

## Regional Aspects of Diversification in Agricultural Sectors

**Odina Teshabayeva**

*Senior Lecturer, PhD in Economics, Fergana State University*

**Ruhsora Khasanova**

*Master's Student in Economics, Fergana State University*

**Abstract:** This article analyzes the regional characteristics of the diversification process in agriculture. The effectiveness and directions of diversification across various regions have been studied based on available resources, climatic conditions, the labor market, and infrastructure potential. Based on scientific analysis, regional diversification models have been proposed.

**Key words:** agriculture, diversification, regional development, agrarian sector, resources, market infrastructure.



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

### INTRODUCTION

In today's context of globalization and economic competition, diversification has become one of the key factors in the development of agriculture. In particular, the natural, economic, and demographic differences between regions manifest in various ways within the process of agricultural diversification. Diversification serves not only to increase the variety of agricultural products but also to help balance regional development.

Agriculture holds a vital position in Uzbekistan's economy. A large part of the population resides in rural areas and relies primarily on agricultural production as a source of income, which makes increasing the efficiency of this sector a top policy priority. From this standpoint, agricultural diversification—which involves expanding the scope of activities, increasing the variety of products, and implementing development models based on regional specialization—has become a matter of great significance.

In recent years, under the leadership of President Shavkat Mirziyoyev, several decrees and resolutions have been adopted to support the comprehensive development of agriculture, the efficient use of land and water resources, the cultivation of high value-added products, and the expansion of processing and export capacities. These include:

1. Presidential Decree No. PF-6096 dated October 23, 2020 on "Measures to Introduce Market Mechanisms in Agriculture and Improve the System of State Governance" outlines the tasks

of developing a cluster system in the agrarian sector, diversifying crop types, and ensuring regional specialization according to each area's climatic conditions.

2. Presidential Decree No. PF-46 dated December 24, 2021, on the "Development Strategy of New Uzbekistan for 2022–2026," sets the goals of modernizing agriculture, implementing water-saving technologies, and launching efficient agribusiness models based on regional characteristics.
3. Resolution No. PQ-186 dated March 23, 2022 emphasizes forming the volume and types of agricultural products in each region based on local demand, and identifies the production of export-oriented and high processing-capacity crops as a key objective of the diversification strategy.

Currently, there are significant disparities among the regions of Uzbekistan in terms of natural conditions, climate, labor resources, land and water reserves, and market infrastructure. Therefore, it is not appropriate to define a single diversification model for all regions; instead, it is more effective to implement the principle of regional specialization. For example, in water-scarce areas, the development of salt-tolerant crops and livestock farming is advisable, whereas in water-rich regions, expanding intensive horticulture, viticulture, and vegetable cultivation is more appropriate.

Thus, agricultural diversification serves not only to increase economic efficiency, but also plays a crucial role in achieving sustainable regional development, ensuring employment, producing competitive goods for domestic and international markets, and adapting to climate change.

## LITERATURE REVIEW

Foreign researchers unanimously regard agricultural diversification as a key factor in promoting regional development, competitiveness, and a sustainable agrarian economy. For instance, Michael Porter, in his theory of national competitiveness, emphasizes the need for each region to develop specialized sectors based on its natural resources. FAO analyst John Dixon highlights the importance of selecting climate-adapted crops and introducing water-saving agricultural technologies to ensure effective diversification.

Norman Borlaug's innovative approaches emphasize the significance of introducing crop varieties adapted to regional conditions. Meanwhile, Chris Barrett underlines that diversifying product types in farming households is a crucial tool for ensuring socio-economic stability and food security. These perspectives serve as a theoretical and practical foundation for developing a regional diversification strategy in Uzbekistan.

## METHODOLOGY

This article applies systematic, comparative, statistical, and regional analytical methods to scientifically study the regional characteristics, legal frameworks, and practical directions of agricultural diversification.

Diversification in agriculture is understood not merely as increasing the variety of products, but as ensuring that sectoral activities align with internal and external demand, taking into account each region's climatic conditions, resource potential, and market infrastructure. This process plays a crucial role in creating a balanced model of regional development.

In Uzbekistan, regional diversification of the agricultural sector holds significant practical importance. For example, the Fergana Valley possesses fertile land, a dense population, and abundant labor resources. In this region, horticulture, viticulture, and intensive greenhouse farming are actively developing, enhancing the region's export potential and increasing farmers' incomes.

Conversely, in regions such as the Republic of Karakalpakstan and the central areas of Bukhara and Navoi, where natural and climatic conditions are more severe and water resources are limited, it is more appropriate to develop sectors specializing in livestock, salt-tolerant crops (such as sunflower, camelthorn, and alfalfa), and the processing of wool and hides.

