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Title **PROSPECTS FOR INNOVATIVE DEVELOPMENT OF AGRICULTURE IN THE REPUBLIC OF UZBEKISTAN**

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PROSPECTS FOR INNOVATIVE DEVELOPMENT OF AGRICULTURE IN THE REPUBLIC OF UZBEKISTAN

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Abstract: This article highlights the effective use of new and advanced innovative technologies in the sustainable development of the agricultural sector, product competitiveness and future development trends in agriculture.

Keywords: agriculture, innovative technologies, innovative management, efficiency, structural changes, product competitiveness, farmer entities, dekhkan entities, technology, modernization, innovative development, animal husbandry, agriculture.

INTRODUCTION

In the context of modernization and diversification of the economy, sustainable development of agriculture is ensured through the effective use of innovative technologies. Uzbekistan needs to intensify innovation processes in all sectors of the economy, including agriculture.

Special attention is paid to these issues in the Decree of the President of the Republic of Uzbekistan No. PD-60 dated January 28, 2022 "On the Development Strategy of New Uzbekistan for 2022-2026" [1].

The transition to an innovative path of economic development in our country is associated not only with the need to address the problems accumulated in the agricultural sector of the Uzbek economy but also with the main tasks facing the agricultural sector.

In the current situation, innovation is a key factor in agricultural development. Making the most of this factor is the only way to ensure the sustainable development of the agro-industrial complex in our country. In the context of accelerating socio-economic changes and the intensification of globalization of the world economy, our country must make a rapid transition to an innovative path of agricultural

development in the short term. should be developed on a new technical and technological basis. Otherwise, the agricultural sector will lag behind in development and will not be able to compete.

The introduction of innovation in the agricultural sector depends on the specifics of the industry, and agricultural innovation requires not only the improvement of machinery and technology but also agro-technical processes.

Until now, the development of agriculture has been and will continue to be one of the most important priorities. Because the efficiency of agricultural production, ensuring the economic and food security of our country, increasing the material well-being of not only the rural population but also the population of our country is inextricably linked with the fertility of our land, which is our priceless wealth.

The sustainable development of the agricultural sector of Uzbekistan depends in many ways on the effectiveness of innovative development and innovative activities. As a result of the adoption of innovations, the agricultural production base will be technologically, technically and organizationally, and economically renewed.

This, in turn, will strengthen Uzbekistan's integration into the world market.

LITERATURE REVIEW. Uzbekistan needs a systematic approach to the formation of an effective management system capable of transitioning to an innovative path of sustainable development of the agricultural sector. The methodology for shaping the economic mechanisms of such a system should be based on various economic doctrines, including institutional theory, evolutionary economics, and the theoretical principles of synergetics. These problems and directions remain insufficiently studied in terms of the theory and practice of managing innovative processes in the current conditions of agricultural activity.

The general aspects of the problem of the effectiveness of innovative management of the development of the agricultural sector in Uzbekistan have been studied in the scientific work of our economists M.Q.Pardayev, R.Kh.Ergashev, N.S.Khushmatov, T.Kh.Farmonov, Q.A.Choriyev, S.N.Khamrayeva. Their work has greatly contributed to the development of the theory and practice of efficient management of agricultural production in market conditions.

Economist M.Q.Pardayev's research notes that the transition to an innovative path of economic development is associated with the need to address not only the problems accumulated in the agricultural sector of the economy, but also the main tasks facing this sector [2]. R.Kh.Ergashev's research work focuses on the sustainable economic development of agricultural production on the basis of a gradual transition to an innovative path of development, the development of this strategically important industry on a qualitatively new technical and technological basis that meets modern requirements[3].

Another economist N.S.Khushmatov's research shows that the innovative management of the development of the agricultural sector, as well as the need to modernize the agricultural sector of the economy and its transition to an

innovative path of development, opinions on ways to solve problems and issues [4].

According to Professor T.Kh.Farmonov, in the transition to an innovative path of development of the agricultural sector, the formation of an effective system of agricultural management combines institutional and synergetic approaches to management, taking into account the specifics of agro-economics as a complex object of management, based on the basic methodological principles of management, with a focus on the application of management models through greater adaptation [5].

