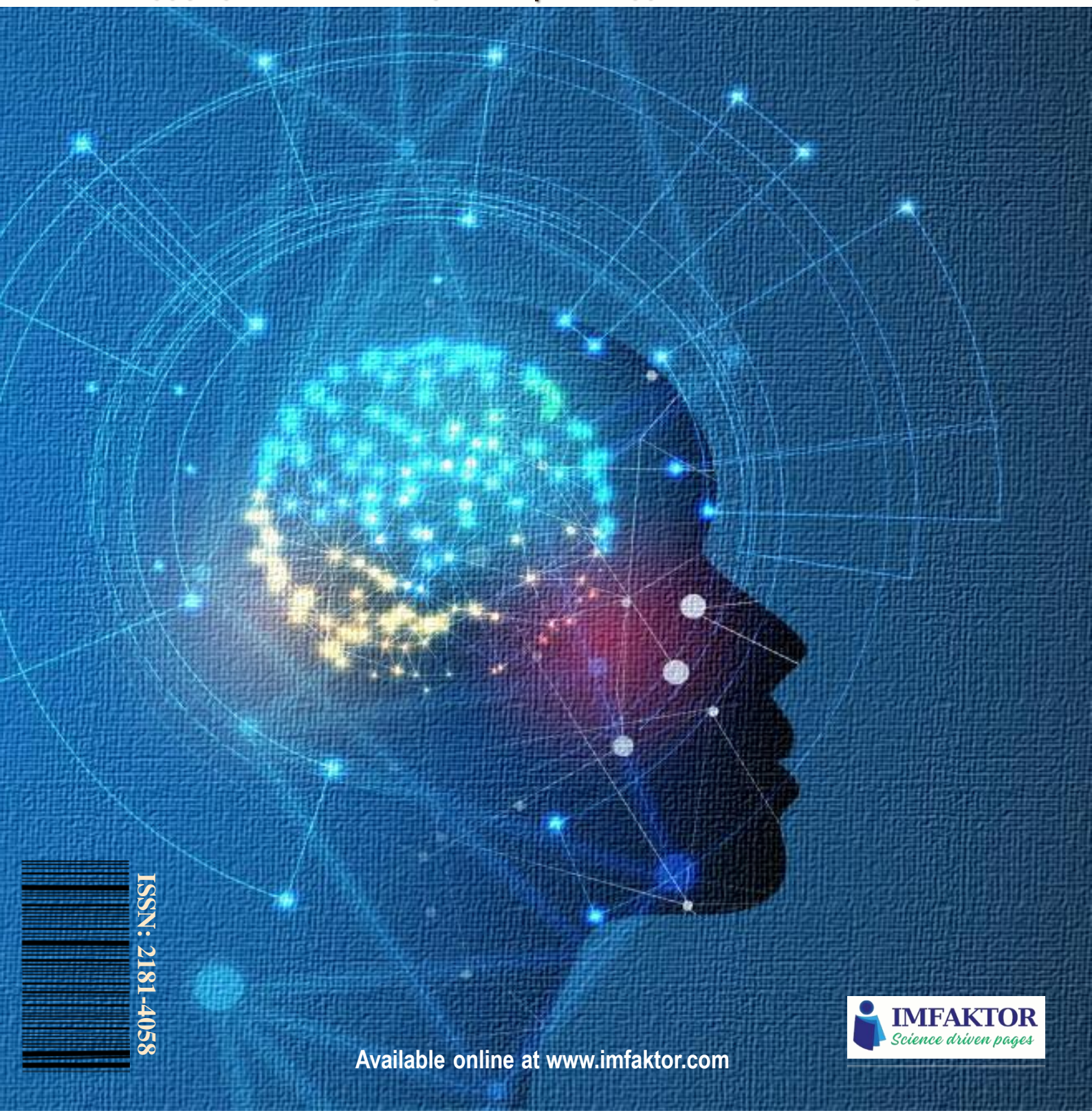


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ТАДҚИҚОТ ВА ИННОВАЦИЯЛАР ЖУРНАЛИ

ЖУРНАЛ ИССЛЕДОВАНИЯ И ИННОВАЦИИ | JOURNAL OF RESEARCH AND INNOVATIONS

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EFFECTIVENESS OF DIGITAL TECHNOLOGIES IN AGRICULTURAL DEVELOPMENT

ANNOTATION

This article provides for the efficient use of land resources, the use of new innovative techniques and technologies in agriculture. In particular, proposals and recommendations on the specific features of digitization in the effective use of agricultural resources have been developed.

