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**INFORMATIZATION AND DIGITIZATION
OF LAND RELATIONS IN UKRAINE:
PROBLEMS AND PROSPECTS**

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Abstract

The relevance of the topic is due to the integration of Ukraine into the world information space. The low level of information society development, e-government and e-democracy, and the digital development of Ukrainian society require immediate steps. The purpose of the paper is to summarize theoretical and normative approaches to the implementation of the process of informatization and digitization of land relations. The study covers the period from 1998 to the present. The author used both theoretical and empirical methods. The creation of the Ministry of Digital Transformation for the first time in the

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history of Ukraine was a positive innovation. Land management documentation has maintained electronically since 2019. Introduction of electronic land bidding is an important innovation in the field of land relations. Informatization of land relations and reform of the State Land Cadastre will promote transparency of the land market in Ukraine, reduce the cost of planning territories of communities, timely receipt of reliable information about landowners and the value of the land contracts. This will create more favourable conditions for the implementation of land reform and revitalize the investment climate.

Keywords: digitization, electronic auction, geospatial data, informatization, land relations, state land cadastre.

INTRODUCTION

Scientific, practical problems

The intensification of the development of information resources and services in modern Ukraine is conditioned by the unsatisfactory situation in the field of informatization. The level of development of the information society, e-governance and e-democracy, the digital development of Ukrainian society is relatively low compared to the EU countries.

The proclamation of independence, the integration of Ukraine into the world information space and the development of the market economy became the prerequisites for the formation of legal, organizational, scientific and technical, economic, financial, methodological and humanitarian preconditions for the informatization

development. Transformation of all spheres of public life in Ukraine has gradually become impossible without the usage of modern technologies of digital economy and digital innovations. Need for the formation of a national information resources system has led to the creation of a nationwide network of information support for land relations.

In domestic science problems of improving the effectiveness of land relations regulation through the development of their information support have repeatedly become the subject of scientific research. At first, dissertations of S. Grynko (2003)²⁴⁹, T. Lisova (2004)²⁵⁰, S. Goshtynar (2008)²⁵¹, Z. Yaremak (2009)²⁵², Y. Pyvovar et al. (2019)²⁵³ investigated the problems of complexity and corruption of administrative procedures, issues of providing and receiving information on land plots, maintenance of the state land cadastre and

²⁴⁹ Grynko, S. V. (2003). Legal aspects of land rights registration. (Unpublished PhD dissertation). Taras Shevchenko National University of Kyiv, Ukraine.

²⁵⁰ Lisova, T. V. (2004). Legal regulation of land management. (Unpublished PhD dissertation). National Law Academy of Ukraine named after Yaroslav Mudruy, Ukraine.

²⁵¹ Goshtynar, S. L. (2008). Legal regulation of the state land cadastre in Ukraine. (Unpublished PhD dissertation). National Agricultural University, Ukraine.

²⁵² Yaremak, Z. V. (2009). Legal regulation of state cadastre of natural resources. (Unpublished PhD dissertation). National University of Bioresources and Environmental Management of Ukraine, Ukraine.

²⁵³ Pyvovar, Y., Pyvovar, I., Babyak, A., Nazar, Y., & Ostrovskiy, S. (2019). Permission for the development of a land management plan for a land plot allocation as an administrative service: A theoretical approach for legal practice. *Amazonia Investiga*, 8(22), 370-380.

land management.

