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# The Contribution of Agricultural Industries to Eliminating Disparities in A Region's Socioeconomic Development

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**Abstract:** In this article, the role of agricultural networks in addressing and overcoming interregional disparities in the socio-economic development of regions is examined through a detailed and scientifically rigorous framework. The strategic significance of the agricultural sector as a crucial factor in mitigating regional developmental imbalances is thoroughly analyzed, with particular emphasis placed on effective agricultural management practices and innovative development pathways. The research scientifically substantiates the importance of modernizing agriculture as a key mechanism to stimulate regional economic growth, enhance productivity, and achieve sustainable development. Furthermore, the study systematically investigates how increasing agricultural productivity can positively impact employment opportunities, elevate income levels, and enhance the overall quality of life for regional populations. The analysis incorporates comprehensive empirical data, providing evidence-based insights into the agricultural sector's potential to significantly reduce socio-economic inequalities between different regions. Based on extensive research findings, the authors present scientifically grounded practical recommendations designed to effectively reduce existing regional economic disparities. These recommendations include strategies for adopting advanced agricultural technologies, optimizing resource allocation, and promoting regional specialization within agricultural networks. Additionally, the research identifies and outlines promising directions for future investigation to deepen understanding and further refine strategies for balanced regional development. The study integrates both international and domestic experiences, drawing on a robust scientific and methodological foundation, complemented by empirical analysis. This approach ensures that the research conclusions and recommendations are highly applicable and relevant for policymakers, agricultural managers, and stakeholders committed to fostering equitable and sustainable regional development.

**Keywords:** agricultural networks, regional disparities, socio-economic development, innovative development, agricultural productivity, employment opportunities, regional economy, empirical analysis.

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## 1. Introduction

Imbalances in the socio-economic development of regions are also noted by international organizations as one of the urgent problems slowing down the sustainable development of states. Studies by international organizations such as the World Bank, the United Nations (UN) and the Organization for Economic Co-operation and Development (OECD) recognize these issues as one of the main problems of global development, and special attention is given to the agricultural sector in solving them [1]. The OECD Regional

Development Policy report also emphasizes the high role of the agrarian sector in reducing interregional imbalances [2]. International experience shows that innovative development of the agrarian sphere is an effective mechanism for increasing economic and social welfare in the regions [3]. Therefore, the development and implementation of strategies related to the development of agriculture in a scientific basis is of urgent importance now. Through the effective management of the agrarian sector, there can be an optimal distribution of economic resources and improvement of the welfare of the population. In addition, it is widely reported in the scientific literature that it is possible to increase the level of employment in the regions by increasing agricultural productivity. The need for widespread introduction of innovative and digital solutions of agriculture for effective formulation of regional development policy is based on scientific researches [4].

The purpose of this study is to scientifically analyze the role of agricultural sectors in reducing interregional imbalances in the socio-economic development of regions and develop practical recommendations. As well as identifying factors that cause imbalances in regional economies and assessing the impact of agriculture on these processes; formation of scientific and methodological foundations for increasing productivity and improving the level of employment in the agrarian sector; assessment of the possibility of introducing innovative and digital technologies in the development of agriculture development of strategic management methods in the agricultural sector aimed at ensuring economic stability of regions; and the study of international and local experiences on the effective use of agricultural sectors in the socio-economic development of regions and the ways of their implementation.

## 2. Materials and Methods

### Literature review

According to international experience, agriculture is an important tool in reducing interregional disparities in socio-economic development. In particular, the World Bank report notes poverty reduction and improving the living standards of rural people through the development of the agrarian sector. This approach added to the strategic importance of the agrarian sector in the theory of economic development.

US economists, including S. Kuznets and C. P. Timmer, argue that productivity growth in the agrarian sector plays an important role in reducing income inequality [5]. In particular, Timmer theorizes that the growth of the agrarian sector in the early stages of development lays the foundation for the industrial and service sectors.

The research of the American scientist J. Mellor shows the multiplier effect of growth in the agrarian sector on increasing the income of the poor strata [6]. He believes that the by-product created in agriculture will have a positive impact on the industry and service sectors, helping to reduce inter-regional disparities.

European researchers, including E. Loizou and others, empirically identified the role of agriculture in economic stability and regional development on the example of Greece [7]. According to their calculations, the diversion of EU subsidies to the agrarian sector has had a significant multiplier effect for the local economy.

The impact of the agrarian sector on regional development in Turkey is studied in depth in the H. Yaman study, where diversification and integration in agriculture open up opportunities to reduce regional economic differences [8].

Through the Chinese experience, M. Ravallion and Sh. Chen have proved that development in the agrarian sector is more effective than the industrial and service sectors in reducing poverty and reducing interregional differences [9].

In the case of India, studies have shown that increasing agricultural productivity in regions where irrigation and innovative technologies are applied significantly reduced regional economic differences [10].

