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Research Article

DIGITAL LAND CASTEST IS AN IMPORTANT FACTOR OF THE SCIENTIFIC TECHNOLOGICAL DEVELOPMENT OF ECONOMIC NETWORKS AND THE SUCCESS OF LAND REFORM

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ABSTRACT

Today, the digital land cadastre is one of the most important activities of economic sectors, and the land cadastre has been created and been developing since the beginning of the personal society. In particular, with the development of the tax system, the study of land resources and land cadastre has become a primary necessity. At a certain stage of the society's development, along with the number of land areas, the quality condition began to be calculated, and later there was a need to calculate the amount of profit received from lands with different productivity. Land reform is the main basis of agrarian reforms related to the market economy. Without successfully implementing it, without instilling in the peasants a sense of ownership of the land and the results of their labour, it is impossible to carry out agrarian reform at the necessary level without introducing the types of land use that fully meet the requirements of the market economy. In this case, land assessment, including soil assessment and economic (normative) land assessment data will be of great practical importance, and this, in turn, will serve as the main foundation for the implementation of the "Digital Uzbekistan - 2030" strategy in our country.

KEYWORDS

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land cadastre, land use, land valuation, digital land cadastre, land reform, technological, agricultural land areas, irrigated land, State Land Cadastre, location of land plots, the legal status of land plots, amount of land, quality of land plots, land plots cadastral value.

INTRODUCTION

According to official data, as of January 1, 2022, the total land area of the country is 44896.2 thousand hectares, of which the land area intended for agricultural purposes is 27148.5 thousand hectares, of which 22116.1 thousand hectares are agricultural land types, 3694.9 thousand hectares irrigated lands. The total of arable land is 4016.1 thousand hectares, of which the area of irrigated arable land is 3247.9 thousand hectares, and the area of non-irrigated (rainfed) arable land is 768.2 thousand hectares [3].

Improving the use of agricultural land, especially irrigated land, and constantly increasing their productivity is an important condition for food security in the country and the stable supply of such products to the population. However, during the next 25-30 years, land cadastral works aimed at rational and efficient organization of land use, in particular, quantitative and qualitative accounting of such lands, as a result of shortcomings in the cadastral assessment system, were not carried out for years. a large part of the arable land, in particular 298,000 hectares, was unjustifiably excluded from agricultural circulation. This situation is stated in the Decree of the President of the Republic of Uzbekistan dated June 17, 2019, No. PF-5742 "On measures for effective use of land and water resources in agriculture", in the "Concept of effective use of land and water resources in agriculture", as well as in the Decree of the President of the Republic of Uzbekistan dated June 23, 2019 - the October Decree No. PF-5853 "On approval of the strategy for the development of agriculture of the Republic of Uzbekistan for 2020-2030" [1,2] was specifically noted and the return of such arable land to agriculture, as well as an additional 180,000 hectares during this period It is planned to develop dryland, pasture and grey land, and turn these areas into irrigated cropland and other intensively used areas. Ravshanki, It is very difficult for the agriculture of the Republic of Uzbekistan to achieve certain success in the economy without taking advantage of such a good opportunity to return the lands that have been left out of such unjustified circulation, without keeping an accurate account of such lands, without assessing the resource potential, without fully formalizing the ownership relations to such agricultural lands. For this reason, the land cadastre should be the main, main mechanism for the implementation of the state's agrarian policy, the main factor in increasing the competitiveness of agriculture and the development of economic sectors. it is very difficult to achieve certain success in the economy without the full formalization of ownership relations to such agricultural land. For this reason, the land cadastre should be the main, main mechanism for the implementation of the state's agrarian policy, the main factor in increasing the competitiveness of agriculture and the development of economic sectors. it is very difficult to achieve certain success in the economy without the full formalization of ownership relations to such agricultural land. For this reason, the land cadastre should be the main, main mechanism for the implementation of the state's agrarian policy, the main factor in increasing the competitiveness of agriculture and the development of economic sectors.