Well-known economist Q.A.Choriyev's research focuses on the effectiveness of innovative management of agricultural development, planning of activities of farmers and farms in the development of the agricultural sector [6].

Moreover, according to S.N.Khamrayeva, the innovative development of the agricultural sector is based on the fact that as a result of economic reforms aimed at increasing the mechanism of digital technology in agriculture. [7].

RESEARCH METHODOLOGY. As a result of scientific research, analysis and synthesis, induction and deduction, statistical grouping, expert evaluation, scientific abstraction and other methods have been widely used in the process of sustainable development and prospects of agriculture on the basis of innovative technologies.

ANALYSIS AND RESULTS. According to the analysis, structural changes in the economy of agriculture and diversification of agricultural production reform, improvement of land reclamation, introduction of modern high-efficiency innovative technologies and strengthening the material and technical base of farms As a result of the measures taken, the volume of gross agricultural output in 2011 amounted to 45285.9 billion soums. soums and will increase 5.5 times by 2020. In particular, the volume of agricultural products amounted to 25874.6 billion soums. soums (4.8 times), the volume of livestock products amounted to 19411.3 bln. soums (6.5 times) (Table 1) [8].

Table 1

Gross agricultural output in the Republic of Uzbekistan (billion soums)

Indicators	Years									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total:	45285,9	55750,0	66435,3	81794,3	99604,6	116699,2	148199,3	187426,6	216283,1	250250,6
Including,										
Agriculture	25874,6	30592,3	36237,4	43194,3	55429,2	61755,1	83303,4	98406,4	111904,8	123858,8
Livestock	19411,3	25157,7	30197,9	38600,0	44175,4	54944,1	64895,9	89020,2	104378,3	126391,8
Farmer entities										
Total:	15702,7	18383,1	21345,1	24622,9	30620,8	34271,1	43368,1	48667,0	60394,7	70629,9
Including,										
Agriculture	14946,5	17377,2	20113,3	23060,6	28856,3	32152,7	40959,5	44542,8	55077,8	64472,8
Livestock	756,20	1005,90	1231,80	1562,30	1764,50	2118,40	2408,60	4124,20	5316,90	6148,1
Dehkan (personal assistant) farms										
Total:	28556,6	36015,8	43533,4	55202,4	66633,8	78658,6	101376,3	133534,3	147625,9	168657,4
Including,										
Agriculture	10513,4	12661,6	15534,3	19365,7	25588,9	28635,8	40935,7	51408,3	52393,8	52370,9
Livestock	18043,2	23354,2	27999,1	35836,7	41044,9	50022,8	60440,6	82126	95232,1	116286,5
Organizations engaged in agricultural activities										
Total:	1026,6	1361,1	1556,8	1969,0	2350,0	2669,5	3464,9	5224,3	8262,5	10972,3
Including,										
Agriculture	414,7	553,5	589,8	768,0	984,0	966,6	1408,2	2455,3	4433,2	7015,1
Livestock	611,9	807,6	967	1201	1366	1702,9	2056,7	2769	3829,3	3957,2

During 2011-2020, the total volume of agricultural production in the Republic of Uzbekistan grew at a steady pace, with a growth rate of 6-7% per year. When analyzing the production of agricultural products by categories of farms, it is observed that the share of farms and dehkan farms is growing from year to year, while the share of organizations engaged in agricultural activities is declining. The area of land of low-profit agricultural organizations operating in the country has been reduced, on the basis of which multi-sectoral farms with a solid material and technical base have been established, the share of farms in GDP has increased from 5.5% in 2000 to 32.9% in 2016. and the share of enterprises engaged in agricultural activities decreased from 27.8% in 2000 to 2.0% in 2016 (Table 2) [8].

