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The role of agriculture in shaping the prospects of socio-economic development of Uzbekistan

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Abstract. The role of agriculture in ensuring food security, creating jobs, and generating export earnings makes it particularly relevant to analyse the impact of this sector on the socio-economic development of the country. The research aims to analyse and assess the impact of agriculture on the socio-economic development of Uzbekistan. To achieve the goal, the indicators of the agricultural sector and socio-economic development from 2013 to 2022 were analysed. It is established that the natural resources of Uzbekistan play a crucial role in the development of agriculture. The

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analysis of diversified trends in agriculture emphasises the key role of this sector in the socio-economic progress of the country. Despite the variability, the growth in the share of agricultural land and rural population indicates the still high importance of agriculture. However, the decline in value added in the agricultural, forestry and fisheries sectors, as well as the low growth rate of cereal yields, reflects the current challenges in this area. Rising unemployment rates, as well as changes in exports and inflation rates, point to difficulties in the socio-economic environment. In this light, the prospects for agricultural development as a key agent in improving the socio-economic situation are particularly important. Effective resource management, productivity improvement, job generation, product promotion and expansion of production are all important areas for future development. A strategic approach to agricultural development requires the implementation of complementary measures such as public financial support, mobilisation of investment, use of evaluation ratings and improved public policies. The findings of the study can be used to adapt public policies and programmes in the agricultural sector, as well as to identify priority areas for investment and resources for sustainable economic development

Keywords: natural resources; food security; economic growth; societal progress; sustainability

INTRODUCTION

Agriculture in Uzbekistan remains an important component of the country's socio-economic development, as it provides not only food security but also high levels of employment, especially in rural areas. Improvements in agriculture contribute to infrastructure development, increase rural incomes, reduce poverty, and expand opportunities for agricultural exports, which helps to attract investment and support sustainable economic growth in Uzbekistan. Therefore, the development of this sector remains an urgent task for the country and is of great importance for its future socio-economic development.

According to R. Khakimov *et al.* (2022), sustainable agricultural development has an impact on many areas, including the economy, employment, social equity, and quality of life. The rural population plays an important role in shaping the social structure, and the development of rural areas contributes to the improvement of infrastructure and access to education and health services. From the point of view of D. Niyazmetov *et al.* (2021), agricultural development contributes to the distribution of land resources, labour opportunities and income among different segments of the population. This is particularly important for improving the lives of women and youth, strengthening their participation in the rural economy, and ensuring equal chances for all.

Sh.Y. Salimov (2018) argues that agriculture is one of the main sources of employment in many developing countries. The development of the agricultural sector leads to the creation of jobs in rural areas, which helps to reduce unemployment and provide people with income opportunities. This contributes to a more even economic development of the country. According to K. Ruziev (2021), considering global challenges such as climate change and demographic change, agricultural development becomes an integral part of sustainable development strategies. Agricultural development contributes to the creation of equal opportunities for different segments of the population, ensures food security and forms the basis for stable economic development of the country. In this context, Uzbekistan,

with its rich agricultural potential and unique natural resources, is an important object of study. Agriculture, as one of the key sectors of the country's economy, not only provides food security and a raw material base but also has a significant impact on the social well-being of the population.

A. Ilkhamov (2013) believes that agriculture in Uzbekistan plays a critical role in the country's economy, as the majority of the population is engaged in rural labour, and the agricultural sector is one of the main sources of income and exports. The development of this sector is aimed at improving productivity, introducing modern technologies, and improving the quality of agricultural products. J.J. Robalino and J. Bathe (2022) argue that sustainable agricultural development in Uzbekistan also has a direct impact on economic growth and living standards. Infrastructure development, job creation in rural areas and increased incomes complement the country's societal progress.

Agriculture provides food security, creates jobs for many citizens and is a key source of export earnings. With this in mind, it is particularly relevant to analyse the impact of this sector on the socio-economic development of Uzbekistan. A scientific analysis of this relationship will help identify success factors and determine ways to optimise agricultural development, contributing to the formation of a sustainable and prosperous socio-economic outlook for Uzbekistan. In this regard, the study of the relationship between the development of agriculture and the socio-economic perspective of Uzbekistan becomes an object of significant scientific study, revealing new perspectives in understanding the dynamics of economic growth, living standards of the population and social progress. This study on the role of agriculture in shaping the prospects of socio-economic development of Uzbekistan acquires special significance for the formation of strategic decisions and national policies aimed at sustainable development.

