

SUSTAINABLE DEVELOPMENT OF ENTREPRENEURSHIP IN AGRICULTURAL MANAGEMENT AND FOREIGN EXPERIENCES

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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 is becoming an important factor in the consistent and sustainable development of all spheres of society and state life, in building a worthy future for the country. That is why the economy and economic entities of Uzbekistan are currently in the process of reorienting themselves to the innovative path of development. This process is associated with the modernization of social and economic life, as well as with the innovative innovations taking place in the consciousness of society during the fundamental changes, which, in turn, are aimed at achieving a certain level of competitiveness, achieving socio-economic development rates that ensure a high standard of living, increasing the quality of human capital, and positive changes in the mentality of the country's people.

In this regard, world experience shows that the continuous implementation of innovations that ensure qualitative growth in all areas has become the driving force of social and economic development.

Today, countries that implement innovative development models and "smart" technologies are considered the most successful and stable. The sustainable development of such countries, their competitiveness in world markets, is based not on the export of natural resources and the use of manual 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, as well as to increase the intellectual share in the economy, through the widespread introduction of innovation and scientific achievements.

The President signed a decree "On 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.



¹According to it, the National Center for Knowledge and Innovations in Agriculture will operate under the Ministry of Agriculture, which will connect the integrated system of education, science, production and provision of modern agricultural services to agricultural entities in the agricultural sector. The national center is planned to be established on the basis of the Scientific and Production Center for Agriculture and Food Supply, the Agroinnovation State Enterprise, and the Cotton Seed Center.

Our country has enormous potential in agriculture. Many issues, from ensuring that our markets are full and our people have plenty of food to earning additional income from exports, depend on the development of this area. However, for many years, insufficient attention has been paid to the agricultural sector. Neither the market economy nor the land attitude, neither interest there is was. Village farm develop far from for a period of time intended strategy there is not being land and water are hindering the effective use of agricultural resources, attracting large-scale investments in the sector, achieving high incomes for producers, and increasing the competitiveness of products. Diversifying production, improving land and water relations, creating a favorable agribusiness environment and a high-added value chain, supporting the development of cooperative relations , and providing support to the sector market mechanisms, information and communication technologies widely current to, also, science from the achievements effective use and The Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030, developed with the participation of international organizations and experts, aims to increase human resource capacity. intended strategy working exited and Uzbekistan Republic The "Roadmap" for implementing the tasks set out in the agricultural development strategy for 2020-2030 was approved.

Developing sustainable agricultural development strategies will improve the quality of life in rural areas and ensure the necessary quantity of food for present and future generations. food supply to form, farmer and farmer farms means ensuring the possibility of earning an adequate income for. Agriculture stable development support, future for working output power provision and storage, to the environment damage without delivering, natural It involves increasing efficiency without compromising resources. It also requires respecting and acknowledging local knowledge, developing local ways of managing natural resources, and promoting the opportunities of the present generation without compromising the prospects of future generations.

Literature Analysis

Terms such as "innovation", "innovation", "scientific and technical innovation" can also be found in the research works of scientists such as M. Porter, J. Bright, B. Twiss[8].

At the same time, several economists have expressed their opinions on innovation. For example, B. Santo defined innovation as follows: "Innovation is a socio-technical-economic process that leads to the creation of products and technologies that are better in terms of their characteristics through the practical use of ideas and discoveries. If it is aimed at obtaining economic benefits, its appearance on the market creates the opportunity to earn additional income"[9].

RAFatkhuddinov defines it as follows: "Innovation is the final result of a new innovation introduced with the aim of changing the object of management and obtaining an economic, social,

¹ <https://kun.uz/news/2021/02/08/the-concept-of-developing-knowledge-and-innovation-systems-in-agriculture-was-approved>.



environmental, scientific and technical or other effect”[3].

Summarizing the opinions of a number of other scholars, they usually used the terms "innovation" and "novelty" to mean "innovation"[5].

According to RVAbdullaev and KAKhasanjanov, “Innovation, being considered a form of manifestation of scientific and technological progress, constitutes a special type of knowledge, a highly developed result of labor, and is becoming a leading area in human life in a post-industrial society”[4].

The following can be noted regarding the work being carried out in this area, namely, according to the report of the Agricultural Scientific and Production Center of Uzbekistan on the work carried out for 9 months of 2021, "this year, a total of 295 projects are being carried out by scientific institutions of the ministerial system on the basis of the State Scientific and Technical Programs approved by the Committee for Coordination of the Development of Science and Technology of the Republic of Uzbekistan, including 21 fundamental, 156 applied, 17 fundamental and applied projects of young scientists, 93 innovative grant projects, and 8 unique objects.

