

Journal Website: http://usajournalshub.c om/index,php/tajabe

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The Necessity Of Introducing Innovations In The Agricultural Sector Of The Republic Of Uzbekistan

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ABSTRACT

Agriculture is one of the first and most significant sectors in Uzbekistan, contributing to the national economy. Its diverse topography reveals the most favorable regions for growing various agricultural as well as industrial crops. The paper considers the features of innovation processes in agriculture, as well as the role of innovation processes in the development of agriculture in Uzbekistan. The author examines the innovative development of agriculture and highlights the main features of innovation processes; he identifies the types of innovations in the agricultural sector.

KEYWORDS

Innovations, innovation process, agriculture, innovation policy, innovation activity.

INTRODUCTION

In implementing agrarian policy, great attention should be paid to the achievement of higher final results of production activities, both in agriculture and in the entire agribusiness, ensuring stable growth rates of production, increasing its efficiency and social development of the population, protecting the economic interests of the agricultural sector. Essential conditions for the development of innovation activity are the integration of science and production, state partnership, and support for international contacts of innovative business.

The innovation process means the innovative activity of an enterprise. It aims to develop and implement the results of scientific and technological research in the form of a new product or new technological process. It can be said that an innovation process is a chain of events in which an innovation "matures" from an idea to a specific product, technology, or service and then spreads in business practice.

Agricultural research has often been confused with innovation. However, there are essential differences between them. Research is concerned with the production of new knowledge, which may or may not is used in practice. Innovation, on the other hand, is concerned with the processes of change in the production and marketing of goods and services – changes that may or may not be driven by research [1].

In agricultural development, innovation has been defined as "the process by which individuals or organizations master and implement the design and production of goods and services that are new to them, irrespective of whether they are new to their competitors, their country, or the world" [2].

In the context of farming, innovations are concerned primarily with increasing production – of food, fodder, secondary products – and enhancing quality – of produce, growing conditions, production process. They typically involve one or more of the following five areas [3]:

 Crops – biological and genetic changes, such as the introduction of new breeds or varieties which have specific advantages, i.e., being higheryielding or more resistant to certain weather/soil conditions; the introduction of new species that extend the farming calendar or the type of farming; new techniques (e.g., grafting); turning plant produce into cash crops, e.g., olive oil (olives), wine (grapes), beer (cereal grain); etc.

- Animals similar biological and genetic changes as listed above; new ways of husbanding the existing animals in ways to make them more productive – e.g., the exploitation of animals for their secondary products (wool, milk, blood, traction) rather than just for their meat and hides; etc.
- Growing conditions the addition of manure or other fertilizer; raising soil depth; drainage or irrigation; increased soil working (digging, plowing); terraces to avoid soil erosion or to acquire additional cultivation space; windbreaks; supplying fodder or improved grazing to animals; etc.

Innovation is stimulated by the interaction of individuals and organizations with diverse – often conflicting – stakes in the management of scarce resources or the governance of productive processes. For this reason, interventions to promote innovation often involve what may be called "innovation brokering" or "facilitation," which focuses on enabling other actors to engage in critical reflection, experimentation, and joint learning [4].

The institutional arrangements and standard operating procedures of agricultural R&D organizations have tended to lag behind the evolution of thinking on innovation processes and systems [5]. Consequently, most agricultural research organizations continue to top focus on expanding the supply of new technologies rather than on linking research more effectively to change processes on farms and in value chains.

METHODOLOGY

This work is based on a review of the latest research papers authored by specialists in agricultural research. For our analysis, we used official data and publications of the State Committee of the Republic of Uzbekistan and the Ministry of Agriculture and Water Resources.

Results. The main categories of agricultural producers in Uzbekistan

the agricultural sector to Uzbekistan's GDP was 28.8% in 2018 (Figure 1). Crop production in 2018 accounted for 53.2% and livestock breeding for 46.8% of the cost of agricultural products. 3.7 million people worked in the agricultural sector in 2017 (27.2% of the total number of employed). Almost half of the country's population lives in rural areas [6].

Agriculture is one of the leading sectors of Uzbekistan's economy. The contribution of



Figure 1. Sectoral structure of Uzbekistan's GDP in 2018, in %.

At the same time, agriculture is one of the sectors of the economy, which is the most regulated by the state. The property rights of major large agricultural producers, farmers, are extremely weakly protected; methods for regulating their activities are, in fact, taken from the Soviet past. The markets for many types of agricultural products and production resources and services for the sector are not developed. The agrarian sector is in desperate need of reform. Although Uzbekistan has already headed for system economic reforms for two years, there is almost no change in agriculture.

From the late 1980s, Uzbekistan, like other republics of the former Soviet Union, began the transition to a market economy, including in the agrarian sector. Significant areas of agricultural land were transferred from former collective and state farms for the development of private farms of the rural population in 1989. By 1994, all collective and state transformed farms were into cooperative farms — shirkats. In the early 2000s, private farms replaced the shirkats as the main subjects of farm-market agriculture. At the same time, most of the agricultural products are not produced by them, but by

small dehqan (personal subsidiary) farms.

Table 1. Distribution of	agricultural land by	land users, in thousan	ds of hectares in 2017

	Arable land	Orchards and vineyards	Hayfields and pastures
Farms	3472.9	295.0	1481.3
Dehqan farms	420.2	80.3	-
Other farms	142.2	10.3	19 643.1
Total	4035.3	385.6	21124.4

Source: State Statistics Committee of the Republic of Uzbekistan.

The farms, possessing 85.2% of the land allocated for cultivation area, orchards, and vineyards (data of 2017), produced only 27.3% of agricultural products in 2018. 70.0% of the total agricultural output in 2018 was accounted for dehqan farms owning only 11.3% of the land allocated for cultivation area, orchards, and vineyards. The situation is associable with the Soviet past, when the majority of main types of agricultural products were produced not on large farms (collective and state farms) but on personal household plots of land.

