

Organizational and economic mechanism for the development of innovative processes in agriculture in Uzbekistan

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Abstract: *The article is devoted to improving the organizational and economic mechanism for the development of innovative processes in modern conditions. The introduction of innovations in the agricultural sector is the basis for the growth of production and meeting the demand for agricultural products, contributes to an increase in the efficiency of the use of natural resources while preserving the environment, as well as improving the quality and standard of living of the rural population. The article presents the results of the analysis of the use of innovative technologies in farms of the Tashkent region of the Republic of Uzbekistan. Forms and methods of organizing and stimulating innovation in agriculture are proposed that will create the conditions for organizing and stimulating innovation in leading agricultural sectors.*

Key Words: *innovation process, innovation, organizational mechanism, economic mechanism, agriculture, agricultural enterprises.*

1. INTRODUCTION:

The development and further widespread dissemination of innovations are becoming key factors in the growth of production and employment in agriculture. It is here that the most substantial reserves lie for improving product quality, saving labor and material costs, increasing labor productivity, improving the organization of production and increasing its efficiency. All this, ultimately, determines the competitiveness of enterprises and their products in the domestic and world markets, improving the socio-economic situation in the agricultural sector of the country.

It is known that the successful development of the innovation process requires not only the accelerated production of high-quality scientific products, but also their active practical development.

The importance of the problems of introducing scientific and technological developments in agricultural production increases as market processes deepen.

As a result of the implementation of comprehensive measures to accelerate the transition to an innovative way of agricultural development, aimed at the structural transformation and diversification of the industry, as well as the rational use of resources, Uzbekistan has managed to maintain a growth trend in agricultural production.

In addition, in February 2017, by the Decree of the President of the Republic of Uzbekistan Shavkat Mirziyoyev, an Action Strategy for the further development of the Republic of Uzbekistan in 2017-2021 was approved, in which great attention was paid to the development of agriculture “3.3. Modernization and intensive development of agriculture: ... widespread adoption of intensive methods in agricultural production, primarily modern water and resource-saving agricultural technologies, the use of high-performance agricultural equipment; expansion of research work on the creation and introduction into production of new breeding varieties of agricultural crops that are resistant to diseases and pests, adapted to local soil, climatic and environmental conditions, and animal breeds with high productivity ... ”.

(1)

The problems of the theory of innovations are becoming increasingly relevant, causing great interest among many scientists, as evidenced by the ever-increasing volume of publications, both in foreign and domestic science. The problems of the development of innovative processes in agriculture are the most serious today and are relevant for further study.

2. LITERATURE REVIEW:

The problems of the theory of innovations are becoming increasingly relevant, causing great interest among many scientists, as evidenced by the ever-increasing volume of publications, both in foreign and domestic science.

The development of theoretical and methodological foundations of innovation and agricultural development is presented in the works of scientists: Andreev P.A., Bazhenova V.S., Druker P., Goldshtein G.Ya., Gokhberg L.M., Zavlin P.N., Ilyenkova S.D., Kamilova M.Kh., Kovalev G.D., Morozova G.I., Niyazmetov D., Peters M., Sandu I.S., Santo B., Twiss B., Fathutdinov R.A., Shadieva D., Shakirova F.B., Schumpeter I., Khojaeva K.A., Khuchek M. and others. (2-13)

Many works of theoretical scientists are devoted to theoretical aspects of the problems of innovation, their classification, organization of innovative management, state regulation of innovation.

At the same time, the issues of the practical use (development and implementation) of innovations in the production of the agricultural sector have not been sufficiently studied. The question of studying the laws and factors influencing the development of innovative processes in agriculture, where the technological, economic and organizational features of production interact with the natural biological laws of nature, remains very relevant.

3. METHOD:

The theoretical basis of the study was the work of domestic and foreign scientists and economists on the problems of the theory of innovation, innovative activity, the development of innovative processes in rural areas, as well as legislative and other regulations governing innovation.

To solve the tasks set in the work, general scientific and special methods of cognition were used as tools: comparative, economic and statistical data grouping, tabular methods of economic analysis and synthesis, graphical method, generalization method, method of expert estimates, etc.

4. ANALYSIS AND RESULTS:

The strategic direction of sustainable socio-economic development of the agricultural sector is to improve the forms and methods of organizing and stimulating the innovative activity of enterprises in all areas of the agricultural sector. The development of a new policy of effective interaction between the state and business, which really contributes to the intensification of innovative activity in agriculture, is one of the key problems of the modern economy.