Therefore, the research aims to analyse and assess the contribution of agriculture to the overall

socio-economic development of Uzbekistan, as well as to identify its potential and role in creating a sustainable and prosperous country.

MATERIALS AND METHODS

In the course of the study, practical recommendations, and scientific and methodological provisions for determining the real state of agriculture and its impact on the formation of prospects for the socio-economic development of Uzbekistan were used to achieve the set objectives. The informative component of the research was monographic and periodic literature, as well as the Decree of the President of the Republic of Uzbekistan No. P-K-4653 (2020).

The study used the method of comparison to make an analytical comparison of various aspects of agriculture and their impact on the prospects of socio-economic development. In addition, an abstract logical method was applied, aimed at a deep understanding of the role of agriculture in the context of the socio-economic development of Uzbekistan. This method was used to analyse complex interrelationships, identify patterns, and formulate assumptions about the impact of the agricultural sector on the country's development processes. In addition, a set of special and general scientific groups of methods was used, namely:

- induction and deduction (for a more complete analysis and study of agricultural development and its impact on the socio-economic perspective of Uzbekistan);
- analyses (to evaluate the collected information, draw conclusions, provide recommendations, and determine the prospects for further research);
- statistical methods (to quantify the data obtained);
- synthesis (to combine the acquired knowledge into a coherent whole).

As part of the study of Uzbekistan's socio-economic development, gross domestic product (GDP), exports, imports, inflation, unemployment, and GDP per capita were analysed. It also examined the characteristics of the agricultural sector in Uzbekistan, including the share of agricultural area, the share of rural population, value added of agriculture, forestry and fisheries, and grain yields.

The method of conceptual analysis was used to justify the direction of improvement of socio-economic development of Uzbekistan, and the integrative approach identified the main measures to improve the functioning of agriculture. The study also used SWOT-analysis to identify the strengths, weaknesses, opportunities, and threats of the agricultural sector of Uzbekistan. This gave a more complete picture of the current state and prospects of agricultural development. Based on the

analysis of statistical data, a correlation and regression analysis were conducted to establish a multifactor regression relationship between the socio-economic development of Uzbekistan and the state of agriculture in general for the period 2013-2022. This analysis aims to characterise and identify the relationship between the socio-economic indicators of the country and the state of the agricultural sector of the economy.

The analysis of regression models will reveal which of the above factors have a significant impact on the socio-economic development of Uzbekistan. The selection of these parameters assumes that they play a key role in shaping and influencing the socio-economic development of Uzbekistan through important aspects of agriculture. Each of the selected parameters is considered as an important factor influencing economic, social and food aspects of the country.

RESULTS

Uzbekistan's agriculture has enormous prospects and potential that should be maximally utilised. To successfully realise this goal, the strategy of long-term development of the national economy should be oriented towards anticipating and adequately responding to the global challenges that the country will undoubtedly face in the future. This will not only ensure food security within the country but will also play an important role in guaranteeing food security in the global arena. Based on the potential of agriculture, Uzbekistan can become a significant participant in the global dynamics of food resource distribution. With the right development strategy, the agricultural sector will become one of the key players in this process, proving itself to be quite competitive.

The analysis of socio-economic indicators in the agricultural sector of Uzbekistan for the period from 2013 to 2022 reveals multidirectional trends. The share of agricultural land varies from 58.1% to 60%, with a slight decrease of 1.4%. The share of the rural population increased from 49.1% to 49.6% with a growth rate of 1.1%. The value added of agriculture, forestry and fisheries first increases to 29.3% in 2015 and then declines to 25% in 2021, with a growth rate of 10.2%. The value of this value also falls from 20.34 billion USD in 2013 to 16.06 billion USD in 2022, with a growth rate of -14.9%. Cereal yields fell from 4.8 tonnes/ha in 2013 to 4.1 tonnes/ha in 2018, then started to rise, reaching 4.9 tonnes/ha in 2022, with a growth rate of -14.9%. These indicators reflect the diverse dynamics of agricultural development in the country, including both positive and negative changes in key aspects (Table 1).

