

DIGITALIZATION IN THE FIELD OF LAND USE: LEGAL ASPECTS

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ABSTRACT

Motives: In the near future modern technologies enable to create an environment for a high-tech digital platform for land use, which will ensure the minimization of the human factor, accompanying corruption and errors, automate the collection of statistical, tax and other reports, and ensure decision-making based on an analysis of the real situation. It is important to mention that the President of Russia has identified digital transformation as a national development goal until 2030.

Aim: The purpose of the article is to research the legal problems of digitalization of land use in Russia. The authors implement an attempt to consider comprehensively various aspects of the digitalization of land use in agriculture, forestry, as well as on industrial and other special-purpose lands.

Results: The research methodology is based on scientific methods such as dialectical, logical, predictive methods, system analysis, content analysis, as well as private scientific methods (statistical, technical legal, comparative legal methods).

The authors consider the legal problems of digitalization of land use as the initial, basic directions enshrined in strategic planning documents that underlie the legal regulation of land relations in Russia. The article also highlights the issues of land use and the inclusion in the economic turnover of territories affected by both anthropogenic human activities, man-made and natural emergencies.

Keywords: digitalization, land use, land resources, strategic planning documents, legal regulation, legislation.

INTRODUCTION

Today, the “digital” economy offers ample opportunities for the development of the state land administration system. In the near future modern technologies enable to create an environment for a high-tech digital platform for land use, which will ensure the minimization of the human factor, accompanying corruption and errors, automate the collection of statistical, tax

and other reports, and ensure decision-making based on an analysis of the real situation [Keshelava et al., 2019, Zhavoronkova & Shpakovsky, 2019a].

It is important to mention that the President of Russia has identified digital transformation as a national development goal until 2030 [Decree No. 474, 2020].

Digitalization of land use gives the opportunity to create and implement an intelligent system for

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planning and optimizing agricultural landscapes and land use at different levels of generalization (economy, municipality, region, country, foreign territories), operating on the basis of digital, remote, geoinformation technologies and computer modeling methods [Zhavoronkova & Shpakovsky, 2019b].

The purpose of the article is to research the legal problems of digitalization of land use in Russia. The authors implement an attempt to consider comprehensively various aspects of the digitalization of land use in agriculture, forestry, as well as on industrial and other special-purpose lands.

For analysis, the authors take a significant array of legal acts of the Russian Federation regulating land relations, the collection and processing of information about land resources and rightholders, the organization of cadastral registration, state monitoring of lands and other issues, etc.

The article also highlights the issues of land use and the inclusion in the economic turnover of territories affected by both anthropogenic human activities, man-made and natural emergencies.

MATERIALS AND METHODS

From the point of view of legal research, land use as an integral and unified object of digitalization is an extremely complex and multifactorial subject of analysis. This complexity is due to a whole range of problems of both legal and institutional nature.

Among them, we highlight the following:

- the definition and content of the concept of “land use”. It can be considered as an environmental, economic, political, social, infrastructural, financial, spatial, accounting, investment, legal category. This multiplicity of functions makes it difficult to create a single content of the legal object of digitalization;
- categories, types and forms of land use. According to the Land Code of the RF [2001], there are 7 types (categories) of land use – agricultural, industrial and transport, forestry, water, environmental, “settled”, “reserve” and several dozen “subspecies”. In turn, these “categories” are superimposed on the

problems of ownership and use (permanent, rental, concession);

- according to Art. 72 of the Constitution of the Russian Federation [1993], land use is a subject of joint jurisdiction of the federal center and the constituent entities of the Federation, which implies the ownership, use, and disposal of land. Separately – local government bodies and “special” land users;
- responsibility for a particular type (category) of land use is borne by specially authorized state bodies in the field of agriculture, forestry, water management, environmental protection, urban planning, as well as authorities and administrations of the constituent entities of the Russian Federation and local governments.

It is necessary to “add” a plurality of extremely confusing normative legal acts regulating land relations, departmental disunity, shortcomings of the informational component of land management, methodological problems of sectoral approaches to “digitalization”, the need to collect, store and process a huge array of different quality and not interconnected data, “embedding” them into the public administration system, determining the feasibility, relevance, efficiency of application of departmental information systems for users. The list of organizational, legal and technological problems and difficulties is quite large and both semantic and legal correction of acts in the field of digitalization of land use as a single object is required.

It is difficult to talk about a unified concept and the creation of organizational and legal mechanisms for digital modernization of land use, but this is a task of paramount importance. In general, digitalization of land use is a complex systemic task affecting public administration, ecology, economy and other areas.