The implementation of the regulatory legal acts of the Republic of Uzbekistan had a positive effect on the development of agricultural production, however, there are certain difficulties in implementing the directions of modernization of agriculture in the country and its regions. The insufficient level of funding for basic and applied agricultural science, the creation of scientific and technological developments, private and public investments and their integration in agribusiness, innovative infrastructure in agriculture, the inadequate development mechanisms and the stimulation of innovative activity hinder the growth of agricultural production.

The main factors in the growth of production and employment in agriculture are the introduction and further widespread dissemination of innovations. It is here that the most substantial reserves lie for improving product quality, increasing labor productivity, saving labor and material costs, improving the organization of production and increasing its efficiency. Ultimately, all this determines the competitiveness of enterprises and their products in the domestic and world markets, improving the socio-economic situation in the agricultural sector of the country.

Successful development of the innovation process requires not only the accelerated production of high-quality scientific products, but also their active practical development.

With the deepening of market processes, the importance of the problems of introducing scientific and technological developments in agricultural activity increases.

As a result of the implementation of comprehensive measures to accelerate the transition to an innovative way of agricultural development, aimed at the structural transformation and diversification of the industry, as well as the rational use of resources, Uzbekistan has managed to maintain a growth trend in agricultural production.

In order to assess the degree of application of innovations in farms of the Republic of Uzbekistan within the framework of the applied project "Improving the Use of Innovative Resource-Saving Technologies in Agriculture", the project executors conducted a survey of farm managers in the Parkent, Kibray and Yangiyul districts of Tashkent region.

The questionnaire was attended by 90 heads of farms specializing in vegetable growing, horticulture, grain growing, viticulture, animal husbandry, etc.

The survey covered households of all size groups typical of the region (by land area), which were divided into 4 groups (Fig. 1).

52 farms, which makes up 57.8% of the total number of surveyed farms, have their own equipment.

Next question: Have you taken part in trainings and courses to improve your knowledge and qualifications? The answers were as follows: 86.7% - participated (78 people); 13.3% - did not participate (12 people).

When asked whether there is a demand for innovation (new knowledge), 94.4% of the respondents (85 people) answered in the affirmative.

In what forms would you like to receive information about innovations, the following answers were received (it was supposed to select several answer options):

- field days - 48.9% (44 answers);
- information booklets - 21.1% (19 answers);
- round table - 56.7% (51 answers);
- educational seminars, trainings - 64.4% (58 answers);
- sites - 51.1% (46 answers);
- other forms - 4.4% (4 answers).

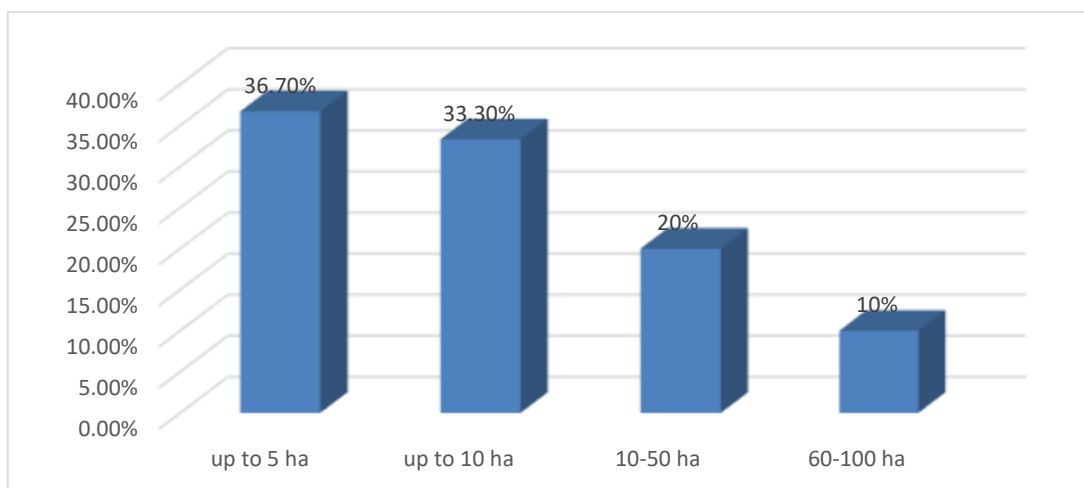


Fig. 1. The area of farms, % (14)

The next question examined the directions for which there is a demand for innovation in agriculture (it was supposed to select several answer options) (Fig. 2):

- new varieties - 73.3% (66 answers);
- technology - 61.1% (55 answers);
- equipment - 48.9% (44 answers);
- plant protection - 46.7% (42 answers);
- agricultural chemistry and soil science - 33.3% (30 answers);
- livestock technology - 31.1% (28 answers);
- legal issues - 28.9% (26 answers);
- ICT - 26.7% (24 answers);
- economic issues and accounting - 22.2% (20 answers).

