

## MAIN BASIC DIRECTIONS OF USE OF DIGITAL TECHNOLOGIES IN AGRICULTURE IN THE REPUBLIC OF UZBEKISTAN

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**Annotation.** Now rapid growth of use of digital technologies on a global scale almost in all fields of activity of the person is observed. Is not an exception and agriculture, including in the Republic of Uzbekistan in which in last years in the field of development of digital technologies. In article the basic directions of use of digital technologies in the Republic of Uzbekistan agriculture are described.

**Key words:** digital technologies, management, irrigation, fertilizers, resource-saving technologies, biology, biochemistry, agronomics.

Now rapid growth of use of digital technologies on a global scale almost in all fields of activity of the person is observed. Is not an exception and agriculture, including in the Republic of Uzbekistan in which in last years in the field of development of digital technologies are accepted a number of decisions and Decrees of the President of the Republic of Uzbekistan [1-3]. The problem of digital technologies and their introduction in various fields of activity of the person are reflected in the books [4, 6-8] and articles [5, 9-12].

In the Republic of Uzbekistan which is in basic agricultural the country, the Concept of introduction of clever agricultural technologies (the portal of regulatory legal acts of the Republic of Uzbekistan, the concept of introduction of clever agriculture in the Republic of Uzbekistan, May, 2019) now is widely discussed. Main objective of this concept increase in efficiency of agricultural crops, increase of efficiency of in the agriculture and efficiency substantial growth of number of animals in the agriculture is a question of strategic safety of the state and the nation as a whole. For achievement of these purposes, is planned to carry out following problems:

- Management efficiency of Increase the agriculture an economy about use of digital technologies;
- Introduction resource-saving technologies with use of modern agro technologies;
- Use of modern technologies irrigation and fertilizers of farmland;
- Introduction of robots and the automated systems in activity of farmers and farms for growth a horned cattle;
- Attraction of highly skilled experts in management of agriculture;
- Transition to digital technologies at an information exchange between various subjects of agriculture;
- Working out of bases and databanks for needs of agriculture;
- Maintenance of grocery safety of republic by wide use of digital technologies;
- Introduction of modern foreign agricultural technologies in various branches of agriculture;

- Substantial growth of efficiency of logistical services on the basis of introduction modern digital innovative decisions etc.

Thereupon let's discuss, whether it is possible actually the organization of clever agriculture? That as that to answer this important question, it is possible results following real examples [4]: Engineers of company DJI Ferntech from Oakland have thought up to teach standard DJI Mavic 2 Enterprise to bark <<https://www.radionz.co.nz/national/programmes/checkpoint/audio/2018685575/barking-drones-used-on-farms-instead-of-sheep-dogs>>. To teach is, in general, it is loudly told. Actually they have only equipped with its loudspeaker and have connected function of reproduction of a sound. And - a drone-sheep-dog it is ready! Farmers have estimated this strange novelty of digital technology and have accepted on use. This pleasant history has instantly flown about the Internet world - a situation very much to provide entertainment it has turned out. Imagine to itself the following picture: lovely cows peacefully burn a grass and here the dog bark from heavens is suddenly distributed, and they almost understanding nothing, instinctively run away - and the happy farmer sit at home, drinks coffee and drives the pilotless device, directing the herd to the necessary party for it. By the way, it has appeared that old cows who have usually got used to ignore the dog bark, unmanned submit almost implicitly. And dogs have quickly learnt to work together with unmanned (drone) drives herd on the one hand, and dogs - about other, almost charming case. It is necessary to notice that agriculture the technology - AgTech (Agronomic technology) is by definition a certain complete ecosystem in a chain of creation of cost of production agribusiness. This certain rapprochement or a joint of biology, biochemistry, agronomics, a science about plants and animal industries and in this case process of digitalization is the present turning-point creating a strong basis for the future agriculture, representatives of company PwC <<https://www.pwc.nl/en/publicaties/understanding-the-agtech-ecosystem.html>> confirm. And ROI (Return of Investment) in AgTech-projects it can appear considerably above, than in traditional investments into agriculture. It is necessary to notice

