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THE IMPACT OF INVESTMENT ON AGRICULTURAL DEVELOPMENT IN UZBEKISTAN

Abstract. The article is devoted to the impact of investment in the agricultural economy of the Republic of Uzbekistan. The author provides statistical data on investment growth in the agricultural sector of Uzbekistan. The author analyzes the relationship between investment in agriculture and gross agricultural product through economic modeling. Economic, social, and legislative conditions relevant to Uzbekistan’s agricultural sector are highlighted in the article. The author proposes ideas to increase investment in the agricultural sector of Uzbekistan.

Keywords: investment, agriculture, value-added, agro-industry, processing industry, gross output of agriculture, food production index

Introduction

Investments play a special role in the growth and development of any sector of the national economy including the restoration and development of the agricultural sector.

Investments in the agricultural sector are considered to be a valuable tool to contribute to constant long-term increase in growth and income, while adding value to agricultural products. The result is investments in the agricultural sector are the most efficient and most important instrument in the development of the current economy. The Government of Uzbekistan is developing a number of programs to attract investors, both domestic and international, to this crucial sector of the national economy. Immediate income is not the result of investments in the agricultural sector. For example, land needs preparation, planting, cultivation, harvesting, storage, and possibly processing. Invested funds can make a profit, but not as quickly as, for example, trade investments.

Agricultural investment can have diverse impact including to diversify production, improve land and water allocation for irrigation, create a favorable agribusiness climate, yield a higher value-added chain, support the development of cooperative relations, widely introduce market mechanisms and information and communication technologies in the industry, as well as use scientific achievements to increase employees’ potential. Recognition of these investment impacts were presented and approved under Decree of the President of the Republic of Uzbekistan “On Approving the Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020 - 2030 years” No. PD-5853, October 23, 2019 [9].

The President of the Republic of Uzbekistan, Shavkat Mirziyoyev, on January 24, 2020 announced his recognition of the importance of agricultural investment in the annual message to parliamentarians and the government of Uzbekistan. He

stated: "...agriculture, which is one of the most important areas that ensure the growth of the economy, employment and incomes of the population, must be developed on the basis of a strategic approach" [8]. Given the importance of agriculture to the national economy, specific measures will be taken to significantly increase production resulting in export value of fruits and vegetables of \$ 2 billion and to further increase this figure by 3-4 times in the next 5-7 years. In addition, this year the state budget will allocate 3 trillion UZS to the development of horticulture, viticulture, seed production, animal husbandry, agronomy, widespread introduction of water-saving technologies, research and training of qualified personnel for the field [8].

Literature review

N.M. Babaeva highlights the reforms in the agricultural sector of the Republic of Uzbekistan and the distribution of investments within the sector, implements an econometric analysis of their effective use and offers scientific recommendations on the effective organization of the agricultural economy [1].

Maksumkhonova A.M. discusses the concept of "investment" in the agricultural sector in her research and discloses the structure of investment in the agro-industrial complex. She determines investment potential on the basis of a factor approach. The key features of attracting investments in the agricultural sector of the Republic of Uzbekistan are presented. The current state of agriculture in the Republic of Uzbekistan along with trends in the development of investment activity in the agricultural sector are analyzed. State reforms required to attract investment in the agrarian sector of the Republic are also considered [2].

O.I. Rashidov, I.A. Rashidova, M.V. Shatokhin analyze the relationship between investment and gross regional product using the MNC method yielding values for the multiplier and accelerator of investment. The time lag between the growth of investment in the economy of the region and their return, in the form of an increase in GRP, are determined [3].

Our own research on the impact of investments into the agricultural sector of the economy of the Republic of Uzbekistan were based upon studying and analyzing the above-mentioned research works

Research Methodology

In the course of the study systematic analysis, comparative analysis, logical abstraction techniques, and economic modeling were widely used.