When asked whether you used credit or leasing to introduce innovations in the activities of your economy, 30% of the respondents (27 people) answered in the affirmative.

To the question “Are you ready to attract masters, researchers and researchers to develop the activities of the economy and apply innovations?” 62.2% of the managers (56 people) answered positively.

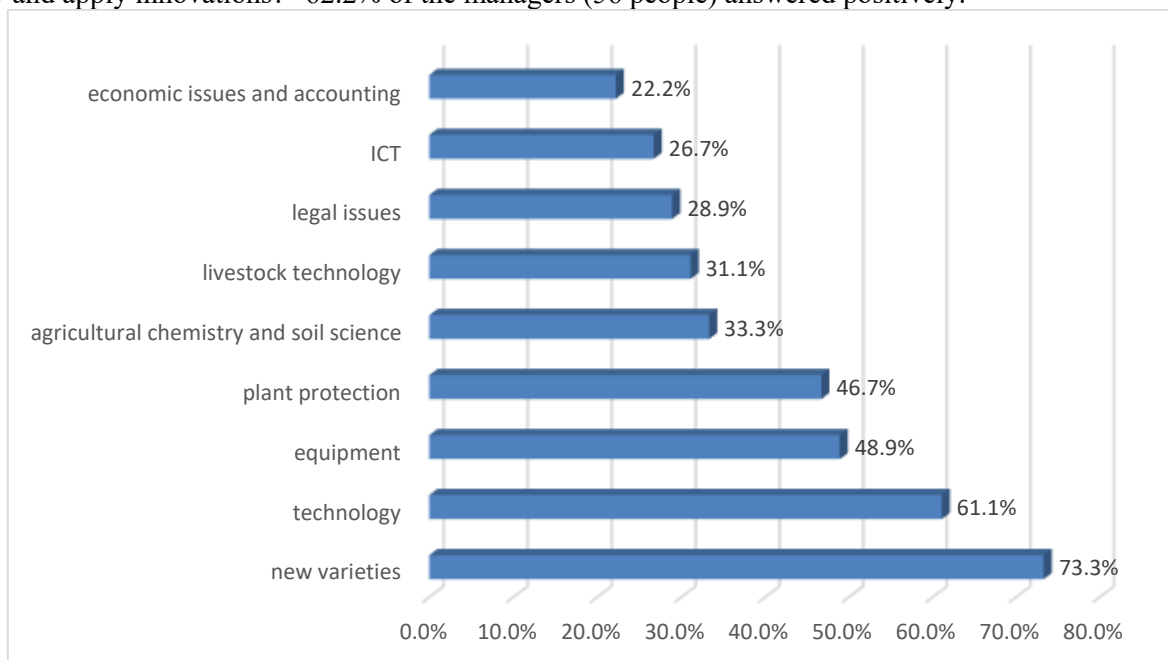


Fig. 2. Areas for which there is a demand for innovation in agriculture, % (14)

The results obtained in the study of the use of innovations in the activities of farms in the Tashkent region showed that the innovation activity of these farms is characterized by an average level of activity. 61% of the interviewed farm managers confirmed the application of the knowledge and skills gained in the farm’s activities, thanks to which they received an increase in profits due to higher yields and lower production costs. These are highly qualified, proactive farmers with practical farming experience and producing competitive products.

33.4% of the farm managers surveyed are characterized by an average level of using innovative developments in their activities: while striving to increase their rating and level of organization of production, they still use the old farming technologies and techniques. And 5.6% of farm managers are characterized by a low level, as they show indifference and indifference to the use of innovations.

In general, farms that have equity of more than 10,000 thousand soums, as well as borrowed funds and apply advanced technologies, take part in the application of innovative technologies. It is in such farms that they receive a higher income per 1 ha, and, consequently, achieve the optimal level of realization of their economic interests. Therefore, the further way of developing farms on an innovative basis is inextricably linked with the growth of investments and the accumulation of capital in the conditions of the full economic realization of land as the main means of production based on the reproduction of its soil fertility and the creation of a higher level of economic fertility.

In conclusion, we can draw the following conclusions that the use of innovation in agriculture is one of the main directions for increasing the efficiency of agricultural production. At the same time, the prerequisites for the further improvement of the use of innovations in the agriculture of the republic are manifested due to the creation and development of innovation infrastructure facilities, such as agrotechnological parks, information and consulting centers (ex-training), etc.