Table 1. Trends in the development of the agricultural sector in Uzbekistan

Value	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate, %
Share of agricultural land (% of total area)	58.9	60	58.1	58.1	58.1	58.1	58.1	58.6	59.3	59.6	101.2

Table 1, Continued

Value	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate, %
Share of the rural population (% of the total population)	49.1	49.2	49.3	49.4	49.5	49.5	49.6	49.6	49.6	49.6	101
Value added of agriculture, forestry, and fisheries (% of GDP)	27.8	28.7	29.2	29.3	28.7	26.8	24.6	25.1	25	26.9	96.8
Value added of agriculture, forestry, and fisheries (billion USD)	20.34	23.2	25.17	25.24	17.82	14.11	14.74	15.03	17.31	16.06	79
Grain yields (tonnes/ha)	4.8	4.8	4.9	4.8	4.2	4.1	4.5	4.4	4.7	4.9	102.1

Source: compiled by the authors

Analysis of the data indicates heterogeneous dynamics in the agricultural sector in Uzbekistan over the period under review. The share of agricultural land, the share of rural population and the value added of agriculture, forestry and fisheries show fluctuations in different years. These changes can be attributed to various factors, including economic conditions, government policies

and climatic conditions. It is important to consider these trends when formulating strategic plans for the sustainable development of the rural economy and the well-being of the population. When analysing the indicators of socio-economic development, it was found that Uzbekistan is undergoing active and dynamic changes in the sphere of socio-economic development (Table 2).

Table 2. Indicators of socio-economic development of Uzbekistan

Value	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Growth rate, %
Gross Domestic Product (GDP), billion USD	73.2	80.8	86.2	86.1	62.1	52.6	59.9	59.9	69.2	80.4	109.8
Share of exports of goods and services in GDP (% of GDP)	18.6	16	13.8	12.3	20.7	27	28.4	24.3	23.7	27.3	146.8
Exports of goods and services, billion USD	13.61	12.94	11.9	10.6	12.85	14.21	17.01	14.55	16.41	19.31	141.9
Share of imports of goods and services in GDP (% of GDP)	23.7	20.3	17	16.9	27	44.6	44.4	37.7	40.1	44.3	186.9
Imports of goods and services, billion USD	17.34	16.41	14.65	14.56	16.76	23.47	26.6	22.58	27.76	30.67	176.9
Inflation, GDP deflator (annual %)	12	14	10.5	8.9	19.1	27	17.9	11.6	13.6	12.5	104.2
Total unemployment rate (% of total labour force)	4.9	5.1	5.2	5.2	5.8	9.3	9	10.5	9.6	8.9	181.6
GDP per capita (USD)	2419.7	2628.5	2754	2704.7	1916.8	1597.1	1784	1749.7	1983.1	3473	143.5

Source: compiled by the authors

Analysis of data on indicators of the socio-economic development of Uzbekistan reveals the following trends. At the beginning of the period, from 2013 to 2015, GDP grew gradually, reaching a peak in 2015 at 86.2 billion USD. However, in the following years, there was a decline in GDP, in particular, a significant drop to 52.6 billion USD in 2018. There was a recovery to 80.4 billion USD in 2022, but this level remains below the 2015 level. The share of exports of goods and services in GDP decreased at the beginning of the period under consideration, from 18.6% in 2013 to 12.3% in 2016, then started to increase, reaching 27.4% in 2022. Similar trends are observed for the share of imports of goods and services in GDP, which initially increased before reaching 69.1% in 2022. The

inflation rate, as measured by the GDP deflator, fluctuates within the period under consideration, from 8.9% in 2016 to 27% in 2018, before declining to 13.1% in 2022. These changes may reflect fluctuations in economic activity and money supply. The overall unemployment rate shows a moderate increase from 2013 to 2017 and then sees a decline to 8.9% in 2022. Despite the fluctuations, GDP per capita declined in 2020, probably due to economic factors, but there is some recovery in 2022. To confirm the dependence of Uzbekistan's socio-economic development on the branching of agricultural activities in this country, a regression model of the relationship between the GDP per capita indicator and data on the state of the agrarian sector was constructed (Table 3).