Analysis and Results

In order to further improve and develop agriculture, the President of the Republic of Uzbekistan adopted a resolution on April 17, 2018 entitled "On measures to radically improve the system of state management of agriculture and water management". In the resolution distinct administrative structure is mandated for the management of attracting investment. Earlier, in August 2017, a Center for Implementing Investment Projects in agriculture and water management was

established. It consisted of the relevant groups involved in the development and implementation of investment projects, taking into account the number of employees provided by loan agreements and relevant Presidential decrees [5]. The main tasks of the Center are:

- participation in attracting foreign investment, soft loans and technical assistance funds (grants), ensuring timely and effective implementation of investment projects in accordance with the principles of project management;
- ensuring the holding of competitive tenders in the prescribed time period, the conclusion of contracts, and their examination by authorized bodies;
- monitoring the supply of equipment, materials and the performance of work and services under contracts in accordance with national legislation, international rules and procedures of relevant international financial institutions and foreign government financial organizations.

Table 1 provides some information regarding Uzbekistan’s agriculture.

Table 1

The impact of investment on agricultural development¹

Years	Investments in Ag sector, bln.UZS	Ag gross output, bln.UZS	Agriculture, value added, bln.UZS	Food production index, %	Ag Export, Thousand USD
2002	102.2	3255.3	2244.2	38.51	140,486
2003	98.5	4083.3	2801.8	41.76	194,784
2004	113.6	4615.8	3242.3	43.61	368,258
2005	138.2	5978.3	4192.8	46.62	431,318
2006	164.4	7538.8	5298.0	52.03	592,249
2007	200.9	9304.9	6550.2	53.7	546,679
2008	261.2	11310.7	7673.0	56.6	400,335
2009	385.9	13628.6	9200.0	61.42	459,742
2010	531	30856.7	21251.3	66.01	689,232
2011	942.5	45285.9	30658.6	70.84	894,713
2012	1089.2	55750.0	36954.7	76.81	639,746
2013	1335.6	66435.3	42636.8	83.27	741,783
2014	1448	81794.3	53613.2	89.15	733,675
2015	1375.5	99604.6	64680.3	96.22	562,049
2016	1646.4	115599.2	74779.0	114.63	746,812
2017	2004.3	148199.3	90983.9	102.93	973,350
2018	3561.1	187425.6	113660.7	105.03	1,128,751
2019	15141	216283.1	130306.9	N/A	1,044,822
2020	18025.5	250250.6	151250.9	N/A	910,108
2021	3541.8*	213897.1*	N/A	N/A	N/A

*- preliminary data for January-September, 2021

¹ Made by authors based on data from www.stat.uz ; <https://data.worldbank.org/indicator> and <https://www.trademap.org/>

Table 1 demonstrates the volume of investment in agriculture in 2002 amounted to 102.2 billion UZS, while in 2010 this volume increased 5 times and amounted to 531 billion UZS. in 2020, this amount increased by 33.9 times compared to 2010 and amounted to 18,025.5 billion UZS.

Investments in the agricultural sector of Uzbekistan are one of the most important factors for its development including the spheres of agro-industry: industries producing equipment (First agriculture sector), agriculture (Second agricultural sector) and processing industry (the Third agricultural sector). Agriculture occupies a special place among the listed areas of the Republic's agro-industrial complex, since this area produces the initial product for processing industries and ultimately serves as the basis for its stable activity.

The relationship between investment in agriculture and gross agricultural product were analyzed for this paper. While investments in agriculture in 2020 increased by 176.7 times compared to 2002, the total value of gross agricultural output in 2020 amounted to 250,250.6 billion Uzbek soum and increased by 76 times compared to 2002.