Research Methodology

The research is aimed at further developing cotton growing, grain growing, fruit and viticulture, vegetable and melon growing, animal husbandry, veterinary medicine and other sectors of agriculture, developing methods for the effective use of land, water, mineral fertilizers and other material and technical resources, maintaining and increasing soil fertility, deepening reforms in the agrarian sector, and solving important issues such as improving the production and economic performance of farms.

Based on the minutes of the 1st meeting of the Cabinet of Ministers of the Republic of Uzbekistan dated March 5, 2017, at the “X Republican Fair of Innovative Ideas, Technologies and Projects” held on May 10-12, 2017 at the “UzexpoCenter”, 95 developments created by scientists from institutions in the system were demonstrated, and more than 250 mutually beneficial agreements worth a total of 3.7 billion soums were signed between 15 research and higher education institutions in the system and farms and other customers.

Analysis and main Results

During the reporting period, scientific articles on scientific research conducted by scientists of institutions in the system were published in 30 international and more than 600 local journals, as well as at 250 international and 580 republican conferences. Also, 3 international and 135 local monographs, textbooks, training and methodological manuals were published” [6].

To date, a number of theories of agricultural development have been formed, and in this paragraph of our study we will analyze the evolution of their development. The main and common goal of these theories is to increase the material and social well-being of people. From this perspective from the point of view this often environment and society, population well-being is considered as a comprehensive approach to improvement.

The first step in the process of agricultural development is the previous or traditional in societies such as village farm static, that is, unchanging that to look away delay It happened. However, village farm develop problem - static The goal is not to transform agriculture into a modern, dynamic sector, but to ensure that the growth rates of the sector's output and productivity are in line with



the growth rates of other sectors in the context of the modernization of the economy.

This because of, village farm develop process content point of view It is necessary to abandon the view that agriculture is static, as in the past or in traditional societies. Therefore, the theory of agricultural development assumes that the volume of production is 1.0 percent or from it less was growth to the trend has was from countries to annual growth 4.0 percent and from it in love growth to the level has was countries It serves to provide insight into the dynamics of agricultural growth or the sources of variable growth.

Based on the above, we can conclude that agriculture develop according to in literature one how much models brought we can see that it has been passed;

- ✚ Borderline model;
- ✚ Nature protection model of making;
- ✚ Urbanization and industrialization impact model;
- ✚ Diffusion model;
- ✚ Top profitability supply model.

Looking at the results of the analysis of the evolution of agricultural development models if we are, village farm growth impact and appearance to be Very important for industrialization and economic growth in the 1960s important, but the process of agricultural growth itself remains neglected in most developing countries. Also, the models developed to date analysis their everyone to oneself typical to the shortcomings has that is justifying. This and own in turn them further improvement and develop based on Special attention is required to the creation of new models [7]. The application of innovations to the agricultural sector represents new approaches to social services used to increase production efficiency, new forms of organization and management of various sectors of the economy, new methods of treatment and prophylaxis of livestock and poultry, plant and animal protection products, new technologies in farming, animal husbandry and the processing industry, economic practices in the development and research of new, new or high-quality food products, types and breeds of livestock and poultry, and new plant species.

The organization of the main types and directions of innovations in the agro-industrial complex is carried out, which is associated with their diversity, form, methods of application. Therefore, the management of innovation processes involves the classification of innovations for various reasons and is carried out in accordance with the key aspects that characterize the most important features of innovations.

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

- ✚ selection-genetic;
- ✚ technical and technological production;
- ✚ organizational and management;
- ✚ It is also important to solve social and environmental problems.

This is considered important for the successful management of innovation processes in the agricultural sector.

In our opinion, to increase the efficiency of agricultural production, it is necessary to transfer the industry to innovative development paths. In order to create an effective mechanism for managing innovations in agriculture, we propose to create regional specialized agrotechnical centers in each region of Uzbekistan.

Accelerated innovative development in agriculture can be achieved mainly by transforming the



scientific, educational, production and financial potential of the region into a single agrarian-innovation complex and creating economic conditions to stimulate innovation in the region.

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

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

- ✓ identifying the main directions of innovative development of agriculture in the region;
- ✓ coordination of innovative activities of agricultural enterprises;
- ✓ monitoring the agricultural innovation market;
- ✓ information and communication support for agricultural enterprises in the field of innovative activities;
- ✓ selection and preliminary assessment of the feasibility of using innovations in agro-industrial production;
- ✓ for the development of innovations and providing consulting services in their implementation;
- ✓ Control over the implementation of agricultural innovations and investment projects that receive state benefits.