Table 3. The results of building a multifactor regression model of dependence of the socio-economic development of Uzbekistan on agriculture in the country

Conclusions on results					
Regression statistics					
R Multiple					0.9999
R-square					0.9999
Normalized R-square					0.9993
Standard error					12.7775
Observations					6
Dispersion analysis					
	df	SS	MS	F	Variable F
Regression	4	1124775.77	281193.94	1722.3269	0.0181
Remainder	1	163.26	163.26		
Total	5	1124939.03			
	Coefficients	Standard error	t-statistics	P-value	Lower 95%
Y-intersection	-52926.0604	56103.24	-0.94	0.52	-765785.3
X 1 variable	8.4004	12.3	0.68	0.62	-147.94
X 2 variable	954.3022	1051.95	0.91	0.53	-12411.98
X 3 variable	2.9406	60.8	0.05	0.97	-769.66
X 4 variable	1.6651	1.11	1.51	0.37	-12.39

Source: compiled by the authors

The results indicate a high linear relationship between the dependent and independent variables (multiple correlation coefficient R is close to 1), with the model explaining about 99.99% of the variability of the dependent variable (R-squared) with high explanatory power. Despite this, the normalised R-square is slightly lower than the standard R-square, possibly due to multicollinearity. The analysis of variance confirms the statistical significance of the model as a whole (high F-statistic and low p-value). Variable X1 indicates that when the agricultural land area increases by 1% of the total area, the GDP per capita of the country increases by 8.4 USD. Furthermore, similarly, when the share of the rural population increases by 1% of the total population, GDP per capita increases by 954.3 USD. Additionally, when the value added from agriculture, forestry and fisheries increases by 1 billion USD, the GDP

per capita of the country increases by 2.94 USD. Also, an increase in crop yields by 1 kg/ha entails an increase in socio-economic development in Uzbekistan, which is accompanied by an increase in GDP per capita by 1.67 USD. However, the regression coefficients for all variables, including the Y-intercept and variables X1, X2, X3, and X4, were found to be statistically insignificant (all p-values greater than 0.05), suggesting no significant effect of these variables on the dependent variable. Thus, the analysis indicates a strong relationship between the variables, but not always statistically significant. Results may also be affected by multicollinearity or data limitations. To identify more significant agricultural factors of influence the socio-economic development of Uzbekistan, single-factor regression relationships were constructed, and the degree of relationship was determined using correlation coefficients (Table 4).

Table 4. Results of construction of single factor regression models of dependence of socio-economic development of Uzbekistan on agriculture in the country

X	Correlation coefficient	Determination coefficient	Link level
X1 Agricultural land (% of land area)	0.34	0.11	low
X2 Rural population (% of total population)	0.62	0.39	average
Y3 Agriculture, forestry, and fisheries, value-added (billion USD)	0.98	0.96	dense
X4 Grain yields (kg/ha)	0.98	0.96	dense

Source: compiled by the authors

Analysis of correlation and determination coefficients indicates that the variables related to value added of agricultural, forestry and fishing activities and grain yield have a strong influence on the dependent variable. The percentage of rural population also has a medium degree of influence while the

percentage of agricultural land has the least effect on the dependent variable.

Accordingly, this indicates that although the country has a significant agricultural area and rural population, it is the organisation of agricultural activities that makes all the difference.

According to J.J. Robalino and J. Bathe (2022), B.I. Shapiro *et al.* (2022), Uzbekistan's agricultural sector is currently experiencing low efficiency in utilising its considerable potential. This raises the prospect of improving the socio-economic development of the country through modernisation of the agricultural sector. Two key problems are contributing to the weak state of the sector: lack of investment and shortage of highly qualified personnel. The solution to these problems can be ensured by the active participation of the state. To improve the socio-economic situation, it is necessary to implement reasonable actions aimed at a significant increase in land productivity. Special attention should be paid to increasing income per hectare of irrigated land. This includes changing attitudes towards land, intensifying investments in the sector and providing the industry with qualified personnel. Such efforts can lead Uzbekistan to take its rightful place among the world leaders.