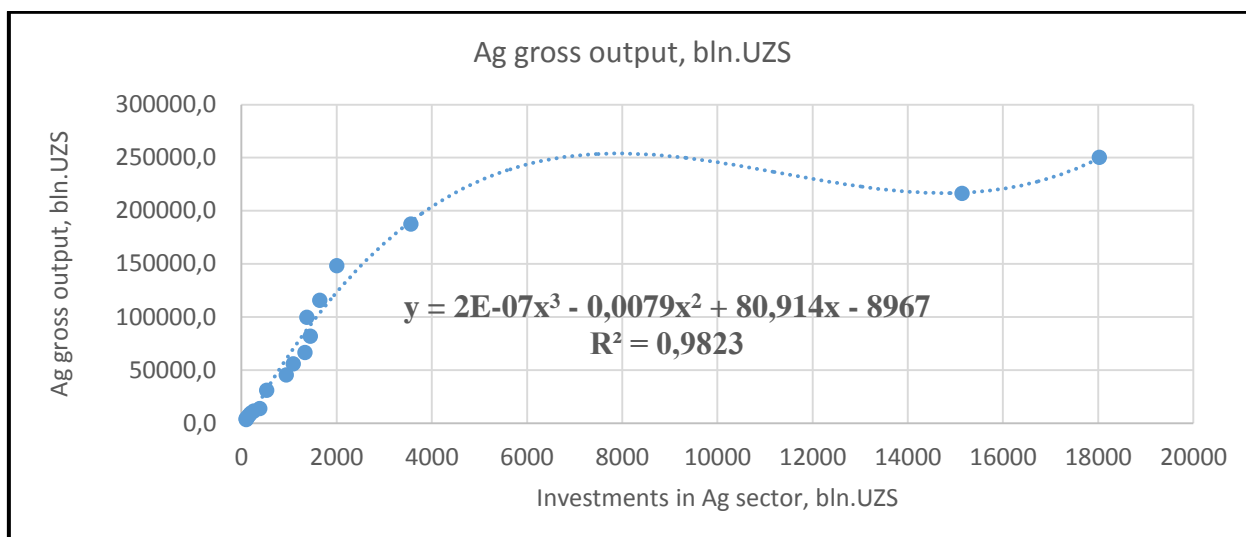


Figure.1. The economic model of gross output of agriculture²

As can be seen from the model in Figure-1, $R^2=0.9823$ implying a very strong correlation between investment in agriculture and gross agricultural output.

A priority for the development of the agrarian sector, an important sphere of the economy of Uzbekistan, is filling the domestic market with food products, achieving self-sufficiency in production and ensuring food security. Effective implementation of a food security strategy solves social problems such as providing the population with jobs, improving the welfare of the population, and improving urban and rural areas. The development and implementation of the state policy on food security is underway in Uzbekistan providing for food safety, improving the diet, and producing food products in the required quantity.

² Made by author based on data from stat.uz

Figure-2 implies a strong correlation ($R^2=0.9355$) between investment in agriculture and food production.

