leading countries of the world were established, and a cleaning plant, a textile complex containing five factories, an oil and oil plant, a livestock farm intended for breeding 12 thousand head of cattle, a biogas production plant, a 20-hectare greenhouse based on The Indigo-

ferum plant, from which a valuable natural dye is obtained, which is used to dye fabric, is also planted precisely in the cluster area. For the innovative textile enterprises of the cluster, part of industrial raw materials is grown on drip-irrigated arable land. While the oil obtained at the oil and oil plant due to the processing of seeds is sent to consumers, Kunjara and sheluha are able to ensure the farm needs here. In turn, the organic waste generated in the livestock complex and production process is directed to the production of biogas, which is the source of heating of a 20 – hectare greenhouse, which will be built in the future, as well as a valuable fertilizer-biogumus.

**Table 1. Investment Directions of the “BCT Cluster” Project (in million USD)**

Direction	Investment Amount (mln USD)
Textile	40.5
Oil and fat industry	25.2
Livestock	30.0
Biogas technologies	10.4
Education and personnel	17.0
<b>Total</b>	<b>123.1</b>

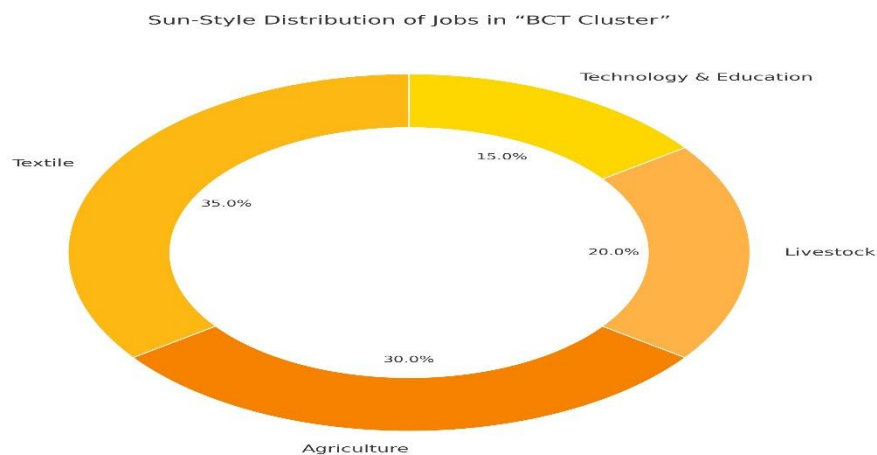
Source: Based on author’s analysis

In addition, there are also advantages of the cotton-textile cluster from other production structures, which is a set of enterprises integrated into a single technological chain and a link that combines different layers of the population, at the same time an important stage in the transition to an innovative economy in the industry. It is of urgent importance in the deepening of the integration of Science, Education and production, the rapid introduction of new innovative technologies into practice. Because here, raw materials go through all the stages of processing, and export becomes a finished product. Therefore, the creation of a cluster is a method of production that combines enterprises related to plowing land, planting seeds, caring for cotton, harvesting and harvesting crops, deep processing of raw materials as a team within the framework of one complex, summarizing the potential, advanced experience of scientists and economists, agricultural, industrial workers, designers. In this process, the interests of all workers are harmonized. That is, all working personnel, from the grower of raw materials to its processors, are equally responsible for the quality of the product. Because, accordingly, part of the value added that arises from the sale of the last good is distributed to those workers who have already contributed a head to this work. Such an incentive motivates them to work diligently, and not in name. The fact of life is that if the interests of land developers with the buyers of the final product are not tied together, then not only the farmer or investor, but also the state, will see no benefit from this. Nowadays, they have a keggayb. Separately, it should be said that from the worker to the manager-managers, acceptable monthly wages are established in every possible way. At this point, it is natural for many to ask the question: is it understandable that the amount of the monthly salary is satisfactory, but is the duration of Labor seasonal? In fact, it is not. In this cluster system, both the peasant and the Leader work winter-summer. That is, they receive not only a salary during the year, but also prize money if they work well. It is natural to ask the question of how. For example, in the winter season this year, workers divided into three groups and collected livestock waste. Each brigade was allocated an area of 100 hectares. In large-large ditches dug in them, a biogumus is being prepared. For information, it should be mentioned that, according to expert calculations, biogumus today generates twice as much income in livestock as in meat-dairy products.