Table 2

Distribution of gross agricultural output in the Republic of Uzbekistan by all categories of farms

Indicators	Years									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
All categories of farming entities	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Including,										
Farmer entities	34,7	33,0	32,1	30,1	30,7	29,7	29,3	26,0	27,9	28,2
Dehkan (personal assistant) farms	63,0	64,6	65,5	67,5	66,9	68,0	68,4	71,2	68,3	67,4
Organizations engaged in agricultural activities	2,3	2,4	2,4	2,4	2,4	2,3	2,3	2,8	3,8	4,4

At the same time, the composition of gross agricultural output in our country has changed. The dynamics of growth of agricultural production due to the implementation of agro-technological measures to expand and increase the productivity of agricultural lands and the effective use of innovative technologies as a result of priority given to food production in agriculture in 2011 produced 1564.2 thousand tons of meat (live weight) and increased by 1.6 times compared to 2020 (Table 3) [8].

Table 3

Livestock production in Uzbekistan (for all categories of farms, thousand tons)

Years	Meat (live weight)	Milk	Eggs, (mln. Pieces)	Wool	Karakul skins (thousand pieces)
2011	1 564,2	6 766,2	3 441,7	28,7	1 022,3
2012	1 672,9	7 310,9	3 873,7	31,1	1 116,9
2013	1 787,8	7 885,5	4 388,1	32,4	1 062,1
2014	1 906,3	8 431,6	4 950,0	34,4	1061,3
2015	2 033,4	9 027,8	5 535,4	36,0	1 032,0
2016	2 172,5	9 703,4	6 152,5	37,1	1 055,4

2017	2 286,8	10 047,9	6 332,7	36,4	1 075,1
2018	2 430,5	10 466,4	7 459,3	34,6	1 085,2
2019	2 473,6	10 714,3	7 771,2	35,1	1 150,7
2020	2 519,6	10 976,9	7 781,2	25,4	1 152,1
Change in 2020 to 2011 (%)	161,08	162,23	226,09	88,50	112,70

In the process of ongoing structural changes in the agriculture of the Republic of Uzbekistan, the main forms of organization of agricultural production are farms and dehkan farms. Implementing measures to stimulate the development of farms is an important factor in their sustainable and efficient development.

Depending on the type and level of development of the economy, countries are divided into countries specializing in the production of raw materials, industrial economy, post-industrial economy, mixed economy and innovation economy or knowledge economy.

It is the most developed type of innovative economy in our country and is characterized by an educated society. At present, various mechanisms and institutional structures, ie the national innovation system, are being formed for the widespread introduction and effective use of scientific and technological achievements. Technical and technological modernization of agriculture is one of the priorities, especially in the stabilization of agriculture.

Today, Uzbekistan's agriculture has all the necessary socio-economic bases to deepen innovation processes and strengthen the innovation base. However, there are problems in the transition of agriculture to the path of development based on innovative technologies, or in other words, the implementation of innovative projects on the scale of one or even several farms, because:

first, the lack of participation of farms and agricultural processors in the ordering of research and funding of research;

secondly, the research and financing of research in the development of advanced innovative technologies can not be done by the business entity;

thirdly, agricultural producers and processors do not have enough knowledge to

use new technology, new varieties, and new breeds, they need to use the services of scientists and experts, and farmers also have a certain level of processing and sales. face difficulties;

fourth, the demand of manufacturers for innovative developments developed by scientists from higher education and research institutions is insufficient, there is no organic connection between them;

fifth, the irresponsibility of some agricultural producers, and so on.

In the context of socio-economic changes in the world and international integration, the country needs to move in a short period of time to a new path of innovative development of the agricultural sector and rural areas, as well as rural infrastructure. In this way, it will be possible to increase the status of the village on the basis of modern technology.

The transition of the Uzbek economy to the path of innovative development of the agricultural sector is considered one of the priorities today.

According to the analysis, the volume of innovations in the agricultural sector of Uzbekistan is 1-2% of GDP, while in the rural infrastructure this figure is even lower, while in

other developed countries this figure is 50-60 more than% [9].

The application of modern techniques and technologies in agricultural production creates the following opportunities:

- production of competitive agricultural products that meet world standards;
- high financial results and expansion of opportunities of agricultural enterprises due to a significant reduction in the cost of agricultural products;
- saving of agricultural raw materials and resources;
- reduction of negative impact on the environment, etc.