Recognizing the effectiveness and high importance of innovation for the national economy, it is necessary to state that the transition to a controlled development of innovative activity will require the creation of a new organizational and economic mechanism aimed at the development of innovative activity in the region. The development of this mechanism will make it possible, by combining agricultural science and production, to solve one of the main problems of agriculture - increasing the scientific and technical potential of the industry.

The functioning of this mechanism will ensure:

- acceleration of the introduction of new knowledge through the formation of a system for bringing innovations to real production;
- growth of investment activity and increase of investment attractiveness of the agricultural sector of the economy;
- rational and efficient use of unclaimed resources of large enterprises;
- Creation of conditions for the integration of subjects of innovation with government authorities that regulate relations and have a set of administrative resources.

The modern functioning of the agricultural complex should be carried out under the influence of an economic mechanism aimed at creating scientific, technological, managerial and organizational conditions for the innovative development of the industry.

The economic mechanism for the innovative development of the agro-industrial complex is a system of interconnected forms and methods of organizing and stimulating R&D, business development in the scientific and technical field of the agro-industrial complex and state support at all stages of the process based on the mutual partnership of its participants in order to increase the socio-economic and innovative development of agricultural production.

In accordance with the innovation development strategy of the agro-industrial complex, the formation of the economic mechanism should be carried out in the following areas:

- the creation of regulatory systems for innovation;
- program-targeted management of the development of innovation in the agricultural sector at the republican and regional levels;
- development of public-private partnerships.

A study of the content of the economic mechanism of the innovative development of the agro-industrial complex makes it possible to single out a set of institutional, instrumental, methodological, and regulatory components in it. Each of them determines its own forms and methods of organizing and stimulating innovation in agricultural production, as well as the direction of the main tasks to be solved, including: stimulating the innovative activity of business entities along the entire chain of innovation formation; development of the potential of business entities (innovative, technological, personnel, scientific, economic, etc.); increasing the investment attractiveness of the industry; development of infrastructure and markets for agricultural products.

An active option in organizing and stimulating innovation in agriculture should be the active participation of state capital on the principles of public-private partnership, which determines the use by the state of mechanisms that stimulate the participation of private business in the development of innovative processes, allows pooling of resources, sharing of profits and risks, and contributes to the formation of competitive environment and at the same time - more efficient use of budget funds.

A study of foreign experience shows that the process of innovative development in the agricultural sector should begin with stimulating the research activities of industrial research institutes by providing them with benefits, creating conditions for the integration of business, universities and research centers with innovative small enterprises operating in the state scientific technical topics in the field of agribusiness in the framework of national programs.

The acting role of the economic mechanism allows us to determine the system of forms and methods of organizing and stimulating innovation in agriculture. The following classification is proposed, which, in contrast to existing approaches, is based on the principles of development of public and private partnerships (Table 1).

As can be seen from this classification, the number of forms is quite diverse and, as a consequence, the field of managerial decisions on choosing methods of organizing and stimulating innovation is even more extensive. It is important to note that each of them has independence and a targeted focus, but all of them should be complementary in the framework of the development of public and private partnerships in investing in the industry.

Table 1. Forms and methods of organizing and stimulating innovation in agriculture

		Public private partnership		
Direc- tions	The form	Way		
		State level	Market level	
Economic mechanism	Financial component	Tax incentive	- tax incentives, incl. for industry research institutes; - depreciation policy	- tax credit; - depreciation fund; - investment
		Customs regulation	Customs clearance	Tariff Benefits
		Subsidies	Direct financing (subsidies, grants, loans)	Innovation Funds
		Lending	Interest-free loans	Soft loans
		Venture financing	Unit investment funds of especially risky (venture) investments	Investment, venture capital funds
	Organizational and entrepreneurial component	R&D Contracts and Orders	State investment order	- leasing relations; - innovative small enterprises
		Information support	Accounting, support for participation and presentation of the results of scientific and technical activities, intellectual property	- innovation centers, advisory services; - databases of scientific and technical information
		Integration of science - universities - business	- clusters; - special economic zones; - training of innovative managers on public procurement; - advanced training of management personnel	- business incubators; - shared form of cooperation; - agricultural parks; - megaproject; - technological platforms
	Administrative and legal component		State and regional programs	
			Improving the legislative framework	
		Administrative regulation		

The new organizational and economic mechanism for ensuring the innovative development of agriculture, which includes a set of interlinked and providing measures whose tasks are to create favorable conditions for passing all stages of scientific and technological updating of production, involves the consolidation of efforts of entrepreneurs, government bodies, local self-government, science and higher education to promote scientific, technical and innovative products to the consumer.