Later National report “On the land reform completion” had been prepared by scientists of the National Academy of Agrarian Sciences of Ukraine under the leadership of L. Novakovsky. Shortcomings and problems of a legal, economic and organizational nature of Land reform had been analyzed in the report. The necessity of information support of quantitative and qualitative land registration, registration of boundaries of administrative-territorial units, which would be formed as a result of administrative-territorial reform, transparency and accessibility to the population of land-cadastral documentation, was proved. The scientists proposed to expand the list of bodies, organizations and persons who have access to the information of the state land cadastre in readable mode.²⁵⁴

The problems of legal support for the provision of contactless administrative services in the field of land relations were investigated by O. Drozd and O. Levchenko in the monograph “Contactless administrative services of the State Service of Ukraine for Geodesy, Cartography and Cadastre; questions of theory and practice”. The authors of this monograph have characterized the condition of regulatory support for contactless administrative services in the field of state land cadastre. They also have examined the stages of administrative procedure for providing contactless administrative services, outlined the standards for providing contactless administrative services by the State Agency of Geocadastre. It is worth supporting the

²⁵⁴ National Report on Completion of Land Reform. (2015). Novakovsky, L.A. (Eds.), p. 47.

proposal of the authors to introduce on-line state portal of administrative services on-line questioning of the customers of services in order to improve the quality of administrative services provision within the relevant integrated information systems (including the Public Cadastral Map of Ukraine).²⁵⁵

In the monograph “Scientific bases of solving the problems of land management of rural territories on the basis of geoinformation-cartographic modelling of land use parameters” (2016) authors I. Kovalchuk, T. Evsyukov, A. Martin, R. Tychenko, I. Openko, O. Atamanyuk, I. Demyanchuk, N. Lishchuk, O. Patichenko propose algorithms for solving socio-economic, managerial, environmental problems and land use risk assessment. According to them, one of the methods of creation of information support for the development of rural territories is the modeling of the parameters of land use with the use of geoinformation. The important role of geoinformation systems and on-line mapping is ascertained.²⁵⁶

D. Busuyok in the monograph “Administrative and Service Legal Relations in Land Law of Ukraine” (2017), examining the procedure of providing and receiving data from state cadastres and registers came to the right conclusion that the existing set of cadastres should be

²⁵⁵ Drozd, O., Levchenko, O. (2016). Contactless administrative services of the State Service of Ukraine for Geodesy, Cartography and inventory; questions of theory and practice, p. 172.

²⁵⁶ Kovalchuk, I.P., et al. (2016). Scientific bases of solving the problems of land management of rural territories on the basis of geoinformation-cartographic modeling of land use parameters. Kovalchuk, I.P. (Eds.), p. 5.

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transformed into an interdependent cadastre system through their connection. When someone includes or excludes certain data from the relevant cadastre, automatic changes will be made to the available information throughout the cadastre system. Including or excluding particular data will not only result in their normal accumulation within one cadastre. The existence of such a system will be facilitated by the automation of the maintenance of existing inventories, which will be based on the use of GIS technologies.²⁵⁷

Despite the availability of these scientific papers, the modern challenges require a thorough study of the legal issues of informatization and digitization of land relations, that is extremely important due to Ukraine's European integration.

Purpose of the study

The purpose of the paper is to summarize theoretical and normative approaches to the implementation of the informatization and digitization process in land relations, to identify the main tendencies of development and features of their application in Ukraine. The main aim of the paper is to characterize the theoretical and practical experience of conducting the State land cadastre, the organization of electronic bidding and other land relations in the field of informatization and digitization in order to determine the main ways of improving the legislation of Ukraine.

Object and Subject of the Research

²⁵⁷ Busuyok, D. (2017). Management and service legal relations in the land law of Ukraine, p. 342.

The object of the study is the patterns of development of legal regulation of land relations in the context of informatization and digitization. The subject of the research is the legal regulation mechanism of informatization and digitization in the area of State land cadastre, electronic land biddings, geospatial data infrastructure and other land relations that recently have been changing because the influence of informatization and digitization processes.

Research Methods and Techniques

The study covers the period from 1998, when the National Program for Informatization was adopted by Ukrainian parliament to the present day, when the state policy in the sphere of providing electronic and administrative services is being actively implemented and national electronic information resources are being developed. Theoretical methods (analysis, synthesis, generalization) and empirical method (observation) were used. Formal-logical method has ensured the reliability and scientificity of the information and made it possible to identify the inconsistency of certain land-legal norms with the realities of public life, as well as the contradictions between normative-legal acts. The formal legal method was used to study legislation solely within positivism. The effectiveness of the implementation of information was investigated while using the functional-legal method. System-structural method helps to view the legislation as an orderly, holistic, logically constructed set of legal acts. The specificity of the formation of the legislative definitions was investigated using the logical-semantic method. The prognostic method application made it possible to make forecasts of the development of informatization and digitization of land relations.

