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# INNOVATIVE DEVELOPMENT OF AGRICULTURE IN THE CONDITIONS OF MODERNIZATION OF THE ECONOMY AND ITS SPECIFIC FEATURES

[1]Altmishev Adil Sherkulovich, [2]Japakov Norboy Buriboevich, [3]Kurdashev Gudrat Davlyatovich, [4]Abdujalilova Oygul Khamidovna, [5]Kholmatov Otabek Ismatovich, [6]Abdurakhmonov Ilkhomjon Abdulmanzurovich, [7]Abduvokhidov Akmal Abdulazizovich

***Abstract-*** *This article discusses the sustainable development of agriculture and food security based on the innovative development of the agricultural sector as the most important sector of the national economy at the current stage of economic reform.*

***Keywords:*** *globalization, modernization and diversification of the economy, gross agricultural output, innovation, research, resource-saving technologies, green economy, international standards.*

## I INTRODUCTION

In the new globalization of the economy, new methods and means of production organization play an important role in the sustainable development of the economy of any country. According to many modern researchers, innovation today is not only changing the productive forces of society, but also a central link in the system of socio-economic processes. That is why the head of our state addressed to the Oliy Majlis on December 28, 2018: "Today we are moving towards innovative development aimed at radical renewal of all spheres of life of the state and society. It is not accidental. Who will win in this fast-paced world? A state based on new ideas, new ideas, and innovation will win. Innovation is the future. If we start building our great future today, we should start with it based on innovative ideas and innovative approaches. "

As a result of government reforms and structural reforms in the agricultural sector modernization and sustainable development, gross agricultural output is expected to increase by 14% in 2004-2018 and per capita agricultural production in 2018. 6.5%. In the 2018 Global Food Security Index, Uzbekistan is ranked 80th out of 113 countries and 18th in the Asia-Pacific region. According to experts on this index, there is a strong potential

[1] *Associate professor of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

[2] *Associate professor of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

[3] *Lecturer of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

[4] *Teacher of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

[5] *Teacher of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

[6] *Teacher of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

[7] *Teacher of Gulistan State University, independent researcher at Gulistan State University Islam Abdugapparov*

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for financial support for farmers, relatively low wastage of agricultural produce, food security, and low agricultural production volatility. The low share of public funds allocated for increased research and development is common in the elements of corruption, on the total expenditures of households, the high share of food costs, low GDP per capita on a country's food security can lead to serious threats.

Agriculture is one of the leading sectors of Uzbekistan's economy. In 2018, the share of agriculture in GDP of Uzbekistan was 28.8% (Figure 1).