In our opinion, the country’s land management system, as a result of successful digitalization, will lead to structural changes in the economy of natural resource management, increased management efficiency, changes in the mechanism of interaction between government and departmental structures, and the unity of all information resources. And most importantly, it will help to find the optimal

combination between the needs of the economy and the environment, to organize the use of natural resources without detrimental effect.

Noting the organizational, legal and technological difficulties of digitalization of land use, it is worth noting such an important factor as the role of strategic management and its impact on the legislative process.

In our opinion, the Russian Federation has created a unique, perhaps unparalleled in the world, strategy system, which enables on the basis of forecasts and goal setting to concentrate available resources (including economic, managerial, legislative) for selected goals.

These strategic planning documents include the Strategy for the Development of the Information Society of the Russian Federation for the period 2017–2030, the Strategy for the Scientific and Technological Development of the Russian Federation for the period up to 2030, the Program “Digital Economy of the Russian Federation”, the Strategy for the Innovative Development of the Russian Federation for the period until 2020. In addition, national projects, state programs as normative documents make it possible to single out breakthrough projects of an inter-sectoral and inter-territorial nature and concentrate resources on their implementation.

The Strategy for the Development of the Information Society defines and reveals the meaning of the “digital economy”. The digital economy is defined as “an economic activity in which the key factor of production is digital data, processing of large volumes and the use of the analysis results of which, in comparison with traditional forms of management, can significantly increase the efficiency of various types of production, technologies, equipment, storage, sale, delivery. goods and services” [Decree No. 203, 2017].

In our opinion, the “ecosystem” of the digital land use economy is determined by goal-setting, the unity of methods and the interaction of technological platforms, Internet services, analytical and information systems capable of processing large databases and coordinating the management process.

As part of the basic concepts of the Strategy, the digital economy is defined as an economic activity,

where the key success factor is digital data, the processing of extremely large volumes of which and the use of the results of the analysis enable to achieve a significant increase in the efficiency of various activities (production, equipment, technologies, sales, storage, delivery of services and goods) in comparison with traditional forms of management [Evchenko & Vertakova, 2020].

According to the formed priority scenario of the future development of the information society in the Russian Federation, the state creates favorable conditions for the use of information and communication technologies.

What digitalization can provide in the field of land use? First of all: growth of labor productivity and reduction of transaction costs due to standardization of processes, simplification of interaction between subjects of management, introduction of new information and telecommunication technologies; simplification of document flow and court procedures for the implementation of most legally significant actions in electronic form; ensuring human rights and fundamental freedoms in one of the most sensitive areas of life – land use; preservation of the natural qualities of land, optimization of its use based on compliance with environmental safety measures, modeling of alternative land use options.

Digitalization of land use involves the improvement of existing and the emergence of new technologies.

As we have already noted, according to the Land Code, land use in Russian legislation is presented in the form of 7 categories in turn, breaking up into dozens of others. The creation of a single digital unified resource for different categories of land is a priority issue. Today, the most difficult and simultaneously bearing economic, legal, social, environmental, managerial, investment burden is a digital resource called “The Unified State Register (Cadastre) of Real Estate”.

The Unified State Register of Real Estate (USRN) is a collection of reliable and systematized information about real estate, which is registered in the cadastre, rights to real estate, the grounds for their occurrence,

right holders and other data [Federal Law on state registration of real estate, 2015].

The USRN, according to the current legislation, includes the following registers:

1. *Real estate cadastre*. It contains basic and additional information about the property. For example, the type of object, its cadastral number, description, area are indicated as the main ones, and the cadastral value, the address of the object (if any), the category of land, the results of land supervision, the presence of a dispute about the boundaries, the purpose of the building, structure and premises are the supplementary ones;
2. *Register of rights to real estate*. This registry contains:
 - a. information about the rights, restrictions on rights and encumbrances of the real estate object, real estate transactions subject to state registration;
 - b. additional information. These include, for example, information about an objection to a registered right;
3. *Register of boundaries*. This register contains, for example, information about zones with special conditions for the use of territories, administrative-territorial division, an approved land-surveying project, and public easements.

Information about land use, real estate objects, cartographic material is kept in the public domain and in the form of interactive maps available (free of charge) to any citizen. There are many resources on the Internet that allow to automatically receive all available information about the subject of law and objects of land use right.

