

OBJECTIVE NECESSITY AND MAIN DIRECTIONS OF TRANSITION TO DIGITAL ECONOMY IN AGRICULTURE OF THE REPUBLIC OF UZBEKISTAN

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ABSTRACT

Demographic conditions and the country's provision with natural resources in Uzbekistan, one of the most important and priority issues on the agenda is the intensification and digitalization of the agricultural sector. Uzbekistan has a relatively high potential and all the conditions to take advantage of a dynamic digital economy. The Republic is the most populous country in the Central Asian region, has a significant young and sufficiently educated workforce.

INTRODUCTION

At the moment, about 29,000 people are employed in the field of information and communication technologies (ICT) in the republic, working at 1,400 enterprises, whose total contribution to GDP is 2.2 percent. The gradual opening of the sector already allows citizens of the country to receive Internet services, and businesses to benefit from the digital economy. In the message of the President of the Republic of Uzbekistan Shavkat Mirziyoyev to the country's parliament, it was noted that in 2020 the country should make a radical turn in the development of the digital economy. It says "First of all, it is necessary to fully digitalize the spheres of construction, energy, agriculture and water management, transport, geology, healthcare, education, cadastral and archival affairs" [1]

This is the result of rapid population growth, a reduction in water supply and the transfer of agricultural land to other categories of the land fund. According to forecasts, over the next 30 years, the area of irrigated land may decrease by another 20-25 percent. The insufficient level of guarantee of the right to land use constrains the growth of the efficiency of management of the economy and limits the attraction of investments.

Currently, clear and transparent mechanisms for the distribution of land plots, as well as the protection of the rights of land users, have not been fully developed. There is also no possibility of subleasing land plots, which prevents the transfer of agricultural land to users with great potential. About 80 percent of the country's water resources are formed by transboundary watercourses. This underlines the importance of interregional cooperation for sustainable water resources management in Central Asia and in the Republic of Uzbekistan in particular. In the country, 70 percent of irrigation networks do not have anti-filtration coating, as a result of which part of the water is lost during transportation to the fields. The existing irrigation infrastructure, most of the pumping stations have been in operation for more than 30-40 years and need reconstruction or major repairs. Currently, drip irrigation has been introduced on only 1.7 percent of irrigated lands. Given the high degree of dependence of agriculture on irrigation, the situation may worsen with an increase in aridity as a result of climate change

and the continued use of traditional irrigation methods. According to the forecast of the World Resources Institute, by 2040 Uzbekistan will become one of the 33 countries with the greatest water shortage. A decrease in yields will lead to serious negative consequences for food security and the balance of payments, which underlines the need to switch to the practice of sustainable water management and resource-saving technologies in the cultivation of agricultural crops.

The lack of a mechanism to compensate for the costs of providing water for the needs of agriculture hinders the widespread introduction of water-saving technologies. The transition to the digital economy is a step towards improving the economic state of the state. Some elements of it are already successfully functioning in Uzbekistan. Today, taking into account the digitization of documents and communications, the permission of electronic signatures, communication with the state is also moving to a virtual platform.

Uzbekistan is not included in the group of leaders in the development of the digital economy by many indicators. Despite the fact that in 2019, the country rose by eight positions in the International ICT Development Index, nevertheless, there is a lag in this area. It is necessary right now to get involved in the general information and technological flow of updates and try to implement them effectively in practice in all social and economic spheres. There are all opportunities to make technological progress - a decent level of education, numerous cadres of young people who, with proper training, will compete with any "digital giant".

In this regard, in the Message, the President of Uzbekistan sets the task to make a radical turn in the development of the "digital economy", namely: to form an electronic platform of scientific achievements, a base of domestic and foreign scientific developments, to fully digitalize the spheres of construction, energy, agriculture and water management, transport, geology, healthcare, education, cadastral and archival affairs. Work is underway to complete the development of the Digital Uzbekistan-2030 program.