THE FIRST TOPIC

**THE HISTORICAL PREREQUISITES AND THE
THEORETICAL SUBSTANTIATION OF THE
INTRODUCTION OF INFORMATIZATION IN THE
FIELD OF LAND RELATIONS IN UKRAINE**

The Land reform had been conducted in Ukraine since 1990. Land reform had legally formalized the change of the land system, economic priorities, ideology. Deep revision of the land legislation had been conducted. Ukraine's accession to the new historical era implied a critical reassessment of past experience in the regulation of land relations, theoretical understanding of the processes and phenomena taking place in the area of land use and protection, development of new approaches to their study.

Land is important for national sovereignty and functioning of the economy, it's also a basis for agricultural production. Land is a spatial basis for the location of all sectors of the economy. Just as a legal category (means of production, spatial basis, object of real estate, etc.) land is an object of land relations. The legal value of land is determined by its properties. Land is a special object of nature that has properties that are not inherent in other natural or artificial objects.

Fundamental and central to all the rules of land legislation are the rules of Part 1 of Art. 13 of the Constitution of Ukraine: "... land, its subsoil, atmospheric air, water and other natural resources within the territory of Ukraine, the natural resources of its continental shelf, exclusive (maritime) economic zone are objects of property of the Ukrainian people". Constitution of Ukraine legally expressed freedom,

equality and justice for each person. Human rights are guaranteed in the Constitution of Ukraine and in the fulfillment of obligations regarding the use of land for the satisfaction of private and public needs and interests.

The Constitution proclaimed that land within the territory of Ukraine is not only an economic component of social development, but foremost emphasizes the importance of land as a component of the environment. The indispensability of the land determines its special status, enshrined in Art. 14 of the Constitution of Ukraine, according to which "... land is the main national treasure under special protection of the state". Being under special protection of the state is ensured by the land protection function of the state. The state's land protection function, enshrined in the Constitution of Ukraine, envisages carrying out activities in three main areas: land protection, rational land usage and environmental security.

The purpose of land legislation is to establish state guarantees of land rights and freedoms of citizens, to develop effective mechanisms for their implementation as a prerequisite for the transition from the existing declarative nature of legal regulation of land relations to an effective system of enforcement of legal norms. The basic tasks of the land legislation at the present stage of its development are: creation of optimal legal conditions for the exercise of the right of every citizen to land and the fulfillment of the obligation to protect the land as the main national wealth, to treat the land with care; legal support for reducing the negative impact of economic and other activities on the state of land; definition of the legal basis of the state policy in the field of land use and protection, which will provide a balanced solution of socio-

economic problems, strengthening the law and order in the field of land use and protection.²⁵⁸

Processes of informatization and digitization in the field of land relations have been initiated and have actively been implemented to ensure the rights and legitimate interests of each citizen. The adoption of the Concept of the National Program of Informatization and the Law of Ukraine “On the National Program of Informatization” of February 4, 1998 was caused by the growing society needs for ensuring transparency and accessibility of information in all spheres of public life, including land relations.

The National Informatization Program has identified a strategy for solving the problem of providing information needs and information support for socio-economic, environmental, scientific, technical, defense, national-cultural and other activities of national importance. The Program helped to improve state policy and priority directions of creation of modern information infrastructure of Ukraine. It was initiated due to the concentration and rational use of financial, material and technical and other resources, production and scientific and technical potential of the state, as well as coordination of activities of state bodies and local self-government bodies in the field of information.