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METHODS

The state land cadastre is a system of necessary and accurate information and documents about the natural economy, legal regime, categories, quality characteristics and value of land, the location and size of land plots, their distribution among landowners, land users, tenants and owners [4]. It is according to this rule that the state land cadastre includes the state registration of rights to land plots, the calculation of the quantity and quality of land, soil audit, cadastral value assessment of land, as well as the above-recognized information on land cadastre is put into one system, stored and updated. [4,7]. It can be seen that the successful management of the state land cadastre in the country based on a single methodology is based on the legal, and quantitative, It is a complex process of collecting, processing, storing, integrating and constantly updating quality and value information, as well as highlighting it in various reports and reporting documents. Therefore, it shows the need to create a "digital" or "smart" land cadastre in order to facilitate this process, to bring different district information about land into a single system to form a single information base and constantly update it. If we take into account that in the republic today, according to official data, there are more than 9.5 million subjects of land use [8] and their number is constantly increasing, it becomes clear how important it is to solve this problem scientifically and methodically. It is considered a complex process of bringing to a single system and constantly updating it, as well as covering it in various reports and reporting documents. Therefore, it shows the need to create a "digital" or "smart" land cadastre in order to facilitate this process, to bring different district information about land into a single system to form a single information base and constantly update it. If we take into account that in the republic today, according to official data, there are more than 9.5 million subjects of land use [8] and their number is constantly increasing, it becomes clear how important it is to solve this problem scientifically and methodically. It is considered a complex process of bringing to a single system and constantly updating it, as well as covering it in various reports and reporting documents. Therefore, it shows the need to create a "digital" or "smart" land cadastre in order to facilitate this process, to bring different district information about land into a single system to form a single information base and constantly update it. If we take into account that in the republic today, according to official data, there are more than 9.5 million subjects of land use [8] and their number is constantly increasing, it becomes clear how important it is to solve this problem scientifically and methodically. indicates the need to create a "digital" or "smart" land cadastre in order to bring the various district data on land into a single system and form a single information base and constantly update it. If we take into account that in the republic today, according to official data, there are more than 9.5 million subjects of land use [8] and their number is constantly increasing, it becomes clear how important it is to solve this problem scientifically and methodically. indicates the need to create a "digital" or "smart" land cadastre in order to bring the various district data on land into a single system and form a single information base and constantly update it. If we take into account that in the republic today, according to official data, there are more than 9.5 million subjects of land use [8] and their number is constantly increasing, it becomes clear how important it is to solve this problem scientifically and methodically.

Creation and maintenance of digital land cadastre, maintaining it at the level of daily demand, first of all, creates the need to form a single database and to fill this database with new information constantly. Therefore, land cadastre management in the country

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will be a continuous process. The process should be defined according to the strategy chosen by the person, and it should be implemented using different tools and methods [5,9]. Indeed, the use of modern information technologies for the complete formation and updating of the database developed for the creation and maintenance of the digital state land cadastre will certainly have a positive effect. Information technology is the collection, and processing of data to obtain new quality information about the status of an object, process or event (information product). is a process using a combination of tools and techniques to update and transfer [6]. Computers, modern electronic programs, and modern measuring equipment will be the technical means of the process for information processing, systematization, updating and storage. The use of computers and electronic programs in the field of information and telecommunication means of communication initiates a modern stage in the development of information technologies, in particular, in the creation of a "smart" land cadastre[6,8].