1 – table Identified the following main areas of innovative development of agriculture in the region (Table 1):²

Innovations	Expected results
In the field of agriculture	
1. Introducing the highest yielding varieties of new crops that are resistant to diseases using cellular technology, molecular genetics, and traditional breeding.	1. Increase crop yields and improve grain quality
2. Adaptation of highly productive varieties of agricultural crops from foreign countries to the soil and climatic conditions of the region	2. Reducing costs by introducing new high-yielding crops
3. Development and implementation of new systems of land use and water conservation technologies	3. Maintaining soil fertility and increasing crop yields
4. Development and implementation of machine-saving systems for the complex mechanization of agricultural technological processes	4. Increase labor productivity, reduce costs for mechanized work
5. Development and use of highly effective biological products to combat plant diseases and pests	5. Increase productivity and quality of products
In the livestock sector	
1. Breeding high-yielding livestock in agriculture	1. Increasing livestock productivity 2. Improving the breed composition of the herd
2. Adaptation of foreign-bred agricultural livestock in the region	1.Reducing costs for improving the breeding composition of the herd 2. Increasing livestock productivity
3. Development and implementation of waste-free technologies for processing livestock products	1.Improving the type of food products 2. Reduce production costs
4.Technological aspects in animal husbandry processes Creation of new resource-saving information systems for complex mechanization	1.Increase labor productivity 2. Reduce product costs
5. Renewable natural energy from the source Production of water supply equipment based on usage	1.Reducing the cost of livestock production 2.Enhance environmental safety
6.Improving livestock feeding and feeding systems	1. Increase livestock productivity 2. Improve product quality
Development of new methods of diagnostics, prophylaxis and treatment for livestock	1. Improving the quality of livestock products 2.Improving the ecological condition of the region

**taking into account replanting and fallow lands.*

² Based on the Resolution of the President of the Republic of Uzbekistan No. PP-2460 dated December 29, 2015 “On measures for further reform and development of agriculture in 2016-2020” [1]



Measures to optimize the composition of arable land 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 2021-2024, the volume of grain production will increase by 1,195.0 thousand tons, potatoes by 931.0 thousand tons, vegetables by 3,002.2 thousand tons, fruits by 648.6 thousand tons, and grapes by 273.9 thousand tons, creating the basis for ensuring food security in our country [8].

Uzbekistan alone, in 2021, due to the reduction of cotton acreage by 49 thousand hectares and grain acreage by 10 thousand hectares, it is planned to allocate 8.1 thousand hectares of the reduced acreage to potatoes, 27.2 thousand hectares to vegetables, 5.9 thousand hectares to intensive gardening, 2.9 thousand hectares to vineyards, 10.9 thousand hectares to fodder crops and 4 thousand hectares to oilseed crops. As a result of these measures, it will be possible to reduce the losses from growing cotton and grain on low-profitable acreage by 80 billion soums, produce an additional 1 million tons of fruit and vegetable products, create more than 48.5 thousand new jobs in the regions, increase the number of people employed in these acreages to 75.6 thousand, and double the volume of fruit and vegetable exports.

high-yielding, early-ripening, and sweet-tasting dwarf and semi-dwarf trees based on modern agrotechnology's and to increase the production of export-oriented fruit and vegetable products in demand in world markets.

Seed breeding and variety selection play a significant role in increasing the productivity of agricultural crops. According to the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, during the years of independence, our country's scientists conducted extensive research on the creation of new varieties of fruit, berry, nut, subtropical, citrus plants and grapes, the study of local and introduced varieties, the development of breeding technologies and their introduction into production. As a result, the first in Central Asia to establish a selective breeding of seed, berry, nut crops was established, and the foundation for the creation of new varieties was laid. As a result of many years of scientific research, more than 170 fruit and grape varieties were created, about eighty of which were included in the State Register. Currently, 709 varieties of fruits, vegetables, potatoes, and melons are included in the State Register, of which 189 are local varieties and 520 are foreign varieties [8].

Table 2 Included in the State Register of the Republic of Uzbekistan fruits, vegetables, melon and potato varieties³

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

Expand research and development work on creating agricultural crop varieties and animal species that are suitable for the soil and climatic conditions of the republic and are resistant to drought, salinity, heat, and diseases;

One of the most urgent tasks today is to create early-maturing and high-yielding agricultural crop varieties suitable for various soil and climatic zones, while proving their negative impact on

³ Source: Ministry of Agriculture and Water Resources of the Republic of Uzbekistan .



consumer health based on gene knockout biotechnologies .

Modernization and accelerated development of the livestock sector is an important part of the development of the entire agricultural sector. The Resolution of the President of the Republic of Uzbekistan No. PQ-2460 dated December 29, 2017 “On measures to deepen and develop agricultural reform in 2018-2021 ” [2] sets the tasks of increasing the number of cattle by 3,165 thousand heads, sheep and goats by 4,281 thousand heads, and poultry by 31,200 thousand heads in 2016-2020. As a result, during these years, the volume of meat production (in live weight) will increase by 519.0 thousand, milk by 4,177.0 thousand, fish by 90.0 thousand, honey by 13.7 thousand tons, and eggs by 4,100.0 million. pieces.