Informatization is an objective stage of social progress. The definition of the term “informatization” can be found in Art. 1 of the Law of Ukraine “On the National Program of Informatization” of February 4, 1998:

²⁵⁸ Sydor, V. D. (2012). *Theoretical problems of development of land legislation of Ukraine*. Abstract of the Doctor of Science dissertation (2012), p. 14.

*“Informatization is a set of interrelated organizational, legal, political, socio-economic, scientific and technical, production processes aimed at creating the conditions for meeting the information needs of citizens and society based on the creation, development and use of information systems, networks, resources and information technologies that are built on the base of modern computing and communication technology”.*²⁵⁹

Unlike the term “informatization”, the term “digitization” is a neologism, which means changes in all spheres of public life related to the use of digital technologies. This term was introduced into the Ukrainian language only a few years ago. The current legislation defines digitization as “saturation of the physical world with electronic-digital devices, means, systems and establishment of electronic-communication exchange between them, which in fact allows for the integral interaction of the virtual and the physical, that creates cyberphysical space”.²⁶⁰

Unfortunately, land relations for a long time were in corruption sphere. In order to prevent corruption and abuse in relations of land transferring, to introduce competitive basis of land usage through the electronic land biddings pilot project on the introduction of electronic

²⁵⁹ On the National Program of Informatization. Law of Ukraine. (1998). Retrieved from: <https://zakon.rada.gov.ua/laws/show/74/98-%D0%B2%D1%80>

²⁶⁰ On Approval of the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020 and Approval of the Plan of Measures for its Implementation. Order of the Cabinet of Ministers of Ukraine. (2018). Retrieved from: <https://zakon.rada.gov.ua/laws/show/67-2018-%D1%80>

land bidings for state-owned agricultural land was provided from October 1, 2017 to October 1, 2019.²⁶¹

Nowadays land biddings are conducted through a single electronic trading system, in real time on the Internet. As a result of the bidding, a contracts for the sale, lease, superficies or emphyseus of the land plot will be concluded with the winner who offered the highest price. In accordance with the adopted bill, a new procedure for holding land biddings is recognized. It provides automation for a number of processes. All documentation related to the land bidding will be open and ensure the efficiency of the organization and conduct of the biddings.

We can confirm the availability of state's information function. The importance of the state's information function, covering the relations associated with the creation, storage, processing, transmission of information, is growing. The purpose of the state's information function is the formation of the information space in Ukraine and the development of the information society. To fulfill the information function effectively, the Government of Ukraine approved the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020 on January 17, 2018. This Concept envisaged the implementation of appropriate incentives for digitization of the economy, public and social spheres, awareness of existing challenges and tools for digital infrastructure development, acquisition of digital

²⁶¹ Procedure for implementation of the pilot project on conducting electronic land bidding. Resolution of the Cabinet of Ministers of Ukraine. (2017). Retrieved from: <https://zakon.rada.gov.ua/laws/show/688-2017-%D0%BF>

competencies by citizens, and identifies critical areas and projects for digitization, promotion of the internal market for digital production.²⁶²

An important milestone in the process of informatization and digitization of land relations was the creation for the first time in the history of Ukraine the Ministry of Digital Transformation on September 18, 2019. Nowadays the Ministry is the main central body of executive power, which ensures the formation and implementation of state policy in the areas of digitalization, digital development, digital economy, digital innovation, e-government and e-democracy, development of the information society; in the field of digital citizens' rights development; in the areas of open data, development of national electronic information resources and interoperability, development of broadband infrastructure for Internet access, e-commerce and business; in the field of electronic and administrative services; in the area of electronic trust services and electronic identification.²⁶³

The Ministry of Economic Development, Trade and Agriculture of Ukraine presented the Open Land Project on November 20, 2019. The main purpose of the Project was the ensurance of transparency and traceability of land relations, as well as providing information about

²⁶² On Approval of the Concept of Development of the Digital Economy and Society of Ukraine for 2018-2020 and Approval of the Plan of Measures for its Implementation. Order of the Cabinet of Ministers of Ukraine. (2018). Retrieved from: <https://zakon.rada.gov.ua/laws/show/67-2018-%D1%80>

