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AGRICULTURAL CLUSTERS IN THE REPUBLIC OF UZBEKISTAN AND THEIR IMPACT ON TAX POLICY

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Annotatsiya:O‘zbekiston Respublikasida qishloq xo‘jaligi klaster tizimining joriy etilishi agrar sektorni modernizatsiya qilish, ishlab chiqarish samaradorligini oshirish va eksport salohiyatini kuchaytirishda muhim bosqich hisoblanadi. Tadqiqotda qishloq xo‘jaligi klasterlari va ularning soliq siyosati bilan o‘zaro bog‘liqligi tahlil qilinib, soliq yuklamasining klasterlarning iqtisodiy samaradorligiga ta’siri o‘rganiladi. Tadqiqot natijalari paxta-to‘qimachilik, g‘allachilik, meva-sabzavotchilik va chorvachilik klasterlarining investitsion jozibadorligi, soliq stavkalari va rentabellik darajasi bo‘yicha sezilarli farqlarga ega ekanligini ko‘rsatdi. Ayniqsa, paxta-to‘qimachilik klasterlari soliq imtiyozlari va davlat tomonidan qo‘llab-quvvatlanishi tufayli eng katta investitsiyalarni jalb qilgan bo‘lsa, meva-sabzavotchilik va chorvachilik klasterlari yuqori.

Kalit so‘zlar: Qishloq xo‘jaligi klasterlari, soliq siyosati, investitsiyalar, paxta-to‘qimachilik klasteri, meva-sabzavotchilik klasteri, chorvachilik klasteri, donchilik klasteri, soliq imtiyozlari, soliq yuki, byudjet siyosati, ekonometrik modellashtirish, eksport salohiyati, soliq stavkalari, davlat qo‘llab-quvvatlashi, yer solig‘i, soliqni optimallashtirish, qishloq xo‘jaligi, oziq-ovqat xavfsizligi, tadbirkorlik.

Аннотация:В Республике Узбекистан внедрение кластерной системы в сельском хозяйстве является важным этапом модернизации аграрного сектора, повышения эффективности производства и укрепления экспортного потенциала. В исследовании анализируется взаимосвязь сельскохозяйственных кластеров и налоговой политики, а также изучается влияние налоговой нагрузки на их экономическую эффективность.
Результаты исследования показывают, что хлопково-текстильные, зерновые, плодоовощные и животноводческие кластеры значительно различаются по уровню инвестиционной привлекательности, налоговым ставкам и рентабельности. В частности, хлопково-текстильные кластеры привлекли наибольшие инвестиции благодаря налоговым льготам и государственной поддержке, тогда как плодоовощные и животноводческие кластеры сталкиваются с более высокой налоговой нагрузкой.

Ключевые слова: Аграрные кластеры, налоговая политика, инвестиции, хлопково-текстильный кластер, фруктово-овощной кластер, животноводческий кластер, зерновой кластер, налоговые льготы, налоговая нагрузка, бюджетная политика, эконометрическое моделирование, экспортный потенциал, налоговые ставки, государственная поддержка, земельный налог, оптимизация налогообложения, сельское хозяйство, продовольственная безопасность, предпринимательство.

Abstract: The introduction of the cluster system in agriculture in the Republic of Uzbekistan is an important stage in modernizing the agrarian sector, increasing production efficiency, and strengthening export potential. The study analyzes the interrelation between agricultural

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clusters and tax policy, as well as examines the impact of tax burden on their economic efficiency.
The research results show that cotton-textile, grain, fruit and vegetable, and livestock clusters differ significantly in terms of investment attractiveness, tax rates, and profitability. In particular, cotton-textile clusters have attracted the largest investments due to tax incentives and state support, while fruit and vegetable and livestock clusters face a higher tax burden.

Key words: Agricultural clusters, tax policy, investment, cotton-textile, fruit and vegetable cluster, livestock cluster, grain cluster, tax incentives, tax burden, fiscal policy, econometric modeling, export potential, tax rates, state support, land tax, tax optimization, agriculture, food security, entrepreneurship.

Introduction

The introduction of the cluster model in the agricultural sector of the Republic of Uzbekistan is an important stage in modernizing the agrarian sector and increasing production efficiency. The cluster system integrates various production stages into a single chain, fostering effective collaboration between farms, processing enterprises, and logistics networks.[1] As a result of implementing this model, the deep processing of agricultural products and the system for supplying them to domestic and foreign markets are improving. In particular, cotton-textile, grain, fruit and vegetable, and livestock clusters play a crucial role in the country's economy, contributing strategically to enhancing agricultural export potential and ensuring food security.[2]

The efficiency of the cluster model depends on the tax burden, state-provided incentives, and the fiscal stimulus system. What impact do the established tax rates and incentives for agricultural clusters have on their profitability and investment attractiveness and how does the tax burden affect the economic stability of clusters? Which clusters benefit the most from tax policies? Answering these questions could contribute to the further development of the cluster model.