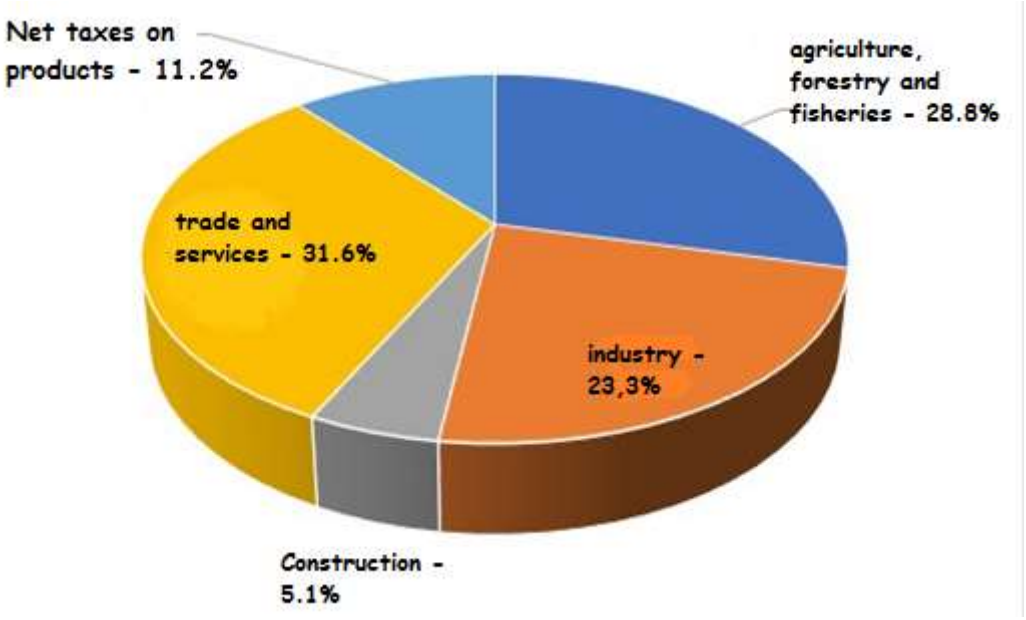


**Figure 1:** GDP of Uzbekistan by industry in 2018

*Source: State Statistics Committee of the Republic of Uzbekistan*

In 2018, 53.2% of agricultural output was crop production, 46.8% of livestock production. In 2017, 3.7 million people were employed in agriculture (27.2% of total employment). Almost half of the country's population lives in rural areas (as of October 2019, 33.888 million people live in Uzbekistan, including 16.45 million in rural areas (49.7% of the population). In recent years, the country's agricultural sector has been reforming, including improving public administration, introducing market-based relationships, strengthening the legal framework for relations between entities producing, processing and selling agricultural products, attracting investment in the sector, introducing resource-saving technologies, and agriculture. Certain work is being done to equip manufacturers with modern technology.

As a result of economic reforms and institutional changes in agriculture, by 2018, the share of the non-state sector in the sector has reached 99.0%, with the majority of agricultural output being produced by diversified farms and peasant farms. Implementation of measures to improve land reclamation, improvement of seed varieties and livestock breeding, qualitative and timely implementation of agro technical measures contributed to the sustainable development of the sector.

Decree of the President of the Republic of Uzbekistan dated March 5, 2016 No PP-2505 "On measures for further development of raw material base of fruits and vegetables, meat and dairy products for 2016-2020, deepening their processing, increasing production and export of food products" In accordance with the Resolution

of the Cabinet of Ministers of the Republic of Uzbekistan the total number of investment projects on construction, reconstruction and modernization of existing enterprises for the total amount of $ 595 886,3 thousand to increase the algae. In the strategy of action, international financial institutions will invest $ 337.8 million for the development of agriculture in 2017-2021. It is envisaged to direct US $ 1 billion of investments:

As a result of implementation of systematic measures on deep processing of agricultural products, the volume of canned fruits and vegetables is going to be 79.4%, fruit juices - 80.5%, dried fruits - 73.1%, meat and meat products - 59.5%, sausages 68.8%, milk and milk products 56.6%, butter 51.4%, confectionery products 59.9%, vegetable fat 57.2%, sugar 24.0%, cheese 2.5, meat canned goods by 2.4 times, fish products by 3.4 and frozen fish by 2.8 times by the end of 2020.

According to the Food and Agriculture Organization (FAO) and the World Health Organization, more than 800 million people, nearly one in 8 people, are now malnourished, with more than 30% of the world's population malnourished, the most important is the problem of micronutrients and vitamins. They live with them. At the same time, we have been consistently implementing programs to produce abundant and high-quality agricultural crops. Result 6,694,400 tonnes (87.5%) of grains were produced in all categories of farms under the nutrition programs for 2018, 2,750,100 tonnes (98.4%) were potatoes, 9 635,1 thousand tons (94.3%), vegetables, 1 904.9 thousand tons (93.8%), fruits and berries, 2 589.7 thousand tons (99.0%), 1 564.5 thousand tons (96, 2%) grapes were harvested.

If we analyze these indicators per capita, we expect that by 2018, consumption of vegetables will exceed 113 kg by medical standards, and by 300 kg (2.7 times more), by melons. The norm was 19.3 kg, the production was 61 kg (3.2 times more), the consumption of potatoes was 50.4 kg, and the output was 78 kg (1.5 times more).