that only in 2017 financing in sphere of agrotechnologies at the expense of investments or acquisition of such companies has increased almost by 32 % or in money terms to \$2.6 billion, and more than volume of half from 20 largest transactions in this area has exceeded \$50 million (Forbes <<https://www.forbes.com/sites/maggiemcgrath/2018/06/27/the-25-most-innovative-agtech-startups-in-2018/>>). The reasons of this position it is clear and without explanations - the quantity of people on mother Earth continues to grow, and it is necessary to provide all of them with a corresponding food. Under the forecast of the Organization of the incorporated nations, by 2025 population of the world can exceed 1 billion people, and to the middle of 21 centuries can reach in general almost 9.6 billion people. Experts of branch consider that thanks to digital transformation, cumulative productivity of agricultural branch should increase by 2030 almost on 60 % so deficiency of the foodstuffs hardly probable threatens us. In connection with these trends and innovations in sphere digital agrotechnologies in a portal of is standard-help documents of Cabinet Ministers of the Republic of Uzbekistan for general consideration and discussion it is published the project of the Concept of introduction «Clever agriculture» in the conditions of agriculture of the Republic of Uzbekistan. A main objective of this concept - productivity increase agricultural cultures, increase of efficiency of animal industries, protection agricultural cultures and grounds from wreckers and various insects for elimination of influence of external adverse factors on productivity of various cultures, and also introduction of modern methods of conducting agriculture and increase of culture of manufacture. The special attention addresses on introduction of high technologies and a digital method of managing in the Republic of Uzbekistan agriculture. In given article taking into account features of agriculture of the Republic of Uzbekistan some reasons; opinions and offers of authors on this very important problem for the country are resulted. From our point of view among priorities of introduction of the concept of clever agriculture it is possible to note following positions (these offers can be useful not only to Uzbekistan, but other adjacent Post-Soviet republics to maintenance of digital transformation of agriculture):

- Use water - power- and material-saving technologies which allow using effectively existing water, material, power and mineral resources;
- Wide use of drop system of an irrigation and the open and closed ground areas with application of modern technologies of agriculture and corresponding digital information-communication control systems;
- Universal use of methods and ways of cultivation of local and tropical cultures in the closed premises, shelters and hothouses using the technologies developed in the various developed countries;
- Introduction of methods of cultivation of various local and tropical cultures with use of artificial substrata, including перлитов and аэронов;
- Development of methods of cultivation of cultures by modern methods aeroponics and

hydroponics in clever hothouses with digital programmed control;

- Increase in quantity and quality of perspective digital technologies of management of agriculture by internal and external investment of considerable means in this vital sphere for republic for maintenance of grocery safety;

- Introduction various modern ресурсосберегающих technologies in agriculture, including, use of exact sowing mechanisms, an exception of loss of mineral fertilizers by exact calculation of their expense on area under crops unit;

- Use of agricultural mechanisms and the process equipment provided with the navigating GPS-equipment for the purpose of the exact account of the organization and conducting various agricultural works;

- Introduction of means of a robotics for care of agricultural machinery and the equipment, animals, дойки milk and meat cutting;

- Use the drone for supervision over a condition of agricultural grounds, the account of use of ground resources and supervision over a condition of herd of animals in fields;

- Preparation and attraction of modern experts in the field of high technologies to work in various directions of agriculture of republic;

- Introduction of the advanced innovative technologies and the advanced foreign experience in various directions of agriculture of the Republic of Uzbekistan;

- Transition to a digital method of information interchange at first at level of the regional centers with the further transition in the republic scale;

- Reduction of quantity paper registration and forms of account with the subsequent transition to electronic data carriers and electronic office-work;

- To Improve efficiency of interaction of workers of agriculture, farmers and private manufacturers with state bodies;

- Creation of a popular electronic databank on methods of competent cultivation of various agricultural crops in local conditions and to inform to consciousness of each representative of agriculture scientific bases of achievement of high efficiency of various agricultural crops;

- Creation of the mechanism of constant monitoring and estimation of a condition of agricultural crops and grounds for the purpose of maintenance of the effective mechanism of management of them;

- Working out and introduction of methods, means and the corresponding consulting companies for consultation of workers of agriculture and farmers on cultivation, processing, storage, marketing and sale of a crop of agriculture;

- Creation of a digital platform for efficient control, consultation and monitoring by agriculture at republican and regional levels;

- Creation of popular and open bank of knowledge after the agricultural technician, culture of cultivation of various cultures, technics and the technologies used in agriculture with the subsequent training to work with this system of all workers and managers of agriculture.

Thus means constant replenishment of this databank by experts of agriculture like well-known system of Wikileaks;

- To develop technologies of cultivation of the agricultural crops, capable to adapt to climate changes, environment on the basis of modern achievements of digital technology and to it to reach stability of agricultural cultures to external to influences;

- To develop works on gene engineering for deducing of new grades сельхоз cultures steady against local to environmental conditions;

- To develop new methods, technologies, the equipment and automatization of the device for long storage and transportation on a long distance of vegetables, fruit, colors and greens;

- Formation of structure of the agriculture, focused on the market, for export and on maintenance of competitiveness of agricultural production on a global scale;

- To expand development and use of non-polluting energy, сельхоз production and products of poultry farming, a fish economy and animal industries;

- On a basis use of digital technologies to increase efficiency of the allocated public funds, the ground areas and expenses of material assets;

- On a planned basis to provide introduction of technologies «Clever agriculture» on the basis of the most advanced foreign analogues;

- On the basis of introduction of innovative decisions to increase efficiency of a logistical infrastructure of agricultural manufacturers.

