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AGRICULTURAL MANAGEMENT BASED ON INNOVATIVE TECHNOLOGIES

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Abstract
The article describes the achievements and disadvantages in the process of managing the agricultural sector based on innovative technologies and foreign experience in this area.

Keywords: agro-industrial complex, innovative development, innovative news, competitiveness in the world market, agricultural innovation complex, modern agro-innovative complex, modern agro-innovative complex, innovation minijack.

Introduction

Today, the widespread use of the achievements of World Science and innovation activities is an important factor in the consistent and sustainable development of all spheres of society and state life, the establishment of a worthy future of the country. Therefore, the economy and economic entities of Uzbekistan are currently in the process of redirecting development to the path of innovation. This process is associated with innovative innovations in social and economic life, as well as in the minds of society during fundamental changes, modernization, which, in turn, aims to reach the established level of competitiveness, achieve the pace of socio-economic development that ensures a high standard of living, increase in the quality of human capital, positive changes in the mentality of the In this regard, world experience shows that the continuous implementation of innovations in all areas, which ensure quality growth, has become a driving force for society and economic development.

The countries where innovation models of development and "smart" technologies are being implemented today are the most successful and sustainable. The sustainable development of such countries, their competitiveness in World Markets, is based not on the export of Natural Resources and the use of physical labor, but on innovative ideas and developments.

The main task of innovative development is to ensure the country's economic growth and competitiveness in world markets due to the wide introduction of innovation and scientific achievements, as well as the increase of the intellectual share in the economy. The President signed the decree "On the further development of the system of knowledge and innovations in agriculture and the provision of modern services". The decree approved the concept of priority development of the system of knowledge and innovations in agriculture in 2021-2025. [1]According to it, the National Center of

[1]https://kun.uz/news/2021/02/08/ of the concept of revitalizing the knowledge and innovation system in rural household sanseis.

Knowledge and Innovation in Agriculture operates under the Ministry of Agriculture, which connects the integrated system of education, science, production and provision of modern agricultural services to agricultural subjects. The national center is planned to be established on the basis of the Scientific and Production Center of Agriculture and Food Supply, DUK "Agroinnovation", Cotton Seed Center.

In addition, the fact that the President of the Republic of Uzbekistan Sh.M. Mirziyoyev named 2018 as the "Year of supporting active entrepreneurship, innovative ideas and technologies"[1] shows the basis of innovative development in the Republic of Uzbekistan. Because, according to our President, "...by an active entrepreneur, we mean business people who are able to produce competitive products, and most importantly, create new jobs, feed not only themselves and their families, but also benefit the entire society. Today, we are moving on the path of innovative development aimed at radically renewing all spheres of state and community life. It's not for nothing, of course. Because in today's fast-paced world, who wins? The state that relies on a new idea, a new idea, and innovation will win.

In the implementation and implementation of innovative activities, first of all, it is necessary to clarify the main terms and concepts. As a result of studying the scientific research of scientists dealing with the problem of innovation, we observed that there are different approaches to the content and essence of innovation, innovative process and innovative activity.

For example, we can find terms such as "innovation", "innovation", "scientific and technical innovation" in the research works of scientists such as M. Porter, J. Bright, B. Twiss [8].

At the same time, several economists expressed their opinion on the innovation. For example, B. Santo defined innovation as follows:

"Innovation is a socio-technical-economic process, which through the practical use of ideas and discoveries leads to the creation of products and technologies that are better according to their characteristics. 9].

R.A. Fatkhuddinov describes it as follows:

"Innovation is the final result of an innovation introduced in order to change the object of management and obtain an economic, social, ecological, scientific-technical or other effect"[3].

Summarizing the opinions of a number of other scientists, usually they expressed the meaning of "innovation" and "newness", "introduction of innovation"[5].

According to R.V.Abdullaev and K.A.Khasanjanov, "Innovation is a form of manifestation of scientific and technical progress, it is a special type of knowledge, the result of highly developed work, and it is becoming a leading field in people's life in the post-industrial society" [4].

The following can be mentioned about the work carried out in this field, that is, according to the report of the work carried out by the Agricultural Research and Production Center of Uzbekistan during the 9th month of 2017, "this year, by scientific institutions of the ministerial system, by the Coordination Committee for the

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Development of Science and Technology of the Republic of Uzbekistan A total of 295 projects, including 21 fundamental, 156 practical, 17 fundamental and practical projects of young scientists, 93 innovative grant projects and 8 unique objects, are being conducted on the basis of the approved State scientific and technical programs.

Research is aimed at the further development of cotton, grain, fruit and viticulture, vegetable and policing, animal husbandry, veterinary and other fields of agriculture, the development of methods of effective use of land, water, mineral fertilizers and other material and technical resources, maintaining and increasing soil fertility, in the agricultural sector aimed at solving important issues such as deepening reforms, improving production and economic indicators of farms.