**Table 1:** Cost of investment projects on construction, reconstruction and modernization of existing enterprises for deep processing of agricultural products in 2016-2020

| Names of initiators and designers | Total cost of projects | of which by sources of financing: | | |
|---|---|---|---|---|
| | | own funds | bank loans | foreign investments and loans |
| Total (180 projects) | 595 886,3 | 242 916,7 | 189 461,6 | 163 508,0 |
| Including: | | | | |
| New construction (141 projects) | 463 267,3 | 169 714,7 | 144 324,6 | 149 228,0 |
| Reconstruction and modernization (39 projects) | 132 619,0 | 73 202,0 | 45 137,0 | 14 280,0 |

*Source: is based on the data provided by "Uzbekozovkholdholding".*

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In addition to the abovementioned positive advances in agricultural reform, we should note that today there are the following limiting factors in the development of the agricultural sector in our country:

The disproportionality of prices for agricultural products with the prices of petroleum products, mineral fertilizers and similar industrial products, which in turn leads to a decrease in the share of value added in the gross product;

About 73.4% of the sown area accounts for cotton and wheat (Figure 2);

Worsening of irrigated land. 18.4% (669.8 thous .ha) of irrigated land is considered to be low to moderate-grade;

Insufficient production of fodder for intensive development of livestock. The share of arable land for cultivation of feed crops in total sown areas is only 7.3%. Livestock products suffer from the practice of mandatory state orders: for 1992–1997, while the number of livestock increased significantly, the amount of forage land decreased by 3.7 times.

Dairy production rates for the introduction of advanced agricultural technologies for improving the efficiency of production of meat and dairy products for the main crops;

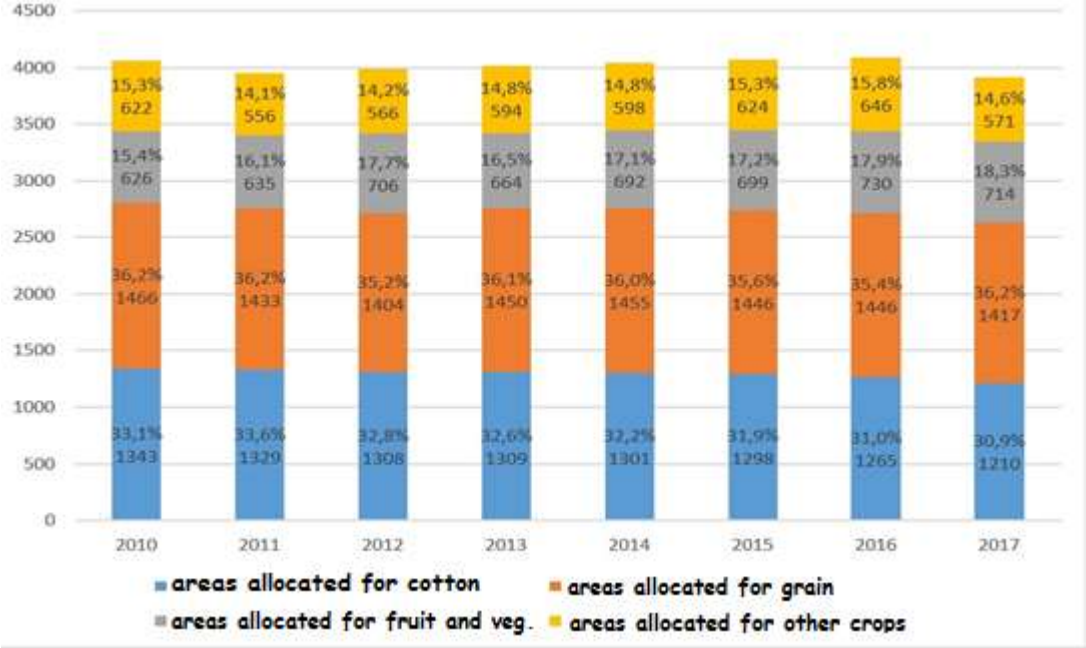


**Figure 2:** Distribution of agricultural land for arable land, gardens and vineyards, thous. and percentage.

*Source: State Statistics Committee of the Republic of Uzbekistan*

- Poor financial status of agricultural producers;
- The need for agricultural producers is 11,000 units a year. Currently, 46% of the machinery used in the industry is in service, while about 97% of the machinery used by farmers and dekhkan entities is intended for the cultivation of cotton and grain. Annually, the agricultural machinery park is renewed for only 2-3%;
- Lack of stable and long-term relationships between agricultural commodity producers and suppliers,

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raw materials processing enterprises and consumers both at home and abroad;

- High export share of non-processed agricultural products (about 70%), which results in a reduction in export geography and export revenues;
- In Uzbekistan, only 100 out of the 775 WTO standards have been introduced, and there are only 10 international accredited laboratories in the country.