A well-“digitized” organizational and legal basis for urban planning is complex and rather controversial. Land use in settlements, unlike, for example, agricultural use, is dynamic, affects the interests of many parties and is regulated by the Urban Planning Code, the Land Code, laws “On Environmental Protection”, acts of the authorities of the constituent entities of the Federation and local authorities.

All land in Russia is divided into zones and territories, which are taken into account when determining the types of their use. Regulation of land use in cities

and settlements is based on functional zoning, in accordance to which there are:

- zones for which boundaries and functional purpose are defined by territorial planning documents;
- urban planning zoning – the zoning of the territories of municipalities in order to define territorial zones and establish urban planning regulations;
- territorial zones – zones for which boundaries are defined in the rules of land use and development and urban planning regulations are established.

One of the key regulations that secure zoning are the rules for land use and development. Although the rules for land use and development refer to land legal relations, the legal interpretation of this act is contained in Art. 1 of the Civil Code. Land use and development rules are an act of urban planning zoning, the content of which includes: a description of territorial zones operating at the municipal or regional level; regulations, i.e. conditions for the construction of capital construction objects, determination of their location, purpose and parameters, mode of sites and underground utilities; the order of application, i.e. provision of official data to citizens and companies, issuance of permits, etc.

At present, its own rules for land use and development have been advanced and approved in each region, cities of federal significance, and municipalities. Moreover, these documents are subject to mandatory inclusion in the USRN database.

Another important “land user” tool is urban planning regulations. It establishes, within the boundaries of the relevant territorial zone, the types of permitted use of land plots, as well as everything that is above and below the surface of land plots and is used in the process of their development and subsequent operation of capital construction objects, the limiting (minimum and (or) maximum) sizes of land plots, plots and limiting parameters of permitted construction, reconstruction of capital construction facilities, restrictions on the use of land plots and capital construction facilities, as well as in relation to territories within the boundaries of which it is envisaged to carry out activities for the integrated development of the territory, the calculated indicators

of the minimum permissible level of provision of the corresponding territory with communal, transport, social infrastructures and calculated indicators of the maximum permissible level of territorial accessibility of these facilities for the population [Urban Planning Code, 2004].

The information base containing real estate cadastres has been and will remain the fundamental for land use in the context of ownership and disposal. The cadastre is directly related to the “land plot” and does not work without a geographic (topographic) reference.

However, it should be noted that “land use” is not reducible to real estate, but is a much more complex legal object.

RESULTS AND DISCUSSION

As part of the research of the issues of legal regulation of digitalization of land use, the authors focus on the most significant areas of land relations.

Agriculture

Agriculture is one of the largest land users in Russia. Considering land resources, land use, land relations as a single object, we must plan in advance not only the “digitalization” of land use, but a much more important aspect – increasing the efficiency of the entire nature use and management, since land use is only part of the management system.

In accordance with Art. 77 of the Land Code [2001], agricultural land includes land located outside the settlements, provided for the needs of agriculture, which in agriculture are the main means of production, the main source of production of their own food products and agricultural raw materials for industry. The composition of the lands of this category includes agricultural lands – pastures, arable lands, hayfields, land deposits occupied by perennial plantations: gardens, vineyards, technical and other perennial crops.

An important aspect of the development of digitalization of agricultural land use is digital land management. Digital land management is a system

of information support for management, economics, planning, including the processing of huge flows of environmental, geographical, economic, biological, statistical and other information (big geo data). Digitalization of land use ultimately serves the rational application of natural resources, effective management, improvement of tax, investment, legal, structural, spatial, urban planning programs.

Today our country, which accounts for more than 10% of the world’s agricultural land, is the largest reserve of agricultural land on the planet. The area of the land fund of the Russian Federation amounted to 17.22 million hectares (by January 1, 2015), of which about 13% is agricultural land [Moiseikina & Darda, 2015].

The Government of the Russian Federation, considering the current state of development of state monitoring of agricultural lands within the framework of the Concept for the development of state monitoring of agricultural lands and the formation of state information resources about these lands for the period until 2020, stated the following:

- the country lacks an up-to-date cartographic basis, which does not allow solving the assigned tasks of land monitoring in many regions of the Russian Federation;
- the control over vast agricultural areas within the boundaries of the fields of individual crop rotations is complicated, which is a consequence of the lack of digital thematic maps for such areas;
- topographic maps available in most constituent entities of the Russian Federation date back to the mid-80s – early 90s of the last century, while the pace of work on their centralized updating has significantly decreased;
- the data of the processing results of the All-Russian Agricultural Census of 2006 are largely unreliable due to the fact that their submission to the statistical reporting system was carried out directly by agricultural producers.