On the basis of the report of the meeting of the Cabinet of Ministers of the Republic of Uzbekistan No. 1 on March 5, 2017, 95 developments created by scientists of institutions of the system were presented at the "Innovative ideas, technologies and projects X Republican Fair" held on May 10-12, 2017 at "Uzekspomarkaz" and More than 250 between 15 research and higher education institutions and farms and other customers, totaling 3.7 billion mutually beneficial contracts worth soms were signed.

During the reporting period, scientific articles were published in 30 international and more than 600 local journals, and in 250 international and 580 republic-level conferences on scientific research conducted by scientists of institutions in the system. Also, 3 international and 135 local monographs, textbooks, educational and methodological manuals were published" [6].

Also, according to the Decree of the President of the Republic of Uzbekistan "On the establishment of the Ministry of Innovative Development of the Republic of Uzbekistan" dated November 29, 2017 No. PF-5264 in the field of introducing innovations in agriculture [3]:

- first of all, to introduce proposals for the introduction of modern tested forms of agricultural production based on the concept of "Smart Agriculture" that allows rational use of available land, water and other natural resources;
- to support the introduction of innovative ideas, developments and technologies that allow maximum automation of agricultural production in the agrarian sector, a significant increase in productivity and improvement of financial indicators, as well as ensuring the country's food security;
- issues such as helping to expand trade markets and their direct supply by ensuring the competitiveness of agricultural products in the world market, including with the help of large retailers.

In other words, we should turn Uzbekistan into a stable market economy with a high share of innovation and intellectual contribution in production, a modern and competitive industry in the global market, as well as a rapidly developing country with a favorable investment and business environment.

It is impossible to achieve the set goals without fully transitioning Uzbekistan to the innovative model of development, which requires the creation of an effective system of state support for innovative activities in the country and the promotion of the practical

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implementation of innovative ideas, developments and technologies in public administration, priority sectors of the economy, and the social sphere. State regulation of innovative processes is aimed at improving the mechanism of introducing innovations in agriculture [7].

Applying innovations to the agricultural sector, new approaches to social services used to increase production efficiency, new ways of organizing and managing various sectors of the economy, new methods of treatment and prevention of livestock and poultry, plant and animal protection products, new technologies in agriculture, animal husbandry and processing industry , material, new or quality food products, species and breeds of livestock and poultry, represents the economic practice in the development and research of new types of plants.

In the agro-industrial complex, the organization of the main types and directions of innovations is carried out, which is related to their diversity, form, and methods of application. Therefore, the management of innovation processes includes the classification of innovations for different reasons and is carried out according to the important aspects that describe the most important features of innovations.

According to the sources of scientific literature in agriculture, four types of innovations are selected:

- selection-genetic;
- technical and technological production;
- organizational and management;
- it is important in solving social and environmental problems . This is important for successful management of innovative processes in the agricultural sector. In our opinion, in order to increase the efficiency of agricultural production, it is necessary to transfer to innovative ways of industrial development. In order to create an effective mechanism for managing innovations in agriculture, we suggest creating regional specialized agrotechnical centers in each region of Uzbekistan.

The main functions of this regional specialized agro-industrial center are:

development of the main principles of regional innovation policy formation in the agro-industrial complex and improvement of its implementation methods;

1. to determine the main directions of innovative development of the region's agriculture;
2. coordination of innovative activities of agricultural enterprises;
3. monitoring the market of agrarian innovations;
4. information and communication support of agricultural enterprises in the field of innovative activity;
5. selection and preliminary assessment of the possibility of using innovations in agro-industrial production;
6. preparation of proposals for the development of innovations and provision of consulting services for their implementation;

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7. controlling the implementation of agrarian innovations and investment projects receiving state benefits.

We identify the following main directions of innovative development of regional agriculture (Table 1) :[2]