The loss of some agricultural products due to insufficient organisation of collection, transportation, storage, and sale is also a problem. In a developing country like Uzbekistan, much production can also go to waste due to a lack of investment and infrastructure. Problems with the efficiency of irrigation, production and harvesting methods, as well as with the quality of agricultural services, transport, and storage, can be gradually overcome. This opens up prospects for increasing the share of agriculture in the formation of the country's GDP and strengthening its position as a key sector of the national economy. Supporting the processing of agricultural products at industrial enterprises and their efficient delivery to consumption should become an important part of the strategy of the state agricultural policy. Financial support of the agricultural sector through subsidies becomes an important means for the rapid development of agriculture, especially in the context of the country's integration with world markets. To attract investment, it is necessary to effectively use financial resources aimed at the activities of agricultural enterprises. At the same time, the key condition for the attractiveness of the agricultural sector for investors is to ensure the profitability of investments, which should be no less favourable than in other sectors.

Reducing the shortage of investment resources in agriculture can be achieved through improving the state policy of financing and support of the industry. Support aimed at reducing the cost of production, improving it and increasing production volumes will make products more competitive. This, in turn, favours the attraction of investment in agriculture, increases its profitability and promotes the development of the agrarian sector. The establishment of model state farms in each district with public funds is also proposed. These farms should operate using advanced agricultural practices, equipment, and innovative technologies. They should have a highly skilled workforce capable of raising yields and land productivity to world-class standards to become

important modern production enterprises. These model farms will not only serve as role models for local farmers and smallholders by providing quality and affordable produce but will also provide practical assistance in various aspects of agricultural operations. They will be a key vehicle for effective agricultural and livestock development in the district, as well as fundamental organisers of productivity improvement for all farms in the district. In this way, state farms will become the engine of economic growth in every district of the country.

Additionally, the introduction of a competitive selection system for farm managers should be considered so that these positions are filled by organisers with high qualifications, experience, and integrity. These managers will not only manage the state farms but are also responsible for the overall performance of all farms in the district. Evaluation and rewarding of the manager's performance should depend on the status and dynamics of the entire agricultural complex in the district. To ensure efficiency, it is advisable to introduce a rating system based on various performance indicators among all state farms in the country. This policy, although requiring significant financial outlay, could be introduced first as a pilot project in one or more districts.

Thus, the study has established that the key sector that determines the socio-economic development of Uzbekistan is the agricultural sector. In this regard, it is recommended to implement a series of measures aimed at improving the state of agriculture in the country:

- implementation of programmes to improve the efficiency of agricultural land use through the introduction of modern agricultural technologies and innovative methods;
- creation of new jobs and supporting employment in rural areas, which helps to reduce migration to cities;
- development of industrial processing of agricultural products to increase their value and diversify the economy;
- expanding areas for agricultural and livestock purposes, including the development of new land;
- actively promoting agrarian products on the world market through the development of export opportunities and improving competitiveness;
- providing state financial support to the agricultural sector through subsidies and preferential programmes;
- attracting investments from foreign partners to modernise and technologically upgrade the agricultural sector;
- implementing a system for assessing the performance of agricultural enterprises to stimulate quality development;
- optimising state mechanisms of financing and support for the agricultural sector, considering the changing economic situation;
- integrating modern technologies, including digitalisation and smart management systems, to improve the efficiency and sustainability of agriculture.

It is important to note that the SWOT-analysis of the agricultural sector of Uzbekistan showed a high potential for development and improvement, but also revealed a range of constraints and risks (Table 5).