According to the Ministry of Agriculture of Russia, the area of unused arable land in 2016 was 20.3 million hectares, of which 10 million hectares were at that time suitable for introduction into production

without capital investment costs. By January 1, 2020, institutions and enterprises subordinate to federal executive bodies were provided with 6,911 land plots from federal agricultural lands, for a total area of 1,347,205.25 hectares.

Improving the efficiency of agricultural land use can serve as the streamlining and optimization of land use and land management on the basis of consolidated electronic passports of agricultural land, from cadastral numbers to soil characteristics. In addition, in the field of land use, digital technologies can also be applied to control land use.

Currently, the main information resource for digital land management is the Unified Federal Information System on Agricultural Lands.

This system provides the Ministry of Agriculture of the Russian Federation and subordinate organizations with operational, relevant and reliable information on agricultural lands, obtained in the course of state monitoring of these lands. Within its framework, obtaining, storing, processing and analyzing information about agricultural land, accounting for land, reclamation systems and hydraulic structures, systematic monitoring of the state and use of land, supplying stakeholders with information about agricultural land are provided.

The system contains information about: borders and areas of agricultural land and crops; data on land users; indicators of soil fertility; information about negative processes, objects and structures of land improvement and other information.

One important aspect of digitalization should be emphasized. Thus, the formation of an effective land use management system will require changes in the processes, nature, management procedures, if a new “digital” decision-making system is adapted to ordered databases. Algorithms, programs, special applications will allow to automatically perform those actions that previously required countless approvals and control and supervisory procedures.

This problem is partially solved within the framework of the Unified Federal Information System on agricultural lands and lands used or provided for agriculture as part of lands of other categories.

For this purpose, the system provides a solution to a number of tasks: consolidation of information about agricultural land from various sources, automation of the processes of obtaining, verification, processing, analysis of relevant information about agricultural land used or provided for agriculture as part of land of other categories, land accounting by type of agricultural land; systematic monitoring of the state and use of agricultural lands, indicators of soil fertility, development and spread of the processes of their degradation, the state of vegetation on agricultural land; visualization of the results of state monitoring of lands, including in the form of digital maps of various thematic focus; providing authorized users and stakeholders with information about agricultural lands and analytical information about their condition and use, obtained within the framework of this system.

A comprehensive digital profile of agricultural land includes both traditional information on the boundaries of land plots, cadastral numbers, owners, on the contours of fields with data on their use, etc., as well as information from soil, agrochemical, agrophysical maps, yield maps. It is necessary to ensure the binding of all data to spatial coordinates and provide the functions of geoanalytics. According to Rosreestr, half of the land plots – 29.4 million at the beginning of 2017 did not have the necessary coordinate description of the borders, the absence of which does not mean a full-fledged register of rights to land plots, and therefore their turnover.

It is quite obvious that without using the assessment of land and resource potential, registration of ownership of rural land and its arrangement, it is impossible to achieve information management (digitalization) based on “big data”. The entire architecture of digitalization of rural land use should be built on this principle.

In addition, land management, its digitalization should be the main mechanism for implementing the state’s agricultural policy, the main factor in increasing the competitiveness of agriculture and be embedded in the overall system of economic management.

Forestry

The largest territories (lands) in Russia are part of the forest fund.

The fundamental strategic documents in the field of digitalization of forestry are the “Strategy for the development of the forestry complex of the Russian Federation until 2030”, the goals of which are declared: achievement of sustainable forest management, effective and innovative development of the use, protection and reproduction of forests, ensuring outstripping growth rates of the forestry sector, ecological and social security of the country, fulfillment of accepted international obligations on forests; increasing the long-term competitiveness of the forest industry and increasing the contribution of the forestry complex to the social and economic development of Russia.

Within the framework of the National Project “Digital Economy”, a number of measures are envisaged for the development and implementation of digital technologies in forestry. This implies assistance in the modernization of existing and creation of new systems of data on forest resources, a set of documented information about forests, their use, protection and reproduction in order to develop a single digital platform for information and analytical support of management decisions made by officials in the field of forest relations.