1 - Table

Innovations	Expected results
In the field of agriculture	
1. Using cellular technology, molecular genetics and traditional selection, introduction of the highest yielding varieties of new disease-resistant crops.	1. Increase crop yield, improve grain quality
2. Adaptation of high-yielding types of high agricultural crops of foreign countries to the soil and climatic conditions of the region	2. Cost reduction due to the introduction of new high-yielding crops
3. Development and implementation of new systems of land use and water saving technologies	3. Maintenance of soil fertility, increasing the yield of agricultural crops
4. Development and implementation of machine-saving systems for complex mechanization of agricultural technological processes	4. Increasing labor productivity, reducing costs for performing mechanized work
5. Development and use of highly effective biopreparations to combat plant diseases and pests	5. Increasing productivity and quality of products
In the field of animal husbandry	
1. Breeding of high-breeding types of livestock in agriculture	1 Increasing the productivity of livestock 2. Improvement of the breed structure of the herd
2. Adaptation of foreign bred agricultural livestock in the region	1. To reduce the cost of improving the breeding composition of the herd 2. Increasing the productivity of livestock
3. Development and implementation of waste-free technologies for processing livestock products	1. Improving the type of food products 2. Reduction of production costs
4. Technological in animal husbandry processes creation of new resource-saving information systems for complex mechanization	1. Increasing labor productivity 2. Reducing the cost of the product
5. Renewable natural energy from sources production of technical means of water supply on the basis of use	1. Reducing production costs of livestock products 2. Increasing environmental safety
6. Improvement of livestock feeding and feeding systems	1. Increasing the productivity of livestock 2. Improvement of product quality
7. Creation of new diagnostic, preventive and treatment methods for livestock	1. Improving the quality of livestock products 2. Improvement of the ecological condition of the region

[2] *Based on the Decision of the President of the Republic of Uzbekistan dated December 29, 2015 No. PQ-2460 "On measures to further reform and develop agriculture in 2016-2020" [1]*

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* including replanting and drylands.

Measures to optimize the composition of cultivated areas and increase productivity will lead to a significant increase in the volume of agricultural production in our country. In particular, as shown in Table 3 , during the years 2016-2020, the volume of grain production will increase by 1,195,000 tons, potatoes by 931,000 tons, vegetables by 3,002,200 tons, fruits by 648,600 tons, and grapes by 273,900 tons, and our country creates a basis for ensuring food safety [8].

In the Republic of Uzbekistan in 2017 alone, due to the reduction of cotton cultivation areas by 49 thousand hectares and grain areas by 10 thousand hectares, 8.1 thousand hectares of cultivated areas were reduced to potatoes, 27.2 thousand hectares to vegetables, 5.9 thousand hectares to intensive gardens, 2.9 thousand hectares to vineyard - 10.9 thousand hectares of fodder crops and 4 thousand hectares of oil crops are planned. As a result of these measures, the loss of cotton and grain cultivation in low-yielding arable fields is estimated at 80 billion. reduction to soums, an additional 1 mln. as a result of the production of about tons of fruit and vegetable products, the creation of more than 48,500 new jobs in the regions, it will be possible to increase the number of people employed in these fields to 75,600, and to double the volume of export of fruit and vegetable products.

Seed-selection and variety selection are of great importance in increasing the productivity of agricultural crops. According to the information of the Ministry of Agriculture and Water Management of the Republic of Uzbekistan, during the years of independence, the scientists of our country created new varieties of fruit, berry, nut, subtropical, citrus plants and grapes, studied local and introduced varieties, developed care technologies and introduced them to production on a large scale. studies were conducted. As a result, for the first time in Central Asia, the selection of seed, leguminous, berry, nut-bearing crops was started, and the basis for creating new varieties was laid. Thanks to many years of scientific research, more than 170 fruit and grape varieties were created, and about eighty of them were included in the State Register. Currently, 709 types of fruit, vegetable, potato and potato varieties are included in the State Register, 189 of them are local varieties and 520 are foreign varieties [8].

Table 2 Entered into the State Register of the Republic of Uzbekistan fruit, vegetable, potato and potato varieties[3]

Indicator	Total	including:	
		local varieties	foreign varieties
Type of crop varieties	709	189	520

[3] *Source: Ministry of Agriculture and Water Management of the Republic of Uzbekistan.*

Also, expansion of research and development works on the creation of varieties of agricultural crops and animal species that are suitable for the soil-climatic conditions of the republic, resistant to drought, salinity, heat and diseases;

One of the most urgent tasks of today is to create early-season and high-yielding agricultural crop varieties suitable for different soil-climatic zones, based on gene knockout biotechnologies, proving their negative impact on consumer health.

Modernization and rapid development of the livestock sector is an important part of the development of the entire agrarian sector. In the Resolution of the President of the Republic of Uzbekistan dated December 29, 2017 No. PQ-2460 "On measures to deepen and develop agricultural reform in the period of 2018-2021 " [2] in 2016-2020, the number of large horned cattle was increased to 3,165,000 per head, the tasks of increasing the number of sheep and goats to 4,281,000 and the number of poultry to 31,200,000 are set. As a result, during these years, the volume of meat production (in live weight) was 519,000 tons, milk 4,177,000 tons, fish 90,000 tons, honey 13,700 tons, and eggs 4,100,000 tons. increases to pieces.