Crop production in Uzbekistan is significantly on irrigated and only to some extent on rainfed agriculture. Wheat and cotton are the most important agricultural crops in the irrigated areas. Cotton and wheat are grown either continuously or in crop rotation. In Uzbekistan, the area under irrigated winter wheat has increased to ensure national food security, so that the former, long-cycle cropping system cotton-alfalfa was replaced mainly by shorter crop rotation of spring-sown cotton and winter wheat. As a result, the cereal production in Uzbekistan during the last decade has increased almost 20 times, with the main increase attributed to wheat production. In Uzbekistan, wheat production has increased by more than 600 percent, reaching around 8.1 metric tons (MT). On the other hand, cotton production went down to about 21% due to decreased planting areas (Table 2). Fruit and

vegetables are also becoming important in some regions as private markets expand. The absence of alfalfa in present crop rotations has diminished humus and considerable micronutrients' levels in the soil. It has also reduced the soil structure benefits derived from alfalfa's root system. Crop rotation with fodder legumes or pulses is extremely important for soil health and management of plant diseases.

Year	Wheat		Cotton		Fruits		Intensive orchards		Vegetables	
	Area, '000 ha	Yield t/ha	Area, '000 ha	Yield, t/ha	Area, '000 ha	Yield, t/ha	Area, '000 ha	Yield, t/ha	Area, '000 ha	Yield, t/ha
1991	226.0	1.71	1 720.5	2.72	50.0	15.8	0	0	165.6	18.8
2000	1 027.8	2.76	1 444.5	2.18	139.0	5.1	0	0	34.8	18.3
2010	1 155.6	4.89	1 450.3	2.54	180.2	9.5	10.1	15.32	172.9	25.6
2015	1 145	5.81	1 444.5	2.18	261.9	12.4	36.9	21.41	194.0	30.2
2016	1 135	5.92	1 423.1	2.61	266.9	11.8	40.5	24.24	205.4	27.1

 Table 2. Trends on area and productivity for selected crops in Uzbekistan, 1991-2016

Source: Ministry of Agriculture and Water Resources, Uzbekistan, 2016

Conclusion. Today, Uzbekistan has all the necessary socio-economic bases for deepening the innovation process and strengthening the innovation base.

However, there are problems with the way of innovative development of the agrarian sector, or in other words, the implementation of innovative projects in one or even several farms, because: firstly, farms and agroprocessing entities are currently ordering research and research. Insufficient participation in financing; Secondly, the economic entity cannot independently carry out research and development of advanced innovation technologies; thirdly, lack of knowledge of agricultural producers and processors for the use of new technologies and new varieties, they need to use the services of scientists and specialists, and

farmers face some difficulties in the processing and sale of products; Fourthly, the insufficiency of the developers' demand for innovation development by scientists of higher education and research institutions is not well established; Fifth, irresponsibility of some agricultural producers [7].

Agriculture is a vital sphere in Uzbekistan. The well-being of the large rural population, as well as ensuring the country's food security, depends on its sustainable development.

In this regard, the main directions of innovative development of agricultural sectors in Uzbekistan can be classified as follows:

 Developing new high-yielding crop varieties resistant to diseases through the use of cellular engineering, molecular genetics, and traditional breeding;

development of the industry.

The USA Journals Volume 02 Issue 08-2020

treatment of animals.

proposals

innovative

diagnostics,

and feeding animals; Development of new methods of

prevention,

with

and

measures

technological

- water supply on the basis of renewable natural energy sources; Improvement of systems for keeping
- processes in animal breeding;
- Development of technical means of
- mechanization of technological
- systems of machines for complex
- products of animal origin;
 - waste technologies of processing of Creation of new resource-saving

Adaptation of agricultural animals of

foreign selection to the conditions of

- Uzbekistan; Development and introduction of non-
- Development and use of highly effective bio preparation for control of diseases and plant pests; Creation of highly productive breeds

of farm animals;

- technological processes in agriculture;
- resource-saving systems of machines for complex mechanization of

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- Development and introduction of
- systems of land use and water-saving technologies;
- Adaptation of highly productive crop Andre Devaux, Maximo Torero, Jason 1. varieties of foreign selection to soil Donovan, and climate conditions in Uzbekistan; Development and introduction of new
 - Agricultural innovation and inclusive value-chain development: a review. Journal of Agribusiness in Developing and Emerging Economies Vol. 8 No. 1, 2018 pp. 99-123 Emerald Publishing Limited

Douglas

and

- 2. World Bank, Agricultural Innovation Systems: An Investment Sourcebook, World Bank 2012, Washington, DC.
- 3. Evenson, R. International diffusion of agrarian technology. The Journal of Economic History 1974, 34(1): 51–93.
- Klerkx, L., Hall, A. and Leeuwis, C., 4. "Strengthening agricultural innovation capacity: are innovation brokers the International answer?", Journal of Agricultural Resources, Governance and Ecology, Vol. 8 Nos 2009. 5/6, pp. 409-438.
- 5. Hall, A., "Challenges to strengthening agricultural innovation systems: where do we go from here?", in Scoones, I., and Thompson, J. (Eds), Farmer First Revisited: Innovation for Agricultural Research and Development, Practical Action Publishing, Rugby, 2009. pp. 30-38.
- **6.** The data of the State Statistics Committee of the Republic of Uzbekistan - https://www.stat.uz/
- 7. Djuraevna, Rustamova & Xalmirzaevich, Makhmudov & Mexmonovich, Yuldashev. Innovative Activities Of Agriculture In Uzbekistan. World Science, 2019. 3. 13-16.

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