A problematic issue is the ratio of the norms of the Forestry and Land Codes on the categories of forest lands. Article 7 of the Land Code [2001] defines the categories of land in the Russian Federation, which include forest land (forest land and non-forest land), the composition of which is established by forest legislation. By virtue of Part 1 of Art. 8 of the Forest Code, forest areas within the forest fund lands are in federal ownership. The transfer of federal property is carried out by the Government of the Russian Federation (Part 1 of Art. 8 of the Land Code [2001]).

Since the implementation of the transfer of forest lands to lands of other categories entails a change in the legal regime of land use (exploitation, circulation, protection), the legislator has established certain

features of the legal regulation of the procedure under consideration.

At the moment, the introduction of digital technologies in forest management is being actively carried out, but in a decentralized manner. In the regions of the Russian Federation, different approaches to the digitalization of forestry are used, starting with the use of specialized software products and ending with the use of certain general-purpose software products. However, none of the ongoing projects solves the problem of creating a unified information automated system that allows collecting, receiving, storing, processing and using information on the state of forests, their qualitative and quantitative characteristics, their use, protection and reproduction, or partially solves it. In addition, to date, Russia does not have a legal framework regulating the creation and use of digital technologies on the territory of the country that comprehensively automate all stages and elements of the activities of all subjects of forest relations.

Within the framework of the Program “Digital Economy of Russia” in forestry, the formation of a federal state information system “Information system for remote monitoring of the Federal Forestry Agency” is being implemented, including the Unified State Automated Information System for recording timber and transactions with it, as well as the creation of the following new systems:

1. Departmental fund of spatial data.
2. Automated system “Control over the reliability of forest pathological survey reports”.
3. The situation center of the Federal Forestry Agency.
4. Unified automated information system.

In our opinion, the “digitalization” of the forestry industry can significantly reduce costs, make all transactions and forest use “transparent”, exclude illegal logging, illegal seizure of forest areas, and increase the profitability of the entire industry. The main direction of the development of informatization in forestry should be the creation of a unified automated information system as a unified Internet platform to provide information and analytical support for the activities of economic agents, officials in the field of forest relations.

Lands for industry and other special purposes

Digitalization of land use in the category “Lands of industry and other special purposes” is carried out depending on the nature of special tasks for the solution of which they are used or intended [Land Code, 2001].

The main difficulty in digitalizing land use in industry and settlements (cities) is the zoning of territories. According to the current legislation, the types of zones with special conditions for the use of territories [Land Code, 2001] can be established: zones of protection of cultural heritage objects; security zone of electric power facilities, security zone of railways; security zone of communication lines and structures; protected zone of a specially protected natural area (state nature reserve, national park, natural monument); network and state gravimetric network; protective zone of a hydropower facility, etc.

Judicial practice

The possibilities and practical use of digitalization is manifested in a decrease in the number of court cases in the field of land use. Analysis of judicial statistics shows a large number of land disputes that are considered by courts annually. According to the report on the work of the courts of general jurisdiction on the consideration of civil, administrative cases at first instance for 12 months of 2017 in the courts of general jurisdiction, 179,830 disputes related to land use were considered on the merits, with a total of 231,345 applications for such categories of cases. For comparison: the courts of general jurisdiction, considering land disputes as a court of first instance, in 2015 received 104,022 cases related to the application of land legislation [Umerenko, 2018].

Which aspects of land use the digitalization of land use can solve: disputes over the formation of land plots, disputes over the acquisition of rights to land plots, disputes over rights to land plots and termination of rights; disputes about the determination of the procedure for the use of land plots; disputes over

payment for land plots; disputes about inheritance of land plots.

This list is conditional and can be criticized due to the intersection of the subject of the dispute.

It is important to note that participation in international organizations allows Russia to integrate the most successful experience in cadastral registration in Western countries. For example, in Spain, the inventory (cadastre) is divided into urban and rural. It contains information about changes of a physical, economic and legal nature. The first includes changes related to the physical appearance of the object: new construction; extension, reconstruction, partial or complete demolition or demolition of existing buildings; in the rural cadastre – a change in the structure of cultivated areas or forms of land use. Changes of an economic nature are associated primarily with a change in the type of use of the property or its purpose. Changes such as the transfer of ownership or the emergence of a right are considered legal; allocation of a part of a real estate object, its division or merging with other objects.

Negatively affected lands

The management of negatively affected land resources is an important issue.

First, the extensive use of land resources has led to the disruption of the ecological balance in nature and the degradation of large areas of agricultural land. On the territory of the Russian Federation, there are practically no lands left that would not experience anthropogenic impact of a predominantly negative nature. Thus, the area of territories undisturbed by economic activity is estimated to be at least 65%, while undisturbed areas on all continents of the Earth make up 27%. This is largely due to the transition to industrial and intensive technologies, the use of high doses of mineral fertilizers and chemical plant protection products, which are accompanied by soil pollution with ballast substances, the accumulation of toxic chemicals in the soil and subsoil waters.