Table 3 of increase in production of livestock products [4]in the republic in 2018-2021

Indicators	**2018**	**Forecast indicators**					**202 2 years. compared to 2018 change**	
		2016	**2017**	**2018**	**2019**	**2020**	**+ , –**	**in %**
Number of livestock, thousand heads								
Large horned cattle	11 635	12 150	12,720	13 350	14,050	14,800	+ 3 165	127.2
Sheep and goats	18,906	19,600	20 380	21 240	22 170	23 187	+ 4 281	122.6
In poultry	60,800	64,600	69,500	75,500	83,000	92,000	+ 31 200	151.3
Livestock production, thousand tons								
Meat (live weight)	1 981	2060	2 150	2 260	2 375	2500	+ 519	126.2
Milk	8 823	9 478	10 242	11,075	11,957	13,000	+ 4 177	147.3
Eggs, mln. piece	3500	6 200	6,900	7700	8,600	9,600	+ 4 100	274.3
Fish	60	75	90	110	130	150	+ 90	250.0
Honey	9.3	11.0	13.0	15.5	19.0	23.0	+ 13.7	247.3

Improvement of reclamation of irrigated lands is one of the decisive factors in the development of agriculture. Because about 50% of the irrigated arable land in our republic is saline land to one degree or another. In the following years, large state programs to improve the reclamation of irrigated lands are being implemented.

In recent years, new crop irrigation technologies are being tested and recommended for use in a number of regions of our republic. According to the Republic of Uzbekistan "2018-2021 State program for improvement of land reclamation and rational use of

[4] *Source: Compiled on the basis of annexes to the Resolution of the President of the Republic of Uzbekistan No. PQ-2460 of December 29, 2015 "On measures for further reform and development of agriculture in 2016-2020" [17].*

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water resources " it is planned to introduce modern innovative methods of irrigation on a total of 104,600 hectares in 2018-2021 . According to the information of the Ministry of Agriculture and Water Management of the Republic of Uzbekistan, in 2016-2019 , drip irrigation was introduced on 47,356.0 hectares of cultivated land, polyethylene film irrigation on 19,214.0 hectares, and irrigation technologies through portable flexible pipes were introduced on 18,418.0 hectares.

Construction of new processing plants equipped with the most modern high-tech equipment, reconstruction and modernization of existing ones for the production of semi-finished and finished food and packaging products based on deep processing of agricultural products is considered one of the promising directions of the development of our republic.

Table 4 The cost of investment projects for the construction of new enterprises for deep processing of agricultural products, reconstruction and modernization of existing ones in 2016-2020

Names of initiators and designers	Total cost of projects	including by funding sources:		
		own funds	bank loans	Foreign investment 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: Compiled based on the information of JSC "Uzbekoziqvokatholding" [8]

In accordance with this decision, in 2018-2021 there were 138 plants with a capacity of 99,100 tons for processing fruits and vegetables, 46 plants with a capacity for processing meat products with a capacity of 16,500 tons, and 79 plants with a capacity for processing dairy products with a capacity of 34,850 tons. 153 new enterprises with a capacity of 26,840 tons for processing other food products were launched.

Conclusions and Suggestions

By 2021, as a result of implementation of systematic measures on deep processing of agricultural products, compared to 2018, the volume of canned fruits and vegetables will increase by 79.4%, fruit juices by 80.5%, dry fruits by 73.1%, and meat and meat products by 59.5%. , sausage products by 68.8%, milk and dairy products by 56.6%, butter by 51.4%, confectionery products by 59.9%, vegetable oil by 57.2%, sugar by 24.0%, cheese by 2.5%, meat allows to increase canned goods by 2.4 times, fish products by 3.4 times and frozen fish by 2.8 times [8].

Together with the implementation of the measures indicated above, in our opinion, the way to organize a new form of production (association, association or cooperative) of peasant (private assistant) farms with small plots of land and livestock together with regular producers of agricultural products It is important to create a mechanism for introducing innovations in peasant (personal assistant) farms.

However, their production was carried out on the basis of the use of manual labor with the help of low-yield livestock and outdated equipment. That's why we think that it is necessary to create methods of encouraging peasant (private assistant) farms in order to further develop the cultivation of livestock products and fully satisfy the needs of our people for livestock products. Because we know that cattle do not produce products without fodder. Fodder is one of the main problems in peasant farms today. In order to increase the number of livestock in peasant (private assistant) farms, it is necessary to provide them with sufficient arable land and pastures, and to increase their productivity by purchasing various fodder (kunjara, shulkha, bran, etc.). For example, farmer (privately assisted) households should be given the opportunity to buy fodder for livestock directly from feed producers and not through intermediaries (farms, agricultural enterprises or other state-owned enterprises). Then the prices of livestock products in our markets today, including meat and meat products, milk and milk products, would be in accordance with the capabilities of consumers. We also think that it is necessary to start processing wool, which is considered the most valuable product in animal husbandry today.

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