In the face of such urgent problems of intensive development of agriculture, provision of food security, development of agrarian sector based on innovative bases will allow to quickly solve such problems.

The "Agricultural Development Strategy of the Republic of Uzbekistan for 2020-2030", approved by the Decree of the President of the Republic of Uzbekistan dated October 23, 2019, No. P-5853 identifies the abovementioned issues and priorities:[8]:

- development and implementation of the state food security policy, ensuring the food safety and improving the diet, the production of the required amount of food;
- wide introduction of market principles in the purchase and sale of agricultural products, development of quality control infrastructure, export promotion, creation of a favorable agribusiness environment and value chain envisaging the competitive and high value added agricultural and food products in the target international markets;
- introduction of mechanisms to reduce public participation and increase investment attractiveness in the sector envisaging an increase in private investment capital to support the modernization, diversification and sustainable growth of agriculture and the food industry;
- improvement of the system of rational use of natural resources and environmental protection, which envisages rational use of land and water resources, forest resources;
- development of modern management systems envisaging restructuring and further development of public administration in agriculture;
- Increased efficiency and gradual redistribution of public expenditure through the development of sectoral programs aimed at improving productivity of farms, improving product quality, and creating high value added;
- development of a system of science, education, information and consulting services, including the use of effective forms of dissemination of knowledge and information, integrated with production of R&D in agriculture;
- implementation of rural development programs, which provide for a balanced and sustainable development of rural areas;

It is advisable that the process of creating scientific and technological innovations and development of innovative activities related to the economic sectors of the country, including agriculture, should not be narrowed within the country, but combined with the achievements of innovative countries in these areas by industrialized countries.

[8] "Agricultural Development Strategy of the Republic of Uzbekistan for 2020-2030" http://uza.uz/oz/documents/zbekiston-respublikasi-ishlo-kh-zhaligini-rivozhlantirishnin-24-10-2019

Economic growth in the agricultural sector of the country is mainly driven by import-substituting products and entrepreneurship. However, the development of innovative processes in the industry based on scientifically-based agrarian technology is inadequate. This is due to the lack of economic, financial and legal frameworks for ways to increase innovation efficiency, network risks, assessment of innovation risks and suitability of innovation potential, innovation risk management in the industry.

Formation of economic mechanism based on innovative development strategy in agrarian sector should be carried out in the following directions:

Formation of a system of normative and legal regulation of innovation activity;

Targeted-program development of innovative activity at the national and local levels of the agro-industrial complex;

Development of public-private partnerships.

Promoting private business participation in the development of innovative processes using public-private partnerships, pooling of resources, distribution of profits and risks, creating a competitive environment and efficient use of budgetary funds as an effective form of organizing and stimulating innovative activities in agriculture. participation of the impetus state capital. capacity building activities. The introduction of new technologies has been a major factor in improving production efficiency, quality of goods and services. Government support of the real sectors of the economy will reduce the negative impact of economic growth factors, invest in innovative production, and make the country a competitive producer of production factors.

Today, the farm has rightly become the locomotive of agricultural production and the main form of its organization. More than 85% of the total area of the country, the major part of agricultural production (grain - 87.6%, potatoes - 69.9%, vegetables - 77.7%, melons - 76.4%, fruits and berries - 94.6%, grapes - 91.5%). Therefore, the future development of agriculture depends largely on the improvement of crop yields, particularly cotton, through the efficient use of land, labor and material resources in farms, the stabilization of the financial status of cotton-growing farms, and the creation of cotton and textile clusters.