Secondly, natural and man-made emergencies are a serious source of pollution. Land use issues in the affected territories are regulated by a large number

of legal acts. So, according to Art. 14 of the Land Code [2001], lands that have been exposed to radioactive and chemical contamination and where the production of products that meet the requirements established by law is not ensured, are subject to restriction in use, exclusion from the category of agricultural land, and can also be transferred to reserve lands for their conservation. The production and cultivation of agricultural products is not allowed on contaminated lands. The procedure for the use of such lands is regulated by the Decree of the Government of Russia dated February 27, 2004 No. 112 “On the use of lands exposed to radioactive and chemical contamination, carrying out reclamation and cultural and technical works on them, establishing protective zones and preserving objects located on these lands”. Land use in areas affected by the accident at the Chernobyl nuclear power plant is regulated, among other things, by the Law of 15.05.1991 No. 1244-1 “On social protection of citizens exposed to radiation as a result of the disaster at the Chernobyl nuclear power plant”.

The issues of preventing and responding to oil and oil products spills on the territory of Russia are regulated by the Decree of the Government of the Russian Federation of December 31, 2020 No. 2451.

The use of lands exposed to radioactive and chemical contamination is carried out depending on the danger to human life and other organisms. Lands can be divided into three categories:

1. Contamination of the territory is within acceptable limits and such a site can be used without restrictions.
2. Land of medium pollution, which can be cultivated with conditions for preliminary sanitation (cleaning measures).
3. Territory with life-threatening pollution. The site is subject to conservation for a certain period until the re-analysis of soil and air.

The complete restriction on the use of land applies only to areas with a dangerous degree of pollution. Other territories can be exploited with certain restrictions. On the contrary, it is recommended to use some agricultural land with a low degree of pollution for sowing forage crops, which, in the process of growth,

process impurities of heavy radioactive metals in the soil, which contributes to the fastest cleansing.

Other lands unsuitable for use are subject to cleaning, rehabilitation or conservation measures. The principles of the rational use of such territories are determined by legislative acts on the basis of the norms of state environmental monitoring.

All this necessitates the development of qualitatively new approaches to land use and nature management, in which the main place should be occupied by the harmonization of compromise relations between society and the biosphere, nature and man, ecology and economy. Moreover, greening should be a priority, since not only the economic effect of the measures taken, but also the prevention of negative manifestations in nature depends on minimizing environmental miscalculations in practice [Petrova & Stepkin, 2020].

Digital technologies will make it possible to implement an effective and rational set of measures for the greening of land use.

At present, several directions of this activity are being considered.

First of all, this is the creation of an integrated system for remote monitoring of the region, which will allow monitoring the state of the forest fund, agricultural lands, waste management, subsoil use, etc. In addition, the accumulated problems can be quickly and massively solved using modern information and communication technologies.

In addition, an experiment is currently being prepared in Russia to create a single information resource on land and real estate. The project will allow to combine disparate information resources on land of state and municipal authorities to improve the efficiency and quality of service delivery.

The World Land Management Survey prepared by the United Nations Economic Commission for Europe stated that “...the level of civilization of a society is determined by the level of development of land management and land use”. It was also emphasized there that “...due to insufficient land management in Russia, millions of hectares of previously cultivated agricultural land are empty”. The data of the

National Union of Land Surveyors of Russia show that more than 60 million hectares of land, consisting of 6.2 million plots, can be involved in agricultural use.

An important and promising direction of digitalization of land use in Russia is the implementation of technologies of the “Smart Region” project. Of course, a state program for the integrated development of rural areas based on digital management should be introduced. A tool should appear that will help to see the strengths and weaknesses of each region in terms of different indicators. Without analyzing this, it will be difficult to make decisions and move on.

CONCLUSION

Thus, as a result of the research, the following can be distinguished. The consistent introduction of digital technologies in the land use of the country will not only allow for a new leap in scientific and technological progress in this area, but will also contribute to successful socio-economic development. The potential for digitalization of land management is aimed, first of all, at the development of specific proposals for the efficient and comprehensive use of land, substantiation of all possible ways to improve and develop the use of territories, as well as to logically accelerate the formation of a rational model of land use of the near future.

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