²⁶³ Issues of the Ministry of Digital Transformation. Resolution of the Cabinet of Ministers of Ukraine. (2019). Retrieved from: <https://zakon.rada.gov.ua/laws/show/856-2019-%D0%BF>

landowners, the value of sales and lease agreements, the concentration of land in one person's ownership. The main tool of the Project is the geoportal, where the results of the data processing of remote sensing of lands of Ukraine are collected and the public cadastral map is connected (<https://map.geoportalua.com>). On this map of the geoportal anyone can see the boundaries of the agricultural fields, whether they are cultivated or not, what crops are growing there, what is the moisture of the soil, what is the vegetation index of the crops at the time of shooting and so on. Geo-portal data also discovers unregistered, unused land plots.²⁶⁴

THE SECOND TOPIC LEGAL SUPPORT OF INFORMATIZATION AND DIGITIZATION OF LAND RELATIONS

The analysis of the legal framework governing the informatization of land relations should be started from the Concept of the National Informatization Program, approved by Parliament in the Law of Ukraine of February 4, 1998. Paragraph 8 of this Concept provided for informatization in the field of ecology and use of natural resources. Multipurpose information and technological base using geoinformation technologies for collecting, storing, analyzing the whole set of information for modeling and further forecasting the ecological status of the territories was created on the basis of cartographic databases.

²⁶⁴ Open Land Project. Retrieved from: <http://www.me.gov.ua/News/Detail?lang=uk-UA&id=908f6040-fd0d-4faf-9b4f-f5868bae0c42&title=TimofiiMilovanovPresentationProjectvidCriteriaZemlia>

The software and hardware complex for solving the problems of environmental pollution forecasting, analysis and assessment of the risk of ecological and economic conflicts, forecasting the consequences of human-made impact and natural catastrophes for reliable protection of the ecological space of Ukraine, rational use of natural resources on the basis of management of harmonized management types of production activities was created.²⁶⁵

Later the Parliament adopted the Law “On Topographic, Geodetic and Cartographic Activities” on December 23, 1998. This law regulated the procedure for conducting scientific, production and management activities aimed at determining the parameters of the figure, the gravitational of the Earth, the coordinates of the points of the earth's surface and their changes over time, the creation and use of state geodetic and gravimetric networks of Ukraine, a network of permanent satellite observation stations, topographic, thematic maps, creation and updating of the cartographic basis for state cadastres, geospatial database and geoinformation systems (Article 1).²⁶⁶

The adoption of the Law of Ukraine “On State Land Cadastre” of July 7, 2011 became the milestone of all land data transfer from paper to digital media.

Since 2013 the State land cadastre has been maintained as a single

²⁶⁵ On the Concept of the National Program of Informatization. Law of Ukraine. (1998). Retrieved from: <https://zakon.rada.gov.ua/laws/show/75/98-%D0%B2%D1%80>

²⁶⁶ On topographic-geodetic and cartographic activity. Law of Ukraine. (1998). Retrieved from: <https://zakon.rada.gov.ua/laws/show/353-14>

state geoinformation system of information on land located within the state border of Ukraine, their purpose, restrictions in their use, as well as data on the quantitative and qualitative characteristics of land, their assessment, distribution land between owners and users.

The geodetic basis for the State land cadastre is the State geodetic network. The cartographic basis of the State land cadastre are maps drawn up in form and scale in accordance with state standards, norms and rules, technical regulations. Objects of the State land cadastre are lands within the state border of Ukraine; land within the territory of administrative-territorial units; land use restrictions; land plot (Article 10).²⁶⁷

According to the Order of Administration of the State Land Cadastre, approved by the Ministry of Agrarian Policy and Food of Ukraine on December 27, 2012, the administration of the State land cadastre was carried out due to ensure the functioning of the State land cadastre: 1) the basic means of automated processing, storage, transmission and protection of information; network equipment and telecommunication networks; 2) infrastructure systems and complexes for providing the environment for the functioning of information processing and storage facilities, network equipment; 3) monitoring, security and alarm systems and systems; 4) objects and individual complexes; 5) general software of the State land cadastre; 6) specialized software of the State land cadastre.