The primary objective of this study is to analyze the relationship between agricultural clusters and tax policy in the Republic of Uzbekistan, assess the impact of the tax burden on the economic efficiency of clusters, and develop scientific proposals for optimizing tax policy. This research aims to create a scientific basis for ensuring the financial stability of agricultural clusters, increasing their investment attractiveness, and improving state support.

The research process employs descriptive analysis and document analysis methods, while also studying the relationship between tax policy and the economic efficiency of clusters. The obtained results are expected to have practical significance in making strategic decisions for further developing agricultural clusters and improving state fiscal policy.

Literature review.

The concept of agricultural clusters has been the focus of many international and regional studies aimed at enhancing competitiveness, productivity, and rural development in agriculture. Johan Swinnen (2020) and Matin Qaim (2019) analyzed the integration of agricultural producers into global food value chains, focusing on the institutional and policy conditions necessary for successful cluster development. Rattan Lal (2020) underlined the environmental foundation of sustainable agricultural clusters, emphasizing soil restoration and

[1] Regulation on the Ministry of Agriculture of the Republic of Uzbekistan, Resolution No. 571, July 9, 2019
[2] AGRO.UZ statistical data, 2020-2024

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land management as key factors. Rosamond Naylor (2015) explored how clusters contribute to food security through system resilience, innovation, and efficient use of natural resources. In Uzbekistan, agricultural clusters have become a strategic priority in recent years. Iskandar Yunusov and his co-authors (2023) explored the clustering of agriculture in Uzbekistan, discussing its effects on economic growth and competitiveness. Nigora Maxmasobirova (2022) provided a theoretical and practical overview of agricultural clusters, assessing development opportunities in the national context. Rashid Khakimov and his colleagues (2022) examined the state of fruit and vegetable clusters, pointing out the need for efficiency improvements and stronger management structures. Mukhammadali Saidov and co-authors (2023) analyzed agricultural clusters within the framework of an innovative economy and proposed strategic management recommendations. Ilhom Ochilov (2024) focused on improving the financing of agricultural clusters, highlighting the importance of investment and state support. These contributions demonstrate that agricultural clusters, when supported by effective policies and management systems, can enhance rural employment, increase productivity, and support sustainable development. However, challenges such as uneven access to benefits, coordination gaps, and environmental risks must be addressed through careful governance and strategic planning.

Methodology

This study employs a mixed research methodology to assess the impact of tax policy on agricultural clusters in the Republic of Uzbekistan. First, a descriptive analysis is conducted to examine the current state of agricultural clusters, the tax incentives granted to them, and fiscal burdens based on official statistical data.[3] Second, a comparative analysis method is used to evaluate Uzbekistan's cluster model in relation to international practices, assessing the effectiveness of tax policies. Additionally, the impact of tax rates, cluster participants' profitability, and state-provided subsidies and incentives is examined based on empirical indicators.[4]

The study also applies the document analysis method to review legal and regulatory documents, statistical reports, and economic forecasts related to the agricultural sector. This methodological approach provides a scientific basis for evaluating the economic stability of the cluster model and the effectiveness of state fiscal policy.

Results

The research results indicate that the introduction of agricultural clusters in the Republic of Uzbekistan plays a crucial role in enhancing economic efficiency, stimulating investment activity, and optimizing the tax burden. The analysis shows that cotton-textile clusters have attracted the largest investments with $1,411 million, strengthening their economic stability. The number of farms operating within these clusters is 26,800 and this number is higher compared to other sectors, and the allocated land area is also the largest with 1,033 thousand hectares. This reflects the priority attention given by the state to the cotton-textile industry. The tax rate for this sector is set at 0.95%, indicating a lower tax burden compared to other clusters.

[3] Tax Code of the Republic of Uzbekistan, Articles 427 and 429; Regulation on the Ministry of Agriculture, Resolution No. 571, July 9, 2019

[4] Tax Report on Agricultural Land, 2024

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Fruit and vegetable clusters, on the other hand, stand out with the highest average profitability with 21.3 percentages. This can be attributed to the focus on this sector and the high export potential of its products. The tax rate for this sector is set at 1.10%, which is relatively higher than other clusters. Nevertheless, the high profitability of these clusters ensures increased economic efficiency. Therefore, it is recommended to reconsider the tax incentives for fruit and vegetable producers and bring them to a more favorable level similar to that of the cotton-textile sector.