The global transition to digitalization will inevitably lead to the unrecognizability of many sectors of the economy. Currently, this process is expanding in Uzbekistan, which will undoubtedly entail a change in the technological structure and production chains. In the near future, our lives will change beyond recognition, and the task of everyone involved in this process is not to miss this technological turn, it is important to build their own priority niches for digital innovations, where with the least cost you can not only achieve independence in the domestic market, but also become recognized in the world community. Only in this way will the state be able to strengthen its position in the global market of data processing and storage services.

According to experts, the use of digital technologies in agriculture will allow agricultural enterprises to optimize over 23% of costs. Digitalization also creates conditions for increasing the transparency and openness of agricultural markets for the subjects of the agricultural market, as well as for buyers and consumers. For example, as a result of expert assessments, an unmanned aerial vehicle that reduces the use of chemicals by 20-40%, as well as a system of "smart" agriculture, including elements of a system of differentiated irrigation and fertilization, allowing to save up to 40% of the point use of water and energy resources. "The introduction of information technologies of the digital economy provides positive economic

effects and reduces the costs of agricultural producers by at least 23% with the introduction of an integrated approach",

- According to experts, today up to 40% of the harvest is lost due to the unbalanced use of seed potential, plant protection products, machine and tractor fleet capacities and new technologies. "Digital technologies in the agro-industrial complex make it possible to reduce the cost of production and create conditions for increasing production volumes," From our point of view, the following areas can be noted among the priority tasks of introducing the concept of smart agriculture:

- Use of water - energy and material-saving technologies that allow efficient use of existing water, material, energy and mineral resources;
- Widespread use of drip irrigation systems and open and closed land plots with the use of modern farming technologies and appropriate digital information and communication management systems;
- Widespread use of methods and methods of growing local and tropical crops in enclosed spaces, shelters and greenhouses using technologies developed in various developed countries;
- Introduction of methods of cultivation of various local and tropical crops using artificial substrates, including perlite and aeron;
- Development of crop cultivation methods by modern methods of aeroponics and hydroponics in smart greenhouses with digital software control;
- Increasing the quantity and quality of promising digital technologies for agricultural management through internal and external investment of significant funds in this vital area for the republic to ensure food security;
- The introduction of a variety of modern resource-saving technologies in agriculture, including the use of precise sowing mechanisms, the exclusion of the loss of mineral fertilizers by accurately calculating their consumption per unit of acreage;
- The use of Drones to monitor the condition of agricultural land, accounting for the use of land resources and monitoring the condition of the herd of animals in the fields;
- Training and involvement of modern specialists in the field of high technologies to work in various areas of agriculture of the republic;
- Introduction of advanced innovative technologies and advanced foreign experience in various areas of agriculture of the Republic of Uzbekistan;
- The transition to a digital method of information exchange, first at the level of regional centers, with a further transition to a nationwide scale;
- Creation of a mechanism for continuous monitoring and assessment of the condition of agricultural crops and lands in order to ensure an effective mechanism for their management;
- Development and implementation of methods, tools and relevant consulting companies to advise agricultural workers and farmers on the cultivation, processing, storage, marketing and marketing of agricultural crops;
- Creation of a digital platform for effective management, consulting and monitoring of agriculture at the state and regional levels;
- Develop new methods, technologies, equipment and automation devices for long-term storage and long-distance transportation of vegetables, fruits, flowers and greenery;

- Formation of the structure of agriculture oriented to the market, to export and to ensure the competitiveness of agricultural products on a global scale;
- To expand the production and use of environmentally friendly energy, agricultural products and products of poultry, fisheries and animal husbandry;
- To ensure the introduction of "Smart Agriculture" technologies based on the most advanced foreign analogues;
- Based on the introduction of innovative solutions to increase the efficiency of the logistics infrastructure of agricultural producers.

For the successful implementation of this concept, it is necessary to widely use the means and methods of digital technologies in agriculture in Uzbekistan. And it is also necessary to ensure the effective gradual implementation of the above provisions on a temporal and spatial scale.

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