New large-scale changes in the management of the state land

²⁶⁷ On the State Land Cadastre. Law of Ukraine. (2011). Retrieved from: <https://zakon.rada.gov.ua/laws/show/3613-17>

cadastre have begun in Ukraine since 2018. Firstly, it is planned to create orthophotos and a 3-D terrain model of the territory of Ukraine. Secondly, the filling of the information of the state land cadastre provides for one hundred percent inventory of state agricultural lands; inventory of other state lands; making information about land quality characteristics. Thirdly, the transformation of the State land cadastre system aims at creating new electronic registers, above all – the Electronic Register of Certified Land Engineers and Surveyors.

The advantages of using information technology in this area include a reduction in the time decision-making and improving the quality of management procedures; increasing the efficiency of information; ensuring the reliability of the information about land resources; improving the organization of the processes of preparation, adoption and implementation of decisions.

It should be noted that legislative support in the regulation of land problems requires immediate improvement. The government stipulates that land use documentation should be in electronic form since 2019. Opening of the coordinates of the turning points of land is planned. In addition to this, the reform process foresees the cancellation of the registration of satellite radio navigation equipment.

Great prospects for land relation development has implementation of electronic biddings. The active use of the advantages of the network economy, which has been observed in Ukraine recently, and as a result, an increase in investment in the Internet, leads to the rapid development of electronic commerce systems. Introduction of electronic land bidding is an important innovation in the area of land relations. According to the Resolution of the Cabinet of Ministers of Ukraine of

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October 23, 2019, No. 884, responsible for ensuring the functioning of the electronic trading system has been designated the state enterprise «PROZORRO.SALES», which belongs to the sphere of management of the Ministry of Economic Development, Trade and Agriculture. An e-commerce system has a two-tier information and telecommunication system consisting of a central database and electronic platforms that interact through an application programming interface, which is provided in the form of open source code and defines the functionality of the e-commerce system. This system provides the ability to create, post, publish and exchange information and documents in electronic form necessary for the bidding in electronic form. The winner of the lot is the bidder who offered the highest price in the electronic trading system. Bidding is conducted through an electronic platform – a hardware and software complex that operates on the Internet, connected to the electronic trading system and provides the auction organizer, users and participants with the opportunity to use the services of such system with automatic exchange of information about the process of electronic biddings.²⁶⁸

Creation of a National geospatial data infrastructure in Ukraine also an important innovation in land relations. Development of this infrastructure is foreseen by Directive 2007/2/EC of the European Parliament and of the Council “On Infrastructure for Spatial Information in the European Community (INSPIRE)” on March 14,

²⁶⁸ Some issues of alienation of state property objects. Resolution of the Cabinet of Ministers of Ukraine. (2019). Retrieved from: <https://zakon.rada.gov.ua/laws/show/884-2019-%D0%BF>

2007.

The system should combine all the registers and information bases of the state. It can help to anyone to receive relevant documents in a simplified manner. Nowadays there are currently more than twelve sectoral cadastres in Ukraine that display mapping information. In addition, there are separate geoinformation systems created by state and local governments. For example, the State forest cadastre contains information on the environmental, economic and other quantitative and qualitative characteristics of the forest fund. The Water cadastre keeps records of water features and records of their use. In the Agrochemical map of soils it is possible to get acquainted with the composition of soils, to assess the fertility and content of the main trace elements. State cadastre of wildlife, state cadastre of deposits and manifestations of minerals, Cadastre of treatment natural resources, Flora, Territories and objects of the nature reserve fund, Interactive map of soils – here is an incomplete list of systems that include scattered information related to the land relations.