Due to the powerful role of the economic mechanism, it is possible to identify a system of forms and ways of organizing and stimulating innovative activities in agriculture. Based on the research, a specific classification of ways and methods of organizing and promoting innovative activities in agriculture is recommended (Table 2). As can be seen from Table 2, the number of forms for organizing and stimulating innovative activities is quite diverse and, accordingly, the area of decision-making on how to do it. It is important to note that each of them is independent and purposeful, and all of them should complement each other within the framework of public-private partnerships in investing in the sector.

In our opinion, the development of the agrarian innovation policy of our country in accordance with the requirements of scientific and technological progress will be effective in the following areas: That is:

Determination of short-term, medium-term and long-term directions and forecasts of introduction of scientific and technical achievements in production processes;

Selection and systematic implementation of innovations that provide rapid and powerful impetus to increase production efficiency and competitiveness of products;

Development of logistical base and increase of investment resources in sectors of agro-industrial complex;

Improving the financial and economic mechanisms and providing incentives for innovation consumers to enhance their ability to introduce science and technology innovations.

**Table 2:** Economic mechanism of innovative development of agro-industrial complex.

| | **Public-Private Partnerships** | | | |
|---|---|---|---|---|
| ECONOMIC MECHANISM | **Directions** | **Form** | **Йўллари** | |
| | | | **State level** | **Market level** |
| | Financial organizers | Tax incentives | – tax benefits,<br>- depreciation policy | - tax credit;<br>- depreciation fund;<br>- capital investments |
| | | Incentives on the customs system | customs clearance | tariff benefits |
| | | Subsidizing | direct financing (subsidies, subsidies, loans) | Innovation Implementation Funds |
| | | Crediting | interest-free loans | concessional loans |
| | | Venture financing | venture and venture capital investments | investment, venture capital funds |
| | Organizers of business and entrepreneurship | Contracts and orders in the field of R&D | government investment order | - leasing relations; - innovative small businesses |
| | | Informational support | Support in scientific and technical activity, registration of intellectual property, presentation of results | - innovation centers, consulting services;<br>- Some of the scientific and technical information |
| | | Science education - business integration | - clusters;<br>- Free Economic Zones;<br>- training of innovative managers on the basis of the state order;<br>- professional development of executives | - Business incubators;<br>- a form of cooperation;<br>- agricultural technology parks;<br>- mega projects;<br>- technological platforms |
| | Administrative and legal organizers | | State and local programs | |
| | | | Improvement of the legal framework | |
| | | | Administrative management | |

*Source: author development*

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However, given the ever-increasing intensification of market relations and competitive struggle, the scenario of inertial development is insufficient to meet the intensification of the industry's intensity. After all, this scenario does not mean upgrading existing ones, but restoring the old ones with the same type of tools. For this reason, we think it is advisable to increase the role and competitiveness of agriculture in the world food market, to provide the population with agricultural and livestock products, and to effectively use the domestic industries with raw materials.

For this purpose, in the current state of agricultural logistical base of the country, the priority should be given to the development of production processes in accordance with the scenario of technical and technological organization based on innovation. The significance and effect of this scenario is that the introduction of innovative techniques and technologies, first of all, enhances the ability to provide timely and quality agricultural and livestock care activities, and, secondly, to increase crop yields and livestock productivity. lowering costs and increasing the profitability of economic entities. This, in turn, provides a solid basis for the introduction of innovations at the expense of private funds of farms, and for the promotion of their investment and innovation activities in the provinces. However, ways and means of improving the efficiency of agricultural modernization should be based not only on the scenario of technical and technological organization of production processes on the basis of innovation, but also with the directions envisaged by the complex innovation development scenario. The next scenario has great advantages in terms of its coverage, which is based on the combination of innovation in manufacturing, technology, technology, selection and genetics, organizational management, information and communication, economic and social, environmental and, in some cases, political orientation. The objective necessity and importance of classifying and harmonizing innovative directions within the framework of the comprehensive innovation development scenario is a fact that does not require proof.

## II CONCLUSION

We can conclude that innovative development of agriculture in the context of globalization will ensure the country's food security, development of the system of material incentives, improve the quality and standard of living of the population, and, ultimately, ensure sustainable economic growth in the country..

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