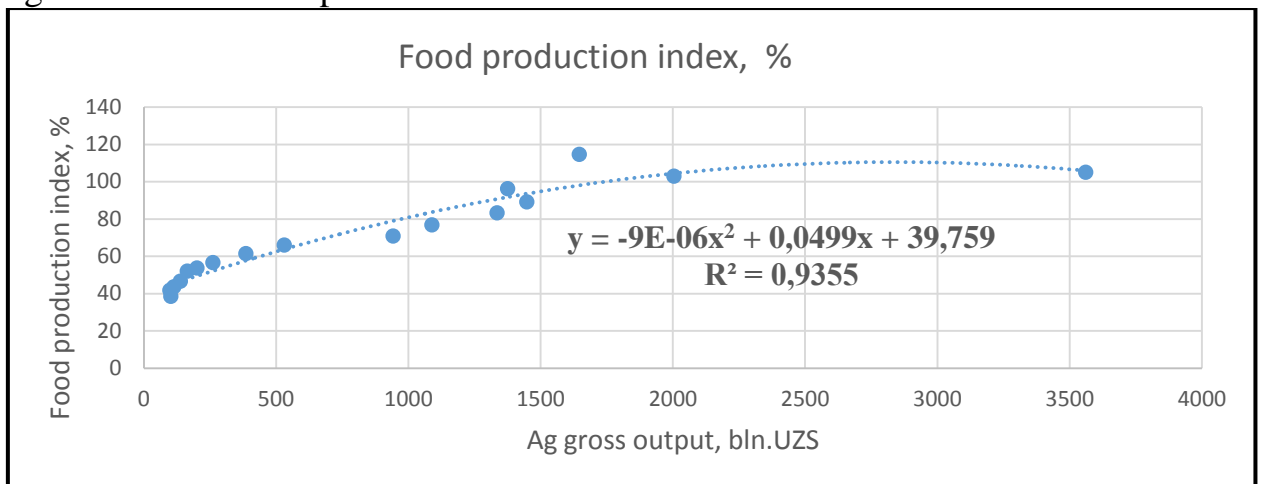


Figure 2. Economic model of food production index³

A favorable agribusiness climate and performing value chain in Uzbekistan are greatly important and require broad implementation of market principles in the purchase and sale of agricultural products, the development of quality control infrastructure, export promotion, and the production of high-value agri-food products that are competitive on target international markets. The relationship between investment in agriculture and value-added in agriculture is presented in Figure 3 with the economic model demonstrating a very positive correlation ($R^2=0.9099$) between them. The impact of investment in agriculture and the value chain created in agriculture is very high implying investment in agriculture is paying off.

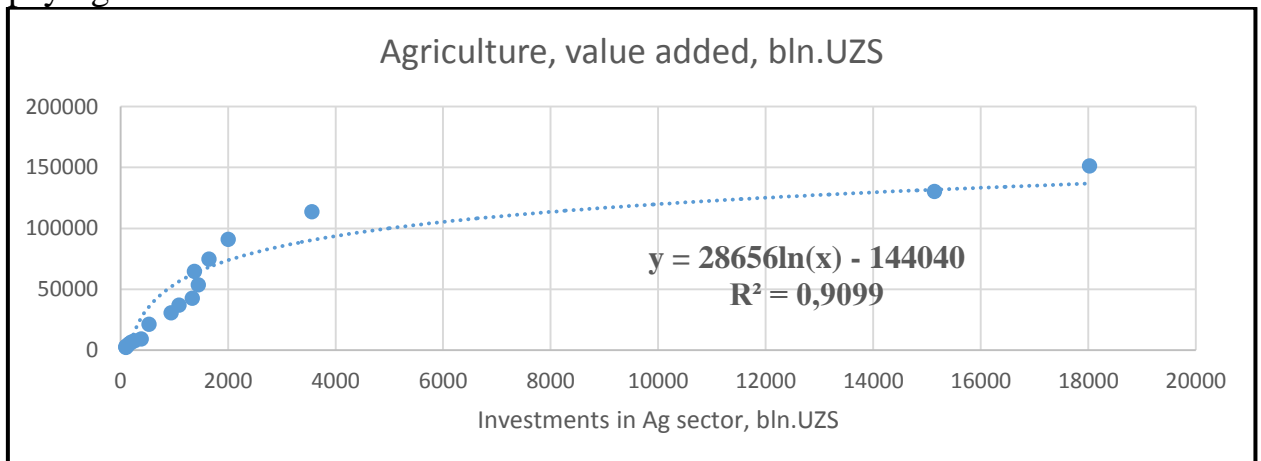


Figure 3. Economic Model of Value-Added in Agriculture

Uzbekistan introduced market mechanisms and a cluster approach to the agricultural industry with priority to the accelerated development of targeted areas including modern greenhouse farms, fish farming, beekeeping, poultry farming, and so on, as well as the expansion of the practice of secondary autumn planting of

³ Made by author based on data from stat.uz

vegetable crops and homestead farming. These targeted areas contribute to deep structural reform and will attract both domestic and foreign investors.