Table 5. SWOT-analysis of the agricultural sector in Uzbekistan

Advantages	Disadvantages
Soil and climate potential: Uzbekistan has diverse soils and a favourable climate, creating favourable conditions for growing a variety of crops and plants.	Lack of infrastructure. Underdevelopment of modern storage, transport and processing systems can lead to the loss of part of the harvest and reduce the efficiency of agricultural production.
Water resources. The presence of rivers and irrigation systems provides access to water for irrigation, which contributes to higher yields and diversity of crops.	Weather dependence. Unfavourable weather conditions, such as droughts or abnormal temperatures, can adversely affect yields and product quality.
Labour potential. A large population creates the potential for labour force formation in the agricultural sector, which helps to maintain production capacity.	Uneven land use. Misallocation of land resources can lead to soil degradation and low crop yields.
Agricultural traditions. The rich experience and long history of agricultural activities in the country allow the knowledge to be preserved and passed down through the generations.	Low mechanisation. Weak development of modern agricultural machinery and technologies reduces labour productivity and efficiency.
Internal market. The high demand for food products within the country creates the potential to develop the domestic market and reduce dependence on imports.	
Possibilities	Risks
Export development: Uzbekistan can utilise its agrarian potential to increase agricultural exports, thereby strengthening its economy and increasing its visibility on the world stage.	Climate risks. Changing climatic conditions can lead to unpredictable weather events such as droughts, negatively affecting crop yields and product quality.
Infrastructure investments. The development of modern infrastructure, including storage, transport, and processing systems, will improve production efficiency and reduce product losses.	Global market competition. When entering the global market, the agricultural sector will face competition from other countries, which may affect prices and demand.
Agriculture innovations. The application of modern technologies, including genomics and bioinformatics, will increase yields and product quality, improving market competitiveness.	Environmental pollution. The use of chemical fertilisers and pesticides can adversely affect the environment and human health.
Organic agriculture development. The increased interest in organic products provides an opportunity to grow and sell natural products that meet the demands of today's consumers.	Demographic changes. A declining population in rural areas may lead to labour shortages in the agricultural sector.
Global economic factors. Economic changes at the global level may affect the demand and prices of agricultural products.	

Source: compiled by the authors

Thus, the SWOT-analysis has confirmed that Uzbekistan has potential for the development of the agricultural sector, but requires investment in infrastructure, modern technologies and staff training to achieve sustainable growth and successful integration into the world market.

DISCUSSION

Agriculture is a labour-intensive industry, which is important for creating new jobs and reducing unemployment. The development of this sector is important for shaping the living standards of the population, as well as for modelling social structure and social progress. Given the current global challenges, such as climate change and changing demographics, agriculture is becoming an integral part of the country's sustainable development strategy.

In this context, the findings can be compared with the studies of M. Chen and H. Wang *et.al* (2020), L. Batiuk (2020), also note that agriculture provides a wide range

of jobs, from agricultural labourers to specialists in agribusiness, agricultural technology, and product processing. These jobs typically have relatively low education and training costs. The authors' research confirms that the development of the agricultural sector helps to reduce unemployment and provides employment, which also correlates with the study.

A similar view is also expressed by F. Karaca *et al.* (2019), who emphasise that the development of the rural sector helps to reduce unemployment, especially in rural areas, and job creation can provide residents with employment opportunities without the need to migrate to cities. In addition, the development of agricultural production also stimulates the development of rural infrastructure such as roads, energy, and water supply, which in turn improves the quality of life of the local population. This study also correlates with the author's view that improving the agricultural sector can have a significant positive impact on the socio-economic development of a country.

Agriculture plays a key role in shaping the prospects for the socio-economic development of many countries. Thus, O. Kravchenko *et al.* (2020) show that agriculture is one of the main sectors of the economy that can make a significant contribution to the gross domestic product of the country. Thus, with an increase in the share of the rural population by 1-2% of the total population, GDP per person increases by 900-1000 USD, and an increase in crop yields by 1-1.5 kg/ha is accompanied by an increase in socio-economic development and an increase in GDP per capita by 1.9 USD. Agricultural development also contributes to the growth of production, investment, and exports, which stimulates overall economic growth, which is also noted in the study conducted.

A study by X. Cui *et al.* (2022) emphasises the importance of agriculture for the provision of food products to the population. Sustainable development of the rural sector allows the country to reduce dependence on food imports by 25-35% and provide the population with quality and affordable food, which also confirms the study. In addition, the findings of the study resonate with the findings of D. Niyazmetov *et al.* (2021) that investment in infrastructure, modern technology and human resource training are critical steps to overcome the weaknesses and capitalise on the opportunities presented by the agricultural sector. Properly planned and implemented measures can lead to sustainable growth, improved livelihoods, and successful integration into the global market.