Key words: land resources, water networks, digital technology, agrotourism, technique-technology, resources, digitalization, effective use.

ЭФФЕКТИВНОСТЬ ЦИФРОВЫХ ТЕХНОЛОГИЙ В РАЗВИТИИ СЕЛЬСКОГО ХОЗЯЙСТВА

АННОТАЦИЯ

В данной статье предусмотрено эффективное использование земельных ресурсов, применение новых инновационных приемов и технологий в сельском хозяйстве. В частности, были разработаны предложения и рекомендации по специфическим особенностям цифровизации при эффективном использовании сельскохозяйственных ресурсов.

Ключевые слова: земельные ресурсы, водные сети, цифровые технологии, агротуризм, техника-технология, ресурсы, цифровизация, эффективное использование.

QISHLOQ XO‘JALIGINI RIVOJLANTIRISHDA RAQAMLI TEXNOLOGIYALARNING SAMARADORLIGI

ANNOTATSIYA

Ushbu maqolada er resurslaridan samarali foydalanish, qishloq xo‘jaligida yangi innovatsion texnika va texnologiyalardan foydalanish ko‘zda tutilgan. Xususan, qishloq xo‘jaligi resurslaridan samarali foydalanishda raqamlashtirishning o‘ziga xos xususiyatlari bo‘yicha taklif va tavsiyalar ishlab chiqilgan.

Kalit so‘zlar: er resurslari, suv tarmoqlari, raqamli texnologiyalar, agroturizm, texnika-texnologiya, resurslar, raqamlashtirish, samarali foydalanish.

Special attention is being paid to wide implementation of digital technologies in areas of great importance for development in Uzbekistan. The agrarian sector occupies an important place in this region. It should be said that there are many problems with the implementation of digital technologies in the agriculture and water management sectors, and there are many issues that need to be solved quickly.

Information technology is very useful in land accounting and monitoring in agriculture. For example, through space sensing of the earth, it is possible to study the cultivated areas, the vegetation process, land reclamation and the amount of mineralization. It allows to increase productivity by 30-35% by specifying agrotechnical measures [1].

According to the President’s Decree on the approval of the Digital Uzbekistan-2030 strategy and measures for its effective implementation, the implementation of several dozen projects aimed at the development of agro-industry is defined. On this basis, the best technical solutions are being used to study leading foreign experience, including consulting and financial support from the European Union and the World Bank, to carry out the digitalization tasks and assignments in a rapid manner. Today, digital technologies are helping farmers and agronomists in agriculture. Big data and their analysis help to determine the favorable time for harvesting, calculate the fertilization scheme, monitor, and forecast the harvest.

Digital technologies make it possible to manage the entire cycle of plant science. Smart devices measure soil, plant parameters, microclimate and transmit data. Data from sensors, images taken from space, drones, meteorological stations and other equipment form Big data, are analyzed with special applications and placed on a geoportal.

Agriculture in the formation of the national economy of our country great attention is paid to its development. Strengthening agricultural research and researching the impact of natural factors affecting agriculture is also of great importance in the development of this field. In addition, large-scale structural changes and qualitative upgrades cause significant spatial changes over time in agriculture.

Because today, changes in the structure of cultivated areas due to the optimization of the lands for cotton cultivation and the expansion of the areas allocated for grain crops, vegetable growing, horticulture, and viticulture are continuing rapidly. Currently, it is necessary to pay special attention to digital technologies in solving the problems of the development of multi-sectoral agriculture. Along with the supply of food products to the consumer market of our republic and raw materials to the processing industry, agriculture is also considered a guaranteed market for the products of a number of industries, such as agricultural machinery, chemical industry [2, 3].