**Conclusion.** For successful introduction of the given concept wide use of means and methods of digital technologies in agriculture of the Republic of Uzbekistan is necessary. And also it is necessary will provide effective planning of introduction of the above-stated positions in time and in spatial scale. We offer also use of technologies of artificial intelligence (AI), big data for gathering, processing, transfer and data storage on agriculture of the Republic of Uzbekistan, and also technologies virtual (VR) and the added reality (AR) for modeling and management of a condition and development of agricultural crops in various conditions. Introduction of the Internet of things (internet of things - IoT) for maintenance of reception of the operative information on a condition сельхоз grounds in regional or republican scale for the purpose of optimum control of agriculture is required also. All information on manufacturers, suppliers and on the state organizations is supposed to be placed in the special integrated digital platform of «Clever agriculture». That will provide an openness of this platform of its function are integrated with the data of the state, bank, tax, insurance and financial organizations. Introduction of digital technologies in agriculture demands preparation and support of an infrastructure corresponding to it. And it without the corresponding organization of mobile communication will be not possible or very difficult. For maintenance of reliable sale of agricultural production it is necessary to provide the observability of this production in places of storage and in a way with use of signs, chips, identifiers, digital technologies and systems. The set of

personal technological decisions in certain cases can be necessary for certain categories of subjects of market relations. Also the organization online platforms and systems for sale of production of agriculture is required. Certainly, necessity and timeliness of corresponding is standard-legal documents, engineering specifications, standards and acts in this area does not cause any doubts. Thus all these documents should correspond strictly to the world standards and high requirements to quality of delivered production. Also with wide use of digital technologies it is necessary to develop systems of remote sounding of flora, navigation of farmland and animal industries. But at first digital systems and platforms are necessary for establishing and testing within one territory or area or the allocated settlement. After successful end of all tests this control system of agriculture can be duplicated in other territories of republic. At tests new digital сельхоз it is necessary to pay attention of technologies to following characteristics: production efficiency increase, maintenance of control of supervision, technology of exact agriculture, control of the vegetative period, observability, the characteristic of a digital field, numbering of animals, presence of the goods in storehouses, supply and demand size on the given groups of the goods, forecasts on separate positions of the goods and others. Considering that at us in republic not so high degree of modern agricultural literacy it is necessary to pay special attention on digital remote formation on problems and new trends in agriculture with attraction agro consulting firms and the organizations. It is not deprived sense and increase in quantity of students at agro institutes and universities, and also target improvement of professional skill of teacher's agro educational institutions on problems to digital economy and digital technologies in agriculture.

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## РОЛЬ ОРГАНОВ МЕСТНОГО САМОУПРАВЛЕНИЯ ПРИ ПРОВЕДЕНИИ ПРИМИРИТЕЛЬНЫХ ПРОЦЕДУР ДЛЯ УРЕГУЛИРОВАНИЯ ПОТРЕБИТЕЛЬСКИХ СПОРОВ

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## ROLE OF LOCAL SELF-GOVERNMENT BODIES IN CONCILIATION PROCEDURES FOR THE SETTLEMENT OF CONSUMER DISPUTES

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**Аннотация.** В статье рассмотрены вопросы значения роли местного самоуправления в процедуре урегулирования потребительских споров. Подчеркивается, что специфика отношений, в том числе достаточно жесткие и императивные требования Закона о защите прав потребителей, предопределяют модель процедуры медиации, которая, скорее, будет носить оценочный характер при активной роли медиатора. Но даже при таком условии применение медиации позволит разрешать споры с участием потребителей на ранних стадиях, до обращения в суд, что естественным образом обеспечит не только снижение судебной нагрузки, но и стабильность отношений между потребителями и продавцами (производителями), повышение взаимной уверенности и доверия.

**Summary.** The article discusses the importance of the role of local self-government in the procedure for the settlement of consumer disputes. It is stressed that the specifics of relations, including sufficiently strict and mandatory requirements of the Law on Consumer Rights Protection, will predetermine the model of mediation procedure, which, rather, will be of an evaluation nature with an active role of mediator. But even under such a condition the application of mediation will allow to resolve disputes with the participation of consumers at early stages, before the appeal to the court, which will naturally ensure not only reduction of judicial burden, but also stability of relations between consumers and sellers (producers), increase mutual confidence and trust.

**Ключевые слова:** органы местного самоуправления, урегулирование потребительских споров, примирительные процедуры

**Keywords:** Local governments, consumer dispute resolution, conciliation

Согласно Конституции РФ органы местного самоуправления выделены из системы органов государственной власти и самостоятельны в пределах своих полномочий [1, ст. 12]. Органы местного самоуправления обладают своими собственными полномочиями, в том числе, и в сфере защиты прав потребителей на территории соответствующего муниципального образования

(городского и сельского поселения, муниципального района, городского округа, городского округа с внутригородским делением, внутригородских районов и внутригородских территориях городов федерального значения).

Органы местного самоуправления территориально более приближены к жителям, поэтому взаимодействие потребителей с ними