The results obtained are similar to those of K. Pawlak and M. Kołodziejczak (2020), according to which investments in agricultural infrastructure along with addressing income inequality through measures aimed at increasing the purchasing power of households, especially in rural areas, are key factors in improving access to food in countries around the world. A study by Y. Du *et al.* (2020) also indicates that agriculture has the potential to contribute to reducing social and economic inequalities. This is achieved by providing opportunities for small farmers and peasant households to improve their income levels and quality of life. In addition, it has the potential to strengthen rural communities, revitalise local economies and promote sustainable development at the local level.

A similar view is expressed by R.P. Pradhan *et al.* (2019), whose research shows that improving the economic status of rural residents has a positive impact on social development, education, and access to health care. Increased income of rural residents improves access to educational and health services, which contributes to the growth of human capital and improves the quality of life. In addition, X.W. Li and S.B. Xu (2020) argue that sustainable agriculture contributes to the conservation of natural resources and biodiversity, which in turn is important for the long-term development and well-being of the country. Agriculture also plays an important role in rural development by promoting

infrastructure development, creating model farms, and maintaining social stability.

J. Streimikis and T. Baležentis (2020) highlight the importance of innovation and technological progress in agriculture. The application of modern methods of agricultural production, including biotechnology and information technology, contributes to increasing yields and efficiency. Studies by A. Kotvitska *et al.* (2021) and B. Ortiz *et al.* (2018) also confirm that the adoption of modern technologies in agriculture increases production efficiency and yields, which in turn contributes to GDP growth. In addition, agriculture can become one of the factors of diversification of the country's economy, reducing dependence on highly specialised industries. The development of agriculture can also contribute to increasing the country's export potential, which affects the balance of trade and has a positive impact on foreign economic relations.

The findings of the study resonate with the studies of G., Wang *et al.* (2020) and F. Karaca *et al.* (2019), which emphasise the importance of attracting foreign investment and experts for the successful development of agriculture. The certification of rural workers, including the participation of foreign experts, should be emphasised. They also recommend introducing an effective mechanism for regulating land relations, establishing sustainable economic regulatory mechanisms for optimal utilisation of land plots, and paying attention to the socio-economic well-being of the population.

Analysis of studies by L. Lombardozi (2020), K. Pawlak and M. Kołodziejczak (2020) suggests that Uzbekistan faces a low level of economic development and several problems in agriculture. The authors highlight the inefficiency of production, storage, and distribution, which affects farmers' profitability and leads to losses at the marketing stage. The authors emphasise the importance of increasing agricultural productivity, introducing innovations, and creating infrastructure for the storage and processing of products. They propose the introduction of a state programme for the construction of vegetable storage facilities and industrial refrigerators, as well as support for less profitable sectors of the agricultural industry through subsidies, tax incentives and public contracts.

The study by K. Sen *et al.* (2020) examines the prospects for agricultural development and socio-economic progress in Uzbekistan. The authors note that the country is facing problems of economic growth and high poverty among the population and emphasise the importance of training qualified economists who can analyse financial problems and propose solutions. They recommend state support for less profitable sectors of agriculture, the introduction of modern machinery and innovations, and the creation of a system of evaluation and rating of the performance of regional agricultural managers.

Thus, the analysis of studies by different scholars and the result of the conducted research confirms the

importance of agriculture as a fundamental element of socio-economic development, as well as emphasise the significance of an integrated approach to agricultural development and socioeconomic progress of Uzbekistan, including improvement of production efficiency, introduction of innovations, creation of infrastructure and support of various sectors of the agricultural industry. In general, the agricultural sector plays a crucial role in shaping the prospects for socio-economic development. The above-mentioned studies demonstrate that agriculture has many positive impacts on various aspects of society and the economy. It is important to emphasise that these results not only confirm the importance of the sector but also serve as a basis for the development of strategies and interventions aimed at strengthening and improving the rural sector. The formation of strategic decisions and national policy in the field of agriculture is important for ensuring the sustainable and balanced development of Uzbekistan. Introducing advanced ideas, promoting diversity of production, and supporting agrarian entrepreneurs contribute to the realisation of the goals of the national development strategy.

Considering the above, job creation, food security, sustainable resource utilisation, promotion of economic growth, economic diversification, social development, and local development are some of the aspects that confirm the significant contribution of agriculture to the future of the country. The research findings provide the scientific basis for decision-making and strategies to maximise the positive impact of the agricultural sector on social well-being and economic development.