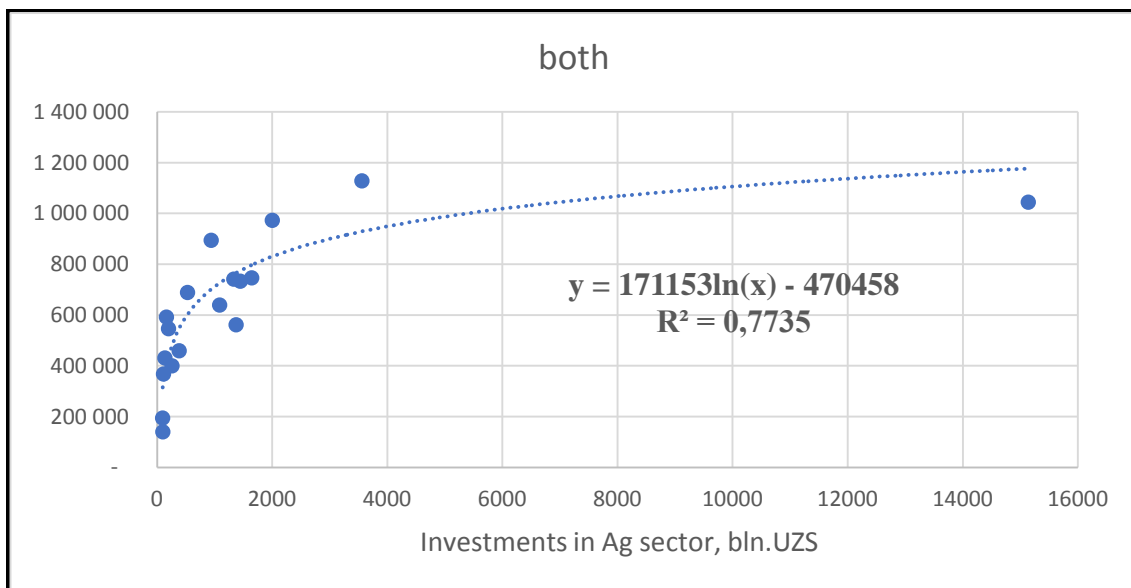


Figure 4. Economic Model of Agricultural Produce Export

For construction of the models presented in the figures above the data presented in the Table 1 was used (data for 2020 was excluded as export was impacted by the COVID pandemic and considered an outlier).

Conclusion

In the agricultural sector of the republic investment at the state level are very important. To stimulate an influx of investment at the state level it is necessary to ensure the formation of a favorable economic market environment. This can be achieved by introducing a management mechanism taking into account the specifics of the rural industry.

A major problem in modern conditions is attracting investors to the agricultural sector of the republic. Attraction of investors, first of all, depends on the investment attractiveness of the object. To determine the investment attractiveness of a particular area in comparison with others it is necessary to take into account:

- economic potential of the district (natural and climatic conditions, infrastructure, etc.);
- indicators of the efficiency of its use (including labor resources, fixed and working capital, fertilizers, etc.);
- expected effect of capital investments.

Foreign investors are paying particular attention to legislation in the field of investment. It also takes into account the sectoral features of agriculture, such as the dependence of production on natural and climatic conditions, high capital intensity, the development of social and industrial infrastructure, the availability of

state regulation measures (ex., budget investments, state purchases of agricultural products, tax and credit benefits, etc.).

Attracting investment is a difficult task, but it is even more difficult to ensure that it is used effectively. The effectiveness of investment in the agricultural sector is manifested primarily in the growth of labor productivity, increasing the output of gross output, reducing the capital intensity of production, etc.

Under the present conditions prevailing in the agro-industrial complex of the Republic, especially the rural regions, the greatest interest is to find investments that contribute to the development of the agricultural sector.

In recent years, some work has been carried out in reforming the country's agriculture, in particular, improving the public administration system, widespread introduction of market relations, strengthening the legal foundations of relations between entities producing, processing and selling agricultural products, attracting investments to the industry, and introducing resource-saving technologies, as well as providing agricultural producers with modern equipment.

Modern approaches to solving urgent problems related to investing in the agricultural sector of the Republic can provide conditions for stable, efficient, rational, and expanded production of the agricultural sector. In order to further develop the investment potential in the agricultural sector of the Republic, it is necessary to improve the existing forms and methods of investment. The proposed options for the development of the existing system of financing investments in agriculture are aimed at successfully solving current problems, and suggest that agricultural producers reach a qualitatively new level of investment activity that ensures cost-effective production.

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