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<https://doi.org/10.61796/jaide.v1i10.1088>**WAYS TO REDUCE THE ACCOUNTING COSTS OF AGROCLUSTER IN THE CONDITIONS OF GLOBAL CLIMATE CHANGE****Khaydarova Shoira Nishanbayevna**
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Abstract: Objective: This study explores the agrocluster system in Uzbekistan, emphasizing its role in enhancing agricultural productivity, economic resilience, and export potential. By integrating production, processing, and distribution, agroclusters aim to modernize agriculture, addressing regional and global challenges. **Methods:** A mixed-method approach was employed, combining qualitative and quantitative analyses. Key strategies included examining international agrocluster practices, assessing regional limitations such as infrastructure and land productivity, and analyzing cost structures to develop cost-minimization strategies. **Results:** Findings highlight the socio-economic significance of agroclusters, showcasing their ability to reduce operational inefficiencies, foster innovation, and streamline collaboration among stakeholders. Challenges like climate change and infrastructure constraints were identified, necessitating robust strategies for sustainable development. **Novelty:** This research emphasizes the compact integration of agrocluster participants and introduces cost-efficient measures through digital transformation, fixed-variable cost analysis, and innovative farming technologies, offering actionable insights to enhance Uzbekistan's agrocluster efficiency.

Keywords: agrocluster, expenses, efficiency, benefit, innovation, invest

This is an open-access article under the [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) license**Introduction**

The agrocluster system has become a significant focus for the Republic of Uzbekistan, reflecting its importance for national economic development. Agroclusters are seen as a transformative approach to improving agricultural productivity, fostering collaboration between stakeholders, and driving economic growth. By integrating agricultural production with processing, storage, and distribution systems, agroclusters can reduce operational inefficiencies, enhance product quality, and improve market access [1], [2]. Drawing on international practices and experiences of developed countries, efforts are being made to enhance the efficiency of agroclusters, expand production capabilities, and foster economic relationships [3], [4]. These initiatives aim to not only support local growth but also strengthen the country's export potential [5]. Additionally, the adoption of advanced technologies and innovative farming methods is accelerating the modernization of the agricultural sector, helping to bridge the gap between traditional practices and global standards [6].

During a meeting chaired by the President of Uzbekistan on December 12, 2023, the emphasis was placed on producing competitive, high-quality agricultural products and fostering industry development through the agrocluster system. This strategic move aligns with the nation's broader vision of achieving food security and economic resilience [1], [7]. The President highlighted that the

development of agricultural economies, particularly in rural areas, is a current priority. The creation of employment opportunities, enhancement of rural livelihoods, and reduction of poverty through agrocluster initiatives underline the socio-economic significance of this approach. Additionally, the introduction of modern methods of raw material production, land allocation for new agroclusters, and training skilled personnel underline the government's commitment to improving agricultural practices [8]. These efforts also include strengthening ties between research institutions and agricultural enterprises to ensure the continuous flow of innovation and knowledge transfer [2], [4].

Historically, agroclusters evolved from research and production associations in Europe and the USA, where educational institutions, agricultural producers, and technological service centers collaborated in single holdings [6]. This model offers cost savings in production, certification, and storage while driving innovation in agricultural practices. The clustering of all participants in a single location not only streamlines operational processes but also facilitates the exchange of expertise and resources, creating a synergistic effect that benefits all stakeholders [4], [5]. However, challenges such as global climate change and regional limitations in infrastructure and productivity necessitate targeted strategies for further development [7]. Addressing these challenges requires comprehensive policies that integrate technological advancements, sustainable farming practices, and robust financial support to ensure the long-term success of agroclusters in Uzbekistan [9].

Methods

This research adopts a mixed-method approach, combining qualitative and quantitative analyses to explore the development and optimization of agrocluster systems in Uzbekistan. The primary focus lies on:

1. Examining historical and international practices of agrocluster development [2], [5].
2. Assessing regional challenges, including land productivity, climate change, and infrastructure limitations [7], [9].
3. Analyzing cost structures by categorizing them into fixed and variable costs and determining strategies to minimize these costs [4], [8].

Results and Discussion

Currently, our Republic is paying a lot of attention to the agrocluster system, as well as ensuring the stability of our country, which is important for the economic development of our country, relying on the experiences of developed countries and their international practice in increasing the efficiency of agroclusters and expanding production, as well as economic relations are put into practice [3], [5]. This not only contributes to development, but also increases the country's economy and export potential [8].