Regional infrastructure is also of critical importance in the diversification process. In regions close to markets, perishable products (vegetables and melons) are widely cultivated, while in areas with underdeveloped transportation networks, crops that are easier to store (such as grains, legumes, and raw materials for the leather and footwear industries) are prioritized.

At the same time, the establishment of agricultural clusters plays an important role in regional diversification. For instance, intensive greenhouse clusters are being developed in the Andijan and Samarkand regions; early vegetable production is expanding in Surkhandarya; and cotton and sericulture clusters are emerging in Syrdarya and Jizzakh. These clusters function as comprehensive systems, encompassing not only production but also processing, logistics, export, and financial services.

However, several challenges remain in the regional diversification process. These include a shortage of qualified personnel in the agrarian sector, insufficient market information, unequal access to resources, low awareness of advanced agricultural technologies among farming enterprises, and underdeveloped agro-processing industries.

From this perspective, it is necessary to develop specific economic models for each region, create favorable conditions for agribusiness, and implement comprehensive measures aimed at increasing employment and ensuring the effective implementation of diversification.

## DISCUSSION AND ANALYSIS

In implementing agricultural diversification across the regions of Uzbekistan, natural-climatic, economic, and social factors play a decisive role. It is advisable to organize agrarian activities in specialized directions, based on each region's geographical conditions, labor resources, land and water capacity, logistics, market infrastructure, as well as population needs and consumption structure.

To ensure economic efficiency, it is essential to modify crop types, develop the agro-processing industry, support small-scale agribusiness entities, shift toward the production of export-oriented goods, and establish agricultural production through a cluster-based system.

**Table 1. Presents an analysis of the potential and directions of diversification in various regions of Uzbekistan.**

Region	Main Resource Advantages	Economic Specialization	Recommended Diversification Directions
<b>Fergana Valley</b>	Fertile land, abundant labor resources	Vegetable growing, horticulture	Export-oriented viticulture, intensive greenhouse farming
<b>Karakalpakstan</b>	Low water availability, desert lands	Livestock farming, salt-tolerant crops	Sheep breeding, sunflower, camelthorn, alfalfa, water-saving agro-technologies
<b>Surkhandarya</b>	Favorable climate, fertile soil	Early-season vegetable cultivation	Melon cultivation, vegetable processing clusters
<b>Samarkand</b>	Tourism potential, labor resources	Horticulture, viticulture	Processing, dried fruits, agro-tourism

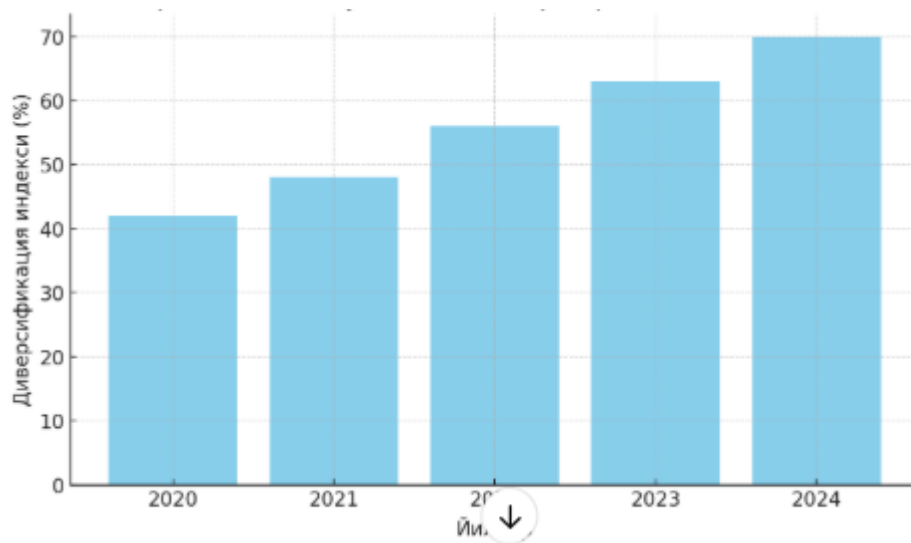
<b>Syrdarya – Jizzakh</b>	Large agro-industrial zones	Cotton production, sericulture	Sericulture clusters, biotechnology products
<b>Navoi – Bukhara</b>	Arid climate, limited water resources	Livestock farming, soil conservation	Wool and leather products, fodder crop cultivation
<b>Tashkent Region</b>	Proximity to markets, developed infrastructure	Intensive horticulture, greenhouse farming	Dairy production, vegetable processing, export hubs

This analysis shows that the diversification process in each region must be implemented based on its natural and economic potential. For example, in water-scarce regions, the adoption of water-saving technologies is of particular importance, while in areas close to markets, fast-turnover crops (such as vegetables, melons, and grapes) and their processing industries are prioritized.