In agriculture, techniques and technologies have an innovative character, that is, if they are based on developments and ideas that have not been used in practice before, then their use may be of greater economic and social significance. The application of innovative technologies in production will allow achieving higher efficiency than the technologies used in agriculture.

Improving the economic efficiency of agricultural production Rational organization of production in agricultural enterprises, widespread use of scientific and technological advances, new high-efficiency machines and equipment, agro-technical and zootechnical methods, a new organization of labor and production require the introduction of methods.

In agricultural enterprises, such an assessment is based on the criterion of efficiency of the national economy, ie the increase in social labor productivity and the increase in labor productivity is reflected in the growth of production and national income. This will be achieved by increasing production and improving product quality in each agricultural enterprise, reducing the cost of living and packaged labor per unit of output, and increasing net income. According to these rules, the following key indicators should be used to determine the cost-effectiveness of new methods and techniques of production in agricultural enterprises:

the amount of high-quality product per hectare of land and per head of cattle;

labor productivity;

product cost;

net income and profitability;

capital investments and their replacement.

These indicators are interrelated and interdependent. The higher the quantity of agricultural products, the better the quality, the higher the productivity, the lower the cost, the higher the net income and the higher the profitability, the less capital is required and the faster they are replaced, the more cost-effective the new methods and techniques are. will be high. New methods and techniques are optimized if necessary. This optimization allows you to choose the most effective from a wide variety of options, taking into account the available opportunities to solve economic tasks.

Consistent development of production through deepening structural changes in agriculture, further strengthening of food security of the country through uninterrupted supply of food products, raw materials to the processing industry, expansion of production of environmentally friendly products, significant increase in export potential of the agricultural sector is one of the most important tasks envisaged. In this regard:

- ✓ expanding and optimizing the area under potatoes, vegetables, melons, fodder and oilseeds, new intensive orchards and vineyards by reducing the area under cotton and cereals;
- ✓ improvement of reclamation of irrigated lands, development of amelioration and irrigation facilities, introduction of intensive, water and resource-saving modern agro-technologies in the network, use of high-efficiency techniques;
- ✓ expanding research on the creation and introduction of new selection varieties and high-yielding animal breeds of agricultural crops resistant to diseases and pests, adapted to local soil, climatic and environmental conditions;
- ✓ construction of modern processing enterprises for the production of food and packaging products on the basis of deep processing of agricultural products,

reconstruction and modernization of existing ones;

- ✓ development of diversified farms engaged in the production, processing, preparation, sale, construction and provision of agricultural products;
- ✓ development of infrastructure for storage, transportation, sale of agricultural products, agrochemical, financial and other modern market services;
- ✓ taking systematic measures to mitigate the negative impact of global climate change and the drying up of the Aral Sea on agricultural development and livelihoods.

Improving the theoretical and methodological framework of various forms of ownership and ownership, the types of business based on them and the free market relations between them, the ability to operate freely in the industry in order to fulfill the above tasks in agriculture and not to lag behind in development at the level of market economy laws. Introduce scientific and technical achievements, new techniques, advanced technologies into production, clearly define the ways of full and efficient use of limited land and water resources, fixed and variable capital and labor resources in the short and long term, save all costs, increase labor productivity, it is expedient to determine on the basis of ways to increase the amount of profit on the basis of improving the system of incentives for farmers and workers.

CONCLUSIONS AND RECOMMENDATIONS.

The problems of innovative development of agriculture are especially relevant for Uzbekistan, because only with the widespread and effective use of new resource-saving, advanced technologies, innovative development can accelerate the economic stability of agriculture, taking into account the preservation of the environment. 'provides swelling.

The results of comparing different options of modern technologies in the agricultural sector show that the least tillage, saving current and investment costs, the production of a product with a lower cost and the same level of prices

for each crop allows you to earn more than one hectare of land.

Changing innovative technologies in agriculture is a complex process that requires a systematic approach, knowledge of all the changes that occur in the technological system of the enterprise in the transition from traditional technologies to new resource-saving technologies. In this regard, it is necessary to develop process algorithms for the introduction of technological and organizational and economic innovations in agricultural enterprises.

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