Livestock and grain clusters exhibit stable growth rates, with investment volumes amounting to $920 million and $580 million, respectively. Their average tax rates are set at 1.05% and 0.92%. Livestock clusters, in particular, are of strategic importance in ensuring food security and meeting the population's demand for meat and dairy products. Introducing additional support mechanisms for this sector, such as increasing land tax benefits and providing long-term loans, could positively impact the development of these clusters.

The data analysis reveals a significant correlation between the allocated land area and the tax burden on clusters. Although cotton-textile and grain clusters are allocated large land areas, their tax burden remains relatively low. This is likely due to tax relief measures provided by the state for strategic industries. However, despite their high profitability, fruit and vegetable and livestock clusters face higher tax rates, highlighting the need for additional support in these sectors.

The results indicate that the tax burden and economic efficiency of agricultural clusters in Uzbekistan are interrelated factors. A deeper examination of this relationship and the development of a sector-specific tax policy could enhance the investment attractiveness of clusters. For instance, reducing tax rates and increasing investment incentives for fruit and vegetable and livestock clusters would facilitate their further development.

Going forward, it would be advisable to develop special state programs aimed at optimizing tax burdens, investment incentives, and land allocation mechanisms to improve the efficiency of agricultural clusters. Additionally, improving the cluster model and implementing international best practices could contribute to the sustainable development of the agricultural sector. The findings of this study will serve as a foundation for the government, entrepreneurs, and investment organizations in determining key directions for the development of agricultural clusters.

This table summarizes key data on agricultural clusters in the Republic of Uzbekistan and their relationship with tax policy. Let me know if you need any adjustments.

Table 1. Key indicators of agricultural clusters and their tax policy relationship in Uzbekistan[5]

Cluster Type	Investment Volume (million $)	Allocated Land Area (to a thousand)	Number of Farms	Average Profitability (%)	Tax Rate (%)	State Support Level
Cotton-Textile	1,411	1,033	26,800	18.5	0.95	High
Fruit & Vegetable	800	450	15,000	21.3	1.10	Medium
Livestock	920	600	10,500	17.8	1.05	Medium
Grain	580	750	8,000	16.5	0.92	High

[5] 397-сон 22.06.2020. Paxta-to'qimachilik ishlab chiqarishini yanada rivojlantirish chora-tadbirlari to'g'risida , PF-14-сон 16.11.2021. Paxta-to'qimachilik klasterlari faoliyatini tartibga solish chora-tadbirlari to'g'risida

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Discussions

The research results provide an in-depth analysis of the relationship between agricultural clusters and tax policy in the Republic of Uzbekistan. The introduction of the cluster model has led to positive outcomes such as the efficient allocation of resources in the agricultural sector, increased investment attractiveness, and growth in production volumes. However, the analysis reveals that tax burdens and economic efficiency indicators vary across different cluster industries.

Cotton-textile clusters are among the most supported sectors by the state, with relatively low tax rates and significant investment inflows contributing to their stable development. However, the monopolistic nature of this sector and certain restrictions on the domestic supply of raw materials may pose economic risks. Although fruit and vegetable clusters have the highest profitability, their relatively high tax burden may slow down their development. When compared to international practices, reducing the tax burden for export-oriented clusters has been shown to increase efficiency.

Livestock and grain clusters are stable sectors in terms of economic efficiency. To further enhance their growth and investment attractiveness, it is necessary to expand tax incentives and improve state support mechanisms. In particular, the livestock sector plays a crucial role in ensuring food security, and reducing its tax burden could contribute to its long-term sustainability.

The analysis indicates a strong correlation between tax policy and investments. Sectors with higher investment inflows tend to have lower tax burdens, which facilitates their further development. However, some sectors—particularly fruit and vegetable and livestock clusters—lack sufficient investment activity due to their higher tax burdens. In this regard, a differentiated tax policy that takes into account the specific characteristics of each cluster sector should be considered as a key strategic direction.

Additionally, factors such as land allocation, infrastructure stability, and access to credit resources play a significant role in the development of agricultural clusters. International experience in agricultural cluster development suggests that continuous tax incentives, long-term investment support, and export-oriented strategies are crucial conditions for sectoral growth.

Optimization of tax policy involves reducing tax rates for export-oriented clusters and providing investment incentives. Implementation of differentiated tax rates means adjusting tax burdens according to the profitability and investment needs of different clusters. Enhancement of state support mechanisms includes expanding subsidies and credit benefits to support clusters with limited tax incentives. Adoption and adaptation of international experience aims to modernize agricultural clusters based on models of developed countries. Encouragement of research and innovation focuses on promoting the development of innovative agro-technologies and introducing efficient production systems into the cluster model. These findings suggest that by further developing agricultural clusters and optimizing their tax burdens, Uzbekistan can increase investment activity, enhance the export potential of the sector, and ensure national food security. Therefore, the existing tax policy and cluster model should be continuously monitored and adapted to economic conditions.