Development of National geospatial data infrastructure aimed at ensuring effective administrative decision-making by public authorities and local self-government, eliminating duplication of work and expenditures of the state budget for the creation of geospatial data at all levels of public administration and local self-government, meeting the needs of society in all types of geography, integrating Ukraine into the European and global spatial data infrastructure.

The scale of the existing problems and the importance of the development of land relations in order to ensure the successful implementation of the socio-economic development of Ukraine

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determines the expediency of developing the main directions of state policy on improving the use and protection of land. Development of space technology for monitoring the land use efficiency is a perspective direction of informatization of land relations. EU-backed World Bank launched Pilot Project on Satellite Monitoring of Agricultural Land Use in Ukraine. The project “Supporting Transparent Land Governance in Ukraine” has been improving transparency and efficiency of land asset management in Ukraine during 5 years. It is being implemented by EOS (Earth Observation System), based on space monitoring data, analyzed the vegetation of the earth's surface, that allowed to create a map of crops, determined the exact boundaries of fields. Within the framework of the World Bank and EU Program, the company based on space monitoring data analyzed the vegetation layer of the earth surface, that contributed creation of crops maps and helped to determine the exact boundaries of farmland. The discrepancies in the cadastral data and the fact that there were no changes in agrocultures were also identified.²⁶⁹

²⁶⁹ Supporting Transparent Land Governance in Ukraine. (2018). Support Supporting Transparent Land Management in Ukraine. World Bank Program with EU. Retrieved from: <https://ukraine-landpolicy.com/newsletter-1-for-the-world-bank-and-eu-program-supporting-transparent-land-governance-in-ukraine-october-2018/>

CONCLUSIONS

The development of Ukraine as a democratic state involved the formation of a consistent system of law that would meet the needs and interests of society. The adoption of a large number of new laws in the area of land use and protection were conditioned by the long-term implementation of Land reform in Ukraine. Land reform affected a lot of spheres of public life and cannot be carried out without adequate changes in the legal regulation of land relations.

Over the last decade the process of improving computer technology and Internet technologies, as well as the process of their inclusion in everyday life, has intensified. Digital technologies are being implemented in all areas of public life. The sphere of land relations is no exception.

To sum up, the informatization of land relations should be based on the following principles: (1) general availability and openness of information about land resources; (2) ensuring the safety of person, society and the state; (3) awareness of citizens about the activities of land authorities; (4) the legality of the search, receipt and transmission of information about land; (5) providing reliable information about the land; (6) protection of the right to information.

The creation of a digital database of on all land within the territory of Ukraine should be carried out on the principles of objectivity, transparency, efficiency, flexibility, innovation, ensuring the performance of functions of control, supervision and monitoring of land condition and transactions with land plots.

Land relations informatization and State land cadastre reform should promote transparency of the land market in Ukraine. Reduction

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in the community planning cost is expected. It will lead to economic growth of regions and a positive investment climate of Ukraine.

Digitization will allow tracking of land relations, receipt of reliable information about landowners or about the value of the transaction on time. Of course, personal data about land owners and users will not be disclosed.

Through the development of the National geospatial data infrastructure public authorities, local self-government and private sector will be able to rely on a complete database of information for decision-making on land relations and territorial development. It will provide needs in the area of construction and engineering research, ecology and navigation.

In our opinion, a clear systematization and creation of a unified system, which would summarize all information about the land resources – from the quality of the soil and to with the resource potential of a separate land plot. The State land cadastre has already contained the following information: administrative boundaries; index-cadastral map; orthophotos; ground section; agro-production groups of soils; hydrography; points of the state geodetic network; land use restrictions; normative monetary valuation data. In the near future Public cadastral map will include the following new information: coastal protection strip; unregistered territories; forests; nature reserve fund; minerals (special permissions).

Such information has been already opened: decisions on the disposal of state-owned agricultural land; conclusions of land management documentation expertise; conclusions on consideration of land management projects for land allotment; measures of state control over

land use and protection and their results. The land information available to the land managers should be open and accessible to both citizens and investors. It will create more favorable conditions for Land reform in Ukraine.

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