The economic mechanism should be implemented within a certain direction, which consists in the formation of an innovation policy in the agro-industrial complex in the priority areas for the development of this process. This provision will allow to develop a strategy for the transition to the option of sustainable development of agricultural production.

As part of the organizational component, it is necessary, first of all, to consider the development of innovation-oriented forms of management, the development of production and technological infrastructure, the creation of regional and interregional information and consulting centers that provide information support for innovation processes, the formation of an effective management system in the innovation sphere, the promotion of science integration and education. In this regard, an organizational infrastructure for the development of innovative processes is proposed as a set of state regulatory bodies engaged in the coordination of innovative processes in the region's economy and commercial and non-profit organizations that provide services to enterprises working in the innovation sphere.

The economic component of the organizational and economic mechanism includes increased funding for R&D and innovative projects from budgetary funds and concentration of resources in priority areas, support for financial leasing of innovative entrepreneurship, the use of venture capital in financing innovative activities, the rational use of economic levers of state regulation in agriculture (prices, taxes, finance, credit, etc.). It is implemented within the

framework of the innovation policy of the state and is aimed at enhancing innovation in the agricultural sector in the most priority areas for the development of this process.

5. CONCLUSION:

In modern conditions of lack of financial and material resources, it is almost impossible to master any innovation in the agricultural sector as a whole. Therefore, the so-called point technology of innovation is advisable: to concentrate innovations in specific territories, create “growth points” - the basis for testing new technologies. Technological platforms, agricultural parks, agricultural technopolises, business incubators, innovation and technology centers, transfer centers for agricultural innovations, etc., where you can fully use the ideas and results of scientific research, for example, in the field of environmentally friendly production, can be such innovative training grounds. products.

It is proposed to use both direct budget financing of innovative programs and projects with financial support from individual scientific organizations, as well as other sources of financing. As part of these activities, it is necessary:

- increase in financing of priority target programs, R&D and innovative projects from budgetary funds and concentration of resources in priority areas, ensuring the realization of specific advantages of innovative developments in the market;

- support for financial leasing of innovative entrepreneurship;
- insurance of innovative entrepreneurship, the formation of regional innovation support funds;
- The use of venture capital in financing innovative activities.

In addition, it is necessary to intensify the application of the main directions of state support for the innovative development of agriculture, in particular:

- reorientation of governing bodies from administrative and managerial functions to innovative activity;
- stimulating the activities of all organizational forms of the innovation process to assist producers in introducing the achievements of science and technology;

- development of information and consulting services;
- organization of retraining of personnel;
- development and implementation of a system of moral and economic incentives for the innovative development of agriculture;

- implementation of targeted state, industry and regional scientific and technical programs, etc.

To achieve this goal, it is necessary to solve the following tasks aimed at forming a coherent effective innovation system:

- integration of the resources and organizational structures available in the republic and their focus on priority areas for the development of the innovation sphere;

- ensuring the innovative development of high-tech spheres of the national economy of the republic by creating and developing a sectoral technical and technological base for the development and implementation of high-tech and high-tech products and technologies in production in the form of industrial districts, technopolises, technology parks;

- providing conditions for the formation of a progressive technological structure and the attractiveness of the innovation space of the republic by creating innovative infrastructure, implementing institutional, resource-credit, fiscal and tariff policies;

- increasing demand for innovation and attracting private capital to finance sectoral projects for the technological re-equipment of industry and other industries;

- involvement of the scientific and technical potential of the republic in the innovation process;

- reduction of transaction costs of innovation processes in the republic, including by minimizing risks in the implementation of innovative projects through insurance protection mechanisms.

In order to effectively implement this program, the fastest possible access to the self-sustaining regime of entities (and their units) created with state support is required:

- Formation with the state support of infrastructural elements of the republican innovation system with the subsequent replication of innovative and synergetic management technologies and financing technologies to other entities created on a commercial basis;

- introduction of technologies of innovative activity and forms of state and non-governmental support from the outside into the formed innovation system of the republic (achieved by placing and incorporating into the work the infrastructural elements of the system of carriers of innovation management technologies and financing technologies, including representative offices of foreign agencies, universities, foundations, participation of foreign specialists in this sphere, etc.);

- ensuring compliance with the level of complexity of the created innovative system of complexity of the republican economy, which is ensured by the creation of a system of interacting subjects of innovative activity distributed throughout the republic;

- stimulation of synergistic effects of innovative projects.

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