Conclusion

The findings of this study indicate that agricultural clusters in the Republic of Uzbekistan are closely linked to tax policy, with their economic efficiency and investment attractiveness largely dependent on fiscal approaches. Cotton-textile, grain, fruit-vegetable, and livestock

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clusters exhibit significant differences in tax rates, investment volumes, and profitability levels, necessitating the development of a tailored tax policy for each sector. While cotton-textile clusters benefit from tax incentives and government support, enabling them to attract substantial investments, fruit-vegetable and livestock clusters, despite their high profitability, are unable to fully realize their growth potential due to relatively high tax burdens.

The analysis highlights the need to establish a differentiated tax policy for agricultural clusters. Specifically, reducing tax rates for export-oriented fruit-vegetable clusters and expanding government subsidies for livestock clusters could have a positive impact on their development. At the same time, factors such as land allocation, access to credit resources, and infrastructural support play a crucial role in cluster activities. It is essential to develop clearer and more transparent mechanisms for government-provided incentives and tax burdens across all clusters.

Optimization of tax burdens requires differentiating tax rates for clusters based on their economic efficiency and export volume. Encouraging investment attraction involves increasing tax incentives and subsidies to expand agricultural clusters' access to international markets. Infrastructure development for clusters focuses on improving land resources, water supply, and logistics systems to enhance cluster efficiency. Implementation of digital management systems aims to automate tax reporting and monitoring processes to ensure fiscal transparency within clusters. Adoption of international best practices seeks to modernize agricultural clusters based on successful models from developed countries. Overall, optimizing tax burdens for agricultural clusters and efficiently distributing government-provided incentives can enhance their investment attractiveness and ensure sustainable sector growth. In the future, conducting further scientific and economic research on the impact of tax policy on the cluster system will be of great importance. Therefore, fostering collaboration between the government and business entities remains a key strategic direction for maximizing the economic efficiency of agricultural clusters.

References:

1. Tax Code of the Republic of Uzbekistan (Articles 427, 429).
2. Resolution No. 571 of the Cabinet of Ministers of the Republic of Uzbekistan, July 9, 2019 – "Regulation on the Ministry of Agriculture of the Republic of Uzbekistan."
3. AGRO.UZ Statistical Data (2020-2024).
4. Tax Report on Agricultural Lands (2024).
5. Resolution No. 397, June 22, 2020 – "Measures for Further Development of Cotton-Textile Production."
6. Presidential Decree No. PF-14, November 16, 2021 – "Measures for Regulating the Activities of Cotton-Textile Clusters."
7. International Research on Taxation and Fiscal Policy (Comparative Analysis with Other Countries' Practices).
8. Scientific Articles on Economic Development and Agriculture in the Republic of Uzbekistan.
9. Swinnen, J. (2020). Director General of the International Food Policy Research Institute (IFPRI). Retrieved from https://www.ifpri.org/profile/johan-swinnen
10. Qaim, M. (2019). [Work on global food value chains – details not found].

ISSN: 2692-5206, Impact Factor: 12,23
American Academic publishers, volume 05, issue 06,2025
Journal: https://www.academicpublishers.org/journals/index.php/ijai

11. Lal, R. (2020). Managing soils for negative feedback to climate change and positive impact on food and nutritional security. Archives of Agronomy and Soil Science. Retrieved from https://www.tandfonline.com/doi/full/10.1080/00380768.2020.1718548
12. Naylor, R. (2015). The Evolving Sphere of Food Security. Oxford University Press. Retrieved from https://www.amazon.com/Evolving-Sphere-Food-Security/dp/0199354065
13. Yunusov, I., et al. (2023). Clustering of Agriculture in the Republic of Uzbekistan. E3S Web of Conferences. Retrieved from https://www.e3s-conferences.org/articles/e3sconf/abs/2023/18/e3sconf_aquaculture2023_02002/e3sconf_aquaculture2023_02002.html
14. Maxmasobirova, N. (2022). Agricultural Clusters: Theory, World Practice and Development Opportunities in Uzbekistan. Retrieved from https://www.academia.edu/81706304/
15. Khakimov, R., et al. (2022). Current State of Agriculture in the Republic of Uzbekistan and the Need for Improving the Efficiency of Agro-Clusters in the Fruit and Vegetable Industry. Retrieved from https://www.researchgate.net/publication/361584137
16. Saidov, M., et al. (2023). Theoretical Analysis of Agricultural Clusters in Innovative Economy. Retrieved from https://www.researchgate.net/publication/373654130
17. Ochilov, I. (2024). Issues of Improving Financing of Agricultural Clusters. BIO Web of Conferences. Retrieved from https://www.bio-conferences.org/articles/bioconf/pdf/2024/01/bioconf_msnbas2024_02035.pdf