Another critical aspect of regional diversification is the improvement of employment and the overall standard of living. In particular, creating new jobs in rural areas for women and youth can contribute significantly to ensuring social stability.

In recent years, diversification has emerged as a key strategic direction in Uzbekistan's agricultural development policy. Presidential decrees and government resolutions have given special attention to the development of agrarian sectors based on regional specialization, the expansion of product types, the establishment of processing industries, and the formation of agribusiness clusters. To assess the effectiveness of this process, indicators such as the diversification index are essential.

#### The growth dynamics of agricultural diversification in Uzbekistan observed during the period 2020–2024



The above diagramma provides a visual comparison of the growth dynamics in Uzbekistan's agricultural diversification index over the years 2020 to 2024. It clearly indicates that the level of diversification increased significantly each year, demonstrating the effectiveness of reforms in the agrarian sector and the successful implementation of regional strategies.

Between 2020 and 2024, the process of agricultural diversification was carried out in stages, with the diversification index increasing markedly. While the index stood at 42% in 2020, it reached 70% in 2024. This represents a total increase of 28%, clearly reflecting the positive outcomes of agricultural reforms.

In 2021, the index rose to 48%, which can be attributed to the initial implementation of the cluster system and financial support for agribusiness entities. By 2022, the index had climbed to 56%, driven by active development of greenhouse farming, early crops, and the agro-processing industry. This year showed the highest annual growth rate (+8%).

In 2023 and 2024, the diversification index reached 63% and 70%, respectively. During these years, the development of clusters, production of export-oriented goods, and improvement of agrarian infrastructure continued consistently. In particular, regions near market infrastructure saw growth in high-turnover crops (vegetables, melons, grapes), and processing clusters became increasingly efficient.

Overall, the annual growth trend demonstrates the strategic importance of regional diversification policy. The continued implementation of this process is expected to be further strengthened through the adoption of innovative technologies, water-saving systems, and scientific approaches.

## CONCLUSION

Agricultural diversification is a complex yet strategically critical process aimed at improving economic efficiency in the sector, fully utilizing the resource potential of regions, and enhancing the living standards of the population. The analysis shows that developing specialized sectors in accordance with regional characteristics, creating clusters, and selecting products based on market demand determine the effectiveness of diversification.

To ensure the success of regional agricultural diversification, it is necessary to develop specific diversification strategies for each region. These strategies should focus on selecting crop types suited to land, water, climatic, and market conditions. At the same time, the widespread adoption of water-saving and innovative agro-technologies is essential, as they help conserve resources and ensure high productivity.

To further increase economic efficiency, it is also important to develop agro-processing industries and logistics infrastructure at the regional level. Moreover, improving access to financial and credit resources for farming enterprises and agribusinesses is of vital importance.

Finally, the involvement of scientific research institutions and pilot farms in the diversification process should be expanded. Their participation will help implement innovations, adapt crop varieties to specific regional conditions, and organize practical measures more effectively.

## REFERENCES

1. Musaev, I., Khakimova, K., Nuretdinova, M., & Jalolova, M. (2024). Enhancing Sustainable Agriculture through Crop Diversification in Uzbekistan.
2. Primov, A., & Rustamova, I. (2024). Status and Extent of Crop Diversification Index in Uzbekistan and its Empirical Analysis.
3. Bobojonov, I., Lamers, J.P.A., Bekchanov, M., Djanibekov, N., Franz-Vasdeki, J., Ruzimov, J., & Martius, C. (2013). Options and Constraints for Crop Diversification: A Case Study in Sustainable Agriculture in Uzbekistan.
4. Тешабаева, О. Н., & Ташматова, Н. Х. (2023). Ўзбекистон республикасида аграр секторда тадбиркорлик ривожланишининг ўзига ҳос жихатлари. Academic research in educational sciences, 4(1), 22-30.
5. Teshabaeva, O. N. (2023). Analysis of industrial policy and investment processes in the production and enterprises of innovative products in the economy of Uzbekistan. Modern Scientific Research International Scientific Journal, 1(3), 48-58.

6. Nasridinovna, T. O., & Shukurjon, G. O. (2025, April). Turizmning atrof-muhitga ta'siri: muammolar va barqaror rivojlanish yo'nalishlari. In conference of modern science & pedagogy (Vol. 1, No. 1, pp. 216-223).
7. Teshabayeva, O., & Rakhmanova, G. (2025, April). Statistical insights and policy directions for sustainable tourism in Uzbekistan. In conference of modern science & pedagogy (Vol. 1, No. 1, pp. 170-176).
8. Teshabaeva, O. N. (2023). Analysis of industrial policy and investment processes in the production and enterprises of innovative products in the economy of Uzbekistan. *Modern Scientific Research International Scientific Journal*, 1(3), 48-58.