Foreign scholars emphasize food security, fruit and vegetable growing, and livestock as the main sectors of the agrarian sector, especially citing the potential for ensuring regional sustainability through eco-friendly and organic agriculture [11].

The research of scientists from Uzbekistan, including Sh. Yuldasheva and O.Polatova, raises the issues of achieving regional development and diversification by increasing the efficiency of cotton and grain growing mainly [12]. Local economists consider that deep processing and diversification of products through cotton and textile clusters in Uzbekistan is the main mechanism to reduce economic disparities in regions.

When comparing foreign and local research, abroad more emphasis is on the role of the agrarian sector in the overall economic development, and in Uzbekistan the central theme is the internal structure of industries and modernization of traditional crops .

This study is aimed at identifying which sectors of agriculture can effectively reduce interregional imbalances and optimizing the directions of agrarian policy through the integration of foreign and local approaches.

#### Research methodology

In this study, systematic approach, economic-statistical and comparative analysis methods were used. On the basis of a systematic approach, the factors forming imbalances in regional economic development have been comprehensively studied. Thus, it became possible to define the role of the agrarian sector in economic processes.

With the help of economic and statistical methods statistical analysis of the indicators of development of economy and agriculture of the regions of Uzbekistan has been carried out. Economic and statistical indicators, such as the Gini coefficient and the Herfindal-Hirschman index, were used to measure interregional imbalances.

By means of comparative analysis, the experience of foreign countries and Uzbekistan were cross-compared. Research and practical experience of the countries of the USA, Europe and Asia were based on this process.

Within the framework of the study, special attention was paid to the multiplier effects of agrarian networks in increasing the cost efficiency, employment and reducing territorial disparities in the regions. The effectiveness of diversification and integration strategies in the regions was also assessed.

Based on the results identified through these methodologies, science-based recommendations were developed to reduce interregional imbalances.

### 3. Result

As a result of the reforms and development processes carried out in the agricultural sector of Namangan region in recent years, there are positive changes in the volume of agricultural production, diversification of products and productivity indicators. On the basis of the tables below, the current agricultural situation of the territory is analyzed and its role in reducing inter-regional economic imbalances is assessed.

The yield and per capita amount of output presented in the tables reflects the level of food security in the province and the balance between demand and supply for agricultural products. These indicators make it possible to scientifically assess the relationship between the productivity of agrarian production and the quality of nutrition and economic well-being of population. Table 1 presents the key economic indicators of the agricultural sector in the Namangan region from 2020 to 2024, including its share in GDP, employment, salary levels, and investment volumes.

Table 1. Key indicators of the agricultural sector in the Namangan region for 2020-2024

Bullets	2020	2021	2022	2023	2024
Share in GDP (%)	36,2	35,8	35,5	34,9	34,5
Product size (billion UZS)	10845,2	11472,5	12195,7	12987,3	13850,1
Employment (thousands)	450,2	455,9	462,5	470,1	478,4
Average salary (thousand UZS)	1800,5	1950,3	2150,6	2370,2	2600,8
Investments (billion UZS)	950,4	1020,5	1105,7	1190,6	1285,9

Source: Reports of the Department of Statistics and the Main Department of Employment and Labor Relations of the Namangan region for 2024.

According to the data presented in the table, the share of agriculture in the composition of gross territorial product in the Namangan region decreased slightly during 2020-2024, while the total output and employment rate increased significantly. The systematic growth of the volume of products from year to year is a sign of an increase in the productivity of agricultural production. This shows that the processes of processing and diversification of agricultural products, especially in the region, have been intensified. Also, the annual growth in the number of people engaged in agriculture in the region further strengthens the role of this sector in the regional economy. An increase in the employment rate contributes to socio-economic stability in the region and has a positive impact on the living standards and well-being of the population. At the same time, the growth in average wages and the volume of investments has further increased the economic importance of the agricultural sector and has a positive effect on other sectors of the economy. Thus, the agricultural sector in the Namangan region remains one of the main drivers of regional economic development. Table 2 demonstrates the annual yield trends of major agricultural products in the Namangan region, showcasing productivity growth across crops and livestock between 2020 and 2024.

Table 2. Yields of basic agricultural products in the Namangan region (s/ha and ts/son)

Year	Cotton	Grain	Fruit	Vegetable	Potatoes	Melon	Grapes	Meat (ts)	Milk (ts)
2020	28,4	55,7	112,3	210,4	152,3	178,5	136,7	245,6	976,3
2021	29,0	57,1	116,7	215,6	157,8	183,4	141,2	258,9	1023,5
2022	29,5	58,4	120,8	220,3	162,4	189,0	145,8	271,3	1068,2
2023	30,1	60,2	125,5	226,0	168,9	194,3	150,6	284,7	1114,6
2024	30,8	61,9	130,0	232,7	174,5	199,8	156,2	298,2	1160,9

Source: Department of Agriculture of Namangan region, 2024.