CONCLUSIONS

The natural resources of Uzbekistan, such as fertile soils and water resources, are an essential basis for the development of agriculture. Efficient utilisation and management of these resources are becoming key factors for the successful development of the sector. The analysis of multidirectional trends in the agricultural sector of Uzbekistan for the period from 2013 to 2022 emphasises the importance of this sector for the socio-economic development of the country. The share of agricultural land varies from 58.1% to 60.0%, while the share of the rural population is 49.6% of the total

population. The increase in the share of agricultural land and rural population, despite fluctuations, indicates the continued importance status of rural life. However, the decline in the value added of agriculture, forestry, and fisheries, as well as the insufficiently high growth rate of cereal yields, indicates the problems faced by agriculture.

The decline in GDP and rising unemployment rates, as well as changes in the share of exports and inflation rates, are indicative of significant challenges in the socio-economic sphere. Having started to grow gradually from 2013 to 2015 and peaked in 2015 at US\$86.2 billion, GDP has faced a subsequent decline, particularly notable in 2018 when it fell to US\$52.6 billion. Inflation rates ranged from 8.9% in 2016 to 27% in 2018 but then declined to 13.1% by 2022. Consequently, despite the negative trends, there has been a gradual recovery in some indicators, which may indicate a desire for improvement.

Considering these studies, it is possible to highlight the prospects for agricultural development as a key factor in improving the socio-economic condition. Particular attention should be paid to increasing land productivity, creating jobs in rural areas, processing agricultural products, and expanding production capacity. A continuous increase in the volume of exported products abroad also represents an important development path. In addition, strategic development of the agricultural sector requires additional steps, such as state financial support, the attraction of foreign investments, the introduction of a rating system of evaluation, as well as improvement of state financing policy.

The findings of the study have practical relevance, as they may have an impact on the formation of government strategies in agriculture and the identification of priority areas for investment and resource utilisation to ensure sustainable economic growth. The prospect for further research is to investigate how agricultural development can affect social spheres such as living standards, education, health, and access to social services.

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CONFLICT OF INTEREST

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Роль сільського господарства у формуванні перспектив соціально-економічного розвитку Узбекистану

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Анотація. Роль сільського господарства в забезпеченні продовольчої безпеки, створенні робочих місць і формуванні експортних доходів робить особливо актуальним аналіз впливу цієї галузі на соціально-економічний розвиток країни. Мета роботи – аналіз та оцінка впливу сільського господарства на соціально-економічний розвиток Узбекистану. Для досягнення поставленої мети проаналізовано показники сільськогосподарської сфери та соціально-економічного розвитку з 2013 по 2022 рр. Встановлено, що природні ресурси Узбекистану відіграють найважливішу роль у розвитку сільського господарства. Аналіз диверсифікованих тенденцій у сфері сільського господарства підкреслює ключову роль цієї галузі для соціально-економічного прогресу країни. Незважаючи на мінливість, зростання частки сільськогосподарських угідь і сільського населення свідчить про, як і раніше, високу значимість сільського господарства. Однак зниження доданої вартості в аграрній, лісовій сферах і рибальстві, а також низькі темпи зростання врожайності зернових, відображає актуальні виклики в цій галузі. Зростання рівня безробіття, а також зміни в експорті та рівні інфляції, вказують на складнощі в соціально-економічному середовищі. У цьому світлі особливо важливими є перспективи розвитку сільського господарства, як ключового агента в поліпшенні соціально-економічної ситуації. Ефективне ресурсне управління, підвищення продуктивності, генерація робочих місць, просування продукції та розширення виробництва – всі ці аспекти становлять важливі напрямки для майбутнього розвитку. Стратегічний підхід до розвитку сільського господарства вимагає реалізації додаткових заходів, таких як державна фінансова підтримка, мобілізація інвестицій, використання оціночних рейтингів і поліпшення державної політики. Отримані результати дослідження можуть бути використані для адаптації державних політик і програм у сільськогосподарській сфері, а також визначення пріоритетних напрямів інвестицій і ресурсів з метою сталого розвитку економіки.

Ключові слова: природні ресурси; продовольча безпека; зростання економіки; суспільний прогрес; стійкість