Table 3 Forecast indicators of increasing livestock production ⁴in the republic in 2018 -2021

Indicators	2019	Forecast indicators					2024 Change compared to 2019	
		2020	2021	2022	2023	2024	+ , -	in %
Number of livestock, thousand heads								
Bighorn 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
Poultry	60,800	64,600	69,500	75,500	83,000	92,000	+ 31 200	151.3
Livestock production, thousand tons								
Meat (in live weight)	1 981	2,060	2 150	2 260	2 375	2,500	+ 519	126.2
Milk	8,823	9 478	10,242	11,075	11,957	13,000	+ 4 177	147.3
Eggs, million pieces	3,500	6 200	6 900	7,700	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

Irrigated lands is one of the crucial factors in the development of agriculture. Because about 50% of the existing irrigated arable land in our republic is saline land to one degree or another. In recent years, large state programs have been implemented to improve the reclamation of irrigated lands. Irrigation of crops have been tested and recommended for use in a number of regions of our republic. In accordance with the “State Program of the Republic of Uzbekistan for Improving the Reclamation Condition of Irrigated Lands and Rational Use of Water Resources for 2019-2024”, it is planned to introduce modern innovative methods of irrigation on a total area of 104,600 hectares in 2019-2024. According to the data of the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, in our republic in 2019-2024, drip irrigation technologies were

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



introduced on a total of 47,356.0 hectares of cultivated land, irrigation using polyethylene film on 19,214.0 hectares, and irrigation through portable flexible pipes on 18,418.0 hectares.

The construction of new processing plants equipped with the most modern high-tech equipment for the production of semi-finished and finished food and packaging products based on deep processing of agricultural products, as well as the implementation of investment projects for the reconstruction and modernization of existing ones are considered promising areas of development in our republic (Table 4, Figure 1).

In accordance with the Resolution of the President of the Republic of Uzbekistan No. PQ-2505 dated March 5, 2016 "On measures to further develop the raw material base of fruits, vegetables, meat and dairy products, deepen their processing, and increase the production and export of food products in 2019-2024", it is planned to implement a total of 180 investment projects worth a total of 595,886.3 thousand dollars equivalent to build new enterprises for the deep processing of agricultural products, reconstruct and modernize existing ones.

Table 4 Agricultural products, the reconstruction and modernization of existing ones in 2019-2024

Names of initiators and designers	Total cost of projects	Including financing according to 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 data from Uzbek Food Holding [8]

In accordance with this resolution, in 2019-2024, 138 new enterprises with a capacity of 99,100 tons of fruit and vegetable processing, 46 with a capacity of 16,500 tons of meat products processing, 79 with a capacity of 34,850 tons of dairy products processing, and 153 with a capacity of 26,840 tons of other food products processing were launched.

Conclusions and Suggestions

As a result of the implementation of systematic measures for the deep processing of agricultural products, by 2021, compared to 2018, it will be possible to increase the volume of canned fruits and vegetables by 79.4%, fruit juices by 80.5%, dried fruits by 73.1%, 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, canned meat by 2.4, fish products by 3.4, and frozen fish by 2.8 times [8].

In addition to implementing the above measures, we believe that it is important for farmers (personal assistants) who own small plots of land and livestock, together with regular producers



of agricultural products, to create a mechanism for introducing innovations in farmers (personal assistants) farms by establishing a new form of production (association, association or cooperative).

However, their production is carried out on the basis of manual labor using low-yielding livestock and outdated equipment. Therefore, we believe that it is necessary to create methods of encouraging dehqan (personal assistant) farms in order to further develop livestock production and fully satisfy the needs of our people in livestock products. Because, as we know, livestock does not produce products without fodder. Fodder is one of the main problems in dehqan (personal assistant) farms today. In order to increase the number of livestock in dehqan (personal assistant) farms, it is necessary to allocate sufficient arable land and pastures for them and provide opportunities to purchase various feeds (kunjara, shulkha, bran, etc.) to increase their productivity. For example, dehqan (private subsidiary) farms should be given the opportunity to purchase feed for livestock directly from feed producers, rather than through intermediaries (farms, agricultural enterprises or other state-owned enterprises). Then the prices of livestock products, including meat and meat products, milk and dairy products, in our markets today would be in line with the capabilities of consumers. We also believe that it is necessary to establish the processing of wool, which is currently considered the most valuable product in livestock farming.

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