In Namangan region there is a consistent growth of yields of basic agricultural products. Sustainable growth, especially in cotton and grain production, is becoming increasingly important for strengthening the country's food security and export potential. In addition, a significant increase in yields in fruits and vegetables and potato products plays a key role in the diversification of the region's economy and the provision of high-quality products to the domestic market.

A stable increase in the production of meat and dairy products serves to improve the food security and quality of nutrition for the inhabitants of the region. This means that the growth in production of products, especially in the livestock sector, is highly efficient on investment. Thus, the expansion and increase of production in the Namangan region by types of agricultural products serve to further strengthen the economic development and social well-being of the region. Table 3 illustrates the per capita distribution of primary agricultural products in the Namangan region, providing insight into food security and consumption patterns among the population.

Table 3. Amount of agricultural products per person of the population in the Namangan region (kg/pop)

Years	Cotton	Grain	Fruit	Vegetable	Potatoes	Melon	Grapes	Meat	Milk
2020	14,2	27,9	56,2	105,2	76,2	89,3	68,3	12,3	48,8
2021	14,6	28,6	58,4	107,8	78,9	91,7	70,6	12,9	51,2
2022	14,9	29,2	60,4	110,2	81,2	94,5	72,9	13,5	53,4
2023	15,3	30,1	62,8	113,0	84,5	97,1	75,3	14,2	55,7
2024	15,7	30,9	65,0	116,4	87,3	99,9	78,1	14,9	58,0

Source: Department of Statistics and Department of Agriculture of Namangan region, 2024.

#### 4. Discussion

The data in the above table reflects the basic agricultural output per capita in the Namangan region during the year. Fruit and vegetable products have high indices and are growing every year. The high production of these products serves to ensure food security and high-quality nutrition for the population. The steady growth in productivity indicators indicates that the fruit and vegetable sectors occupy a strategic place in the regional economy, and the expansion of production opportunities in these areas.

The steady growth of meat and dairy production, as opposed to per capita, implies that the livestock sector in the region is developing, and the efficiency of investments in this sector is increasing. This trend is making a significant contribution to the increase in the standard of living, health and well-being of the population. Therefore, the agricultural sector remains an important and stable factor in the socio-economic development of Namangan region.

The amount of rations of basic agricultural products per a person of the population of Namangan region shows a positive situation when compared with the norms established by the World Health Organization (WHO). In particular, the production of vegetable (116.4 kg) and fruit (65.0 kg) products is meeting or exceeding the WHO recommended minimum annual norms (100 kg and 60 kg, respectively) [13]. This situation implies an adequate and balanced food supply for the population of the province.

At the same time, meat (14.9 kg) and dairy (58.0 kg) production indicators remain lower than the organization recommendations (meat - 20 kg, milk - 90 kg). This indicates the need to further expand and increase the productivity of livestock products in the region. By increasing the consumption of meat and dairy products, it is possible to achieve an improvement in the health of the population and the quality of the overall diet [14].

In general, the volume of production of basic food products in the Namangan region shows that it is able to meet the needs of the population and ensure food security. However, additional measures are needed to increase the volume of livestock products, especially meat and milk production. In this direction, it will be necessary for the state to take measures to increase the volume of investments and increase production efficiency [15].

#### 5. Conclusion

To sum up, although the share of the agricultural sector in the gross regional product in the Namangan region has slightly decreased from year to year, the volume of production and employment indicators are growing significantly. This confirms the importance of the sector in the development of the economy.

The indicators of food safety of the population of the region are close to international standards, fully meet the established standards, especially in the production of vegetable and fruit products. However, the existing capacities for the production of livestock products (meat and dairy) have not yet been fully used.

Steady growth in productivity indicators and increased diversification of products are increasing the role of agriculture in the regional economy and reducing inter-regional imbalances.

Based on the above research results, we can suggest:

First of all, it is necessary to develop and modernize the livestock direction of the agrarian sector. To do this, it is necessary to increase the volume of state subsidies, loans and investments for the development of livestock, as well as expand the possibilities for processing and storing livestock products.

Secondly, it is recommended to form an additional value chain in the economy of the region through the development and deep diversification of the agricultural processing industry. Thus, new jobs will be created for the local population and the level of income will be further increased.

Thirdly, it is necessary to develop the logistics and marketing infrastructure for exporting products manufactured in the region to foreign markets. In particular, it is



necessary to establish special agrological centers for the export of fruits and vegetables and viticulture products with high export potential.

Fourthly, it is recommended to accelerate the introduction of digital technologies and innovative solutions in the agrarian sector, including the development of comprehensive measures for the development of "smart" farms and increasing the efficiency of resource use in the production of products.

Fifth, it is necessary to strengthen the integration between production and processing enterprises through the widespread introduction of the cluster method in agriculture, thereby reducing the cost of production and increasing production efficiency.

Thus, by implementing the above recommendations, the role of the agricultural sector in socio-economic development in the Namangan region will be further strengthened and will serve to reduce inter-regional economic differences.

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