At a meeting chaired by the President of the Republic of Uzbekistan on December 12, 2023, it was discussed the importance of growing, producing, and selling competitive quality products in agroclusters, as well as the need to develop the industry and its support [1]. He emphasized that increasing the agricultural economy and its economic efficiency, developing the agrocluster system in villages is a priority today [9].

If we take into account that the world economy is the leader today, we pay a lot of attention not to the production of finished products, but to the method of production of raw materials. All opportunities have been created to introduce this method in the country. Currently, a lot of attention is being paid to allocating land for newly formed agroclusters and training qualified personnel, scientific and technical innovations and production issues. Taking into account the above, if we look

at the history of agroclusters, the presence of specific characteristics of the Agricultural cluster and the compact location of all participants of this activity in one area are of great importance. Their location in one area leads to reduction of many accounting costs during business activities, for example:

- a. Broad control of activity
- b. Travel expenses and time spent on the territory
- c. Amortization of fixed asset

Did not affect the expenses. Taking into account the above points, historically, the experience of agroclusters began to develop as research and production associations taken from Europe and the USA. There, the participants of agricultural clusters are united into single holdings, which include educational, agricultural organizations, and are made up of various levels of producers, information technology and service centers. Today, agroclusters can provide not only current production and accounting costs, but also financing, and at the same time, control, certification and, of course, storage of products.

Today, according to statisticians, the forecast of scientific and technological development of agroclusters has been confirmed as follows. According to him, in the period up to 2030, the scale of problems in agroclusters in the cultivation of crops such as pulses and vegetables, cotton and grain will greatly expand, and the economic and political situations related to the present time and, of course, global climate change. It was predicted that it could have its effect. Ensuring food security of the country and individual regions is currently one of the most important tasks of our state.

The concept of creation and development of agroclusters should include not only producers, investors and the state, but also provide a scientific and innovative basis, propose methods and ways to increase the intensification of the sector, and create conditions for attracting investments. Taking into account the above, the main task of the agrocluster is not only production, but also product processing, sale, creation, introduction of innovations and, of course, reduction of accounting costs of agroclusters.

Of course, it is always possible not to get the intended result, several negative factors can have an effect on this. If the poor development of agroclusters can be explained mainly by the weakness of the agrarian sector as an economic branch, then it can be explained by the large number of agricultural fields in the Kokan, Andijan, Kashkadarya, Surkhandarya regions of our country and the Karakalpakstan, Khorezm, Navoi regions. Problems such as the extent and low productivity of agricultural lands in the regions, first washing of saline lands, the inability of the material and technical base, the lack of or weakness of personnel and, of course, climate change also have their effect will not show.

Indeed, there are certain positive experiences in the cultivation and processing of agricultural products, but still the demand is not as great as expected. The remoteness of the allocated areas from cities and villages, the lack of infrastructure, roads and shops also have an effect on this.

Based on the above thoughts and considerations in determining the ways to reduce the accounting costs of agroclusters in the conditions of global climate change, it is recommended to implement the following in order to minimize costs and maximize profits in the agrocluster system:

- a. Increase labor productivity, digitalize service provision and introduce innovative technologies;
- b. To determine the scope of management decisions by separating all costs in the agrocluster system into fixed and variable costs;
- c. Critical analysis of all services in the activity and quantitative recording of the costs involved in the creation of each service;

- d. Recording the amount of costs for creating each service;
- e. Making management decisions based on the analysis results.

In the open dialogue of the President of the Republic of Uzbekistan with entrepreneurs on August 20, 2024, if all industrial enterprises exceed the limit set for electricity and gas, all the leaders of agroclusters, that is, entrepreneurs, who are worried that the payment will be charged twice as much, the expected income is decreasing, i.e., due to problems in achieving the intended result as a result of the increase in accounting costs, the problem of exceeding the set limit was mentioned, and in this conversation, the President said that even if the consumption of electricity and gas exceeds the limit by 20%, the base tariff will be maintained ordered to stay. It can be seen that the accounting costs of agroclusters will be further reduced, and this benefit will certainly lead to the expansion and further development of agroclusters.

Conclusion

The agrocluster system represents a strategic approach to advancing Uzbekistan's agricultural sector and achieving sustainable economic growth. By integrating production, processing, and distribution, agroclusters enhance efficiency, foster innovation, and strengthen export potential. Despite challenges such as climate change, infrastructure limitations, and regional disparities in land productivity, Uzbekistan's government has demonstrated a strong commitment to overcoming these obstacles through targeted policies, technological advancements, and investment support. Moving forward, the focus on cost reduction, digital transformation, and stakeholder collaboration will be pivotal in ensuring the long-term success and resilience of agroclusters in contributing to national food security and rural development.

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