Therefore, on behalf of the president of our country, within the framework of the "Smart Agriculture" Concept, it is envisaged to actively apply digital technologies to agriculture, to carry out work on objective mapping of land areas and crops in Uzbekistan through the use of modern technologies. The following results can be achieved by implementing the "Smart Agriculture" Concept in Uzbekistan:

- improving management efficiency;
 - use of resource-saving technologies, in particular precision seed drills, agricultural machinery equipped with GPS equipment;
 - use of water-saving irrigation technologies that provide for efficient use of water resources and fertilizers;
 - application of robotics for the care of farm animals and milking;
 - attracting employees (specialists) with new modern professions to agriculture;
 - switch to the digital format of data exchange, reduce the types of reports and increase the efficiency of cooperation between participants and the state;
 - creation of a bank of knowledge and technologies aimed at general use in the agricultural sub-sectors and regions of the republic;
 - increasing adaptability and resilience to climate changes;
 - formation of competitive, market and export-oriented agriculture;
 - strengthening food safety and environmental protection
- strengthen doing;
- increasing the efficiency of public spending, including on the basis of public-private partnership;
 - introducing "Smart Agriculture" technologies corresponding to foreign analogues on a planned basis;
 - improving the efficiency of the logistics infrastructure of agricultural producers by introducing innovative solutions.

The active implementation of digital technologies in agriculture involves the implementation of objective mapping of land areas and crops through the use of modern technologies, thereby increasing agricultural productivity. In cooperation with the Ministry of Agriculture, OneSoil, and Boston Consulting Group, an agreement was signed on the use of satellite data in agriculture in Uzbekistan. This agreement envisages the active implementation of digital technologies in agriculture within the framework of the "Smart Agriculture" concept, the implementation of objective mapping of land areas and crops in Uzbekistan by using modern technologies.

Complex measures are being implemented in our country for the active development of the digital economy, the widespread introduction of modern information and communication technologies in all sectors and areas, first of all, in public administration, education, health care and agriculture. The Decree of the President of the Republic of Uzbekistan "On approval of the Digital Uzbekistan-2030 strategy and measures for its effective implementation" defines the task of improving the digital economy in our country on the basis of digital technologies [4].

Digitization is the electronic exchange of data in the agricultural network, the collection of statistical data and their analysis, the provision of up-to-date services and information for agricultural subjects using digital technologies, increasing the transparency of processes in this regard, and it allows to take measures to reduce the human factor, to establish an electronic exchange of information related to agriculture between departments.

Evidence can be given that billions of cubic meters of water are diverted to irrigate cultivated fields in our country. However, only about 65 percent reaches the fields. At the same time, the forecast of the World Water Resources Institute shows the need to take urgent measures. In particular, according to experts of the institute, it was noted that by 2040, Uzbekistan may become one of the 33 countries in the world with extreme water shortages. In the future, this situation may affect many areas.

Therefore, the preservation of this resource is a priority. The task of introducing water-saving technologies on an area of 200,000 hectares every year was set. They become part of the strategy created in this area. That is why the implementation of the "Smart Agriculture" Concept in Uzbekistan is one of the necessary processes.

As part of his visit to Belarus, the President got acquainted with the activities of the high-tech park "Belarus" in order to increase the knowledge experience of experts. He put forward a proposal to organize a presentation of the possibilities of the residents of this technology park in Uzbekistan, and through this, it is considered to increase the experience of specialists in our country. Recommendations were made regarding strengthening of technological cooperation, training of personnel and expansion of contacts on exchange of experience [5].

Also, if we talk about the development in this regard, the introduction of new technologies was thoroughly studied. The number of workers involved, time, and of course, the financial side of the issue directly depend on them. In particular, 76 cotton-textile clusters were established. This will provide employment to the population, including young people who are graduates of educational institutions.

By increasing the possibilities of using digital technologies in agriculture, introducing new technologies, increasing labor productivity and modernizing the economic network transition to development is required. In order to fill this gap, in our opinion, it is necessary to solve three issues:

- on the scale of the republic, region and district, the resource market of the producers of agricultural products, the market conditions, the demand for agricultural products, the cultivation of seeds of competitive product varieties, breeding stock, technology, vehicles, domestic and creation and improvement of the information service that provides other information related to the foreign market;

- Adjustment of Uzbek standards to world standards
- working on, improving standardization;
- improvement of production technology, agriculture
- transition to narrow specialization in the cultivation of products.

Digital transformation is changing all aspects of the economy, resulting in new business initiatives such as new business models, new products and services. This has affected the operation and management of business processes in all industries. Undoubtedly, the benefits of using digital technologies are well known, and mainly Big Data, Internet of Things, artificial intelligence, blockchain drones, GPS, and information-advisory mobile applications are widely used. Improved forms of agribusiness supported by digital technologies allow faster and easier performance of agricultural tasks, saving time and money, increasing flexibility and efficiency in production processes. Of course, the introduction of digital agriculture in Uzbekistan also has many advantages, which can be used to rationally use scarce resources, increase labor productivity, and increase crop yields.

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