Also, more than 230 modern tractors, agricultural techniques and equipment for the development of livestock were brought from Germany. This resulted in an additional 500 jobs in specialties such as engineers, drivers, mechanizers.

Sun-style Pie Chart of Job Distribution in the “BCT Cluster” (in percentages)

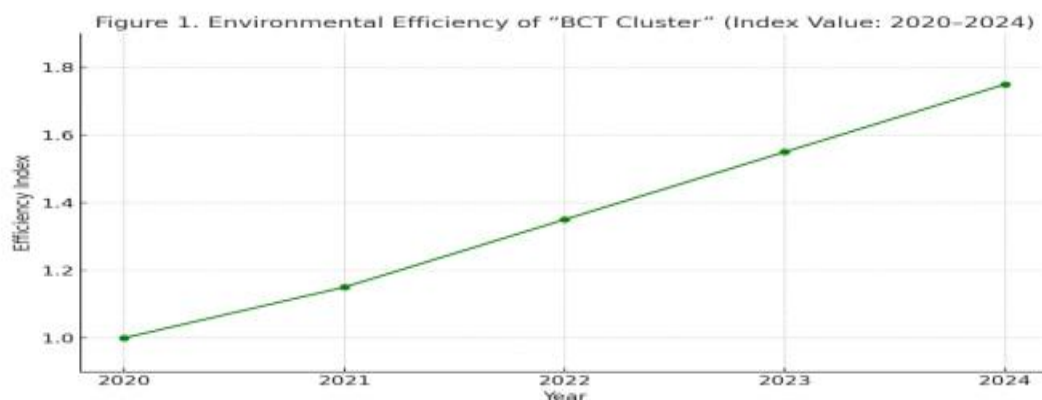
- Textile – 35%
- Agriculture – 30%
- Livestock – 20%
- Technology & Education – 15%



**Diagram 1. Sun-style Distribution of jobs in “BCT Cluster”**

Source: Based on author’s analysis

In total, the cluster system caused about ten thousand permanent jobs, and the unemployed population was employed. It must be admitted that now many husbands are “tired”. Therefore, first of all, it is necessary to increase the productivity of arable land. For this, crop rotation was established in order to improve the composition of the soil. Then seven years of cotton was planted in one place, three years of alfalfa. As a result, the land will also “rise”, fill in power, and the cotton crop will be excellent.



**Figure 1. Environmental Efficiency of “BCT Cluster”( Index Value: 2020–2024 y)**

It should be noted that the reduction of cotton planting in one part of the land, using the crop rotation scheme, will never reduce the amount of crop yield from 8,000 thousand hectares. On the contrary, productivity increases due to an increase. Consequently, President Shavkat Mirziyoyev also admitted that we are looking at the cluster method as the future of Uzbek cotton. In turn, in cooperation with the Ministry of Finance of the Republic of Uzbekistan, measures are being taken to create conditions for the internship of students of higher educational institutions, to introduce scholarships to the most talented and outstanding under the condition of their further employment, as well as to send them to Japan, Italy and other foreign countries to improve their skills. After all, the inextricable Ring of the cluster chain in Bukhara is also a system of scientific, educational and training personnel. In addition, efforts are underway to bring the most powerful designer-fashion designers in cooperation with famous companies around the world. It is inevitable that all this, combining the interests of people and the state, will ultimately fully prove in practice that cluster – integration is a criterion for innovation and economic growth.

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