RESULTS AND DISCUSSION

The results of a number of studies conducted to date on the creation and maintenance of the state land cadastre, its digitalization and, in general, making its information available to a wide range of users, testify that the land information base necessary for the creation and maintenance of the state land cadastre in the country is the main it is necessary to include five important groups of information: the location of land plots, the legal status of land plots, the amount of land, the quality of land plots, the cadastral value of land plots. The importance of these data is that they contain not only agricultural land plots, but also quantitative data on non-agricultural land, land cadastral assessment, data on land users, and information on the land reclamation condition scattered in agricultural lands collected. Studies show that the acceleration of land reforms in the republic, first of all, increases the requirements for land cadastral information. In particular, the development of the business activity, the rapid growth of the economy as a whole require the timely and rapid registration of rights to land plots, the formation of a quantitative account of land plots, increasing its transparency, and finally, regulating the system of calculating the cadastral value of the land. Carrying out such work on time and with high accuracy, in general, entering such data into the information base of the land cadastre requires several new Arc GIS, ENVI, CorelDraw,

In recent years, the experience of developed countries such as the Russian Federation, Germany, England, Hungary, and Austria on the use of spatial imaging materials has entered the practice of quantitative calculation of the republic's lands, which will become one of the activities that will gain significant economic importance shortly. The deepening of land reform in the country, and the improvement of land relations based on the privatization and expropriation of land parcels create the need for rapid updating of the land database using satellites. Therefore, the use of such technology is not only in the creation of the information base of the state land cadastre, but also in the creation of another attributive database related to the cadastre, not only the shape of the land but also the underground layers using images taken from space. that is, it has the advantage of quickly determining the soils and their properties distributed in this area. In addition, the use of such technology in the land cadastre allows for the transition to a digital land cadastre system in the districts based on quantitative and qualitative land records. For example, as a result of land monitoring using the ENVI program

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As a result of working with such spatial images, it was also observed that "Sentinel" made it possible to obtain accurate data every 5 to 10 meters, and "Landsat" - every 16 to 30 meters. These experiments also showed that before analyzing each captured image, it is required to obtain at least 3 years of data on the planting cycle of agricultural products, why the comparison of the data collected over the years through the captured images allows to achieve high accuracy. This allows for an accurate analysis of the situation with the help of all the collected information on the spot. Indeed, the use of modern programmed systems gives positive results in the management of the land cadastre, in particular, in the collection of data for these purposes. Carrying out such works on a practical scale, not only in carrying out scientific research work but also in the republican scientific and design institute "Uzdaverloyikha" and its divisions in the regions, in creating agricultural maps, conducting land monitoring, determining the areas of crops and land types, natural soil distribution in the territories gives a good result in giving a true assessment of the quality, in determining the changes that have occurred in the land plots in recent years. This, in turn, allows to increase in the quality of work performed in project organizations, reduces time consumption and expands the electronic information base on the work being performed, in particular, to achieve positive results in the creation of a digital land cadastre[8,9]. rather, the republican scientific and design institute "Uzdaverloyikha" and its divisions in the regions have a good effect in creating agricultural maps, conducting land monitoring, determining the areas of crops and land types, giving a true assessment of the natural quality of the soils scattered in the territories, and determining the changes that have occurred in the land plots in recent years. gives This, in turn, allows to increase in the quality of work performed in project organizations, reduces time consumption and expand the electronic information base on the work being performed, in particular, to achieve positive results in the creation of a digital land cadastre[8,9]. rather, the republican scientific and design institute "Uzdaverloyikha" and its divisions in the regions have a good effect in creating agricultural maps, conducting land monitoring, determining the areas of crops and land types, giving a true assessment of the natural quality of the soils scattered in the territories, and determining the changes that have occurred in the land plots in recent years. gives This, in turn, allows to increase in the quality of work performed in project

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The main structure of any land cadastre is a set of data collected on the quantity, quality, location, legal status, and value of land areas. Hence, a clear technology is required to capture the above data in a primary way and to process and organize it in a systematic manner. Modern information technologies entering the field of land cadastre for data processing are designed to solve the above tasks. In addition, the use of information technology systems for the information base for land cadastral purposes increases the efficiency of staff work. In order to confirm this, in the scientific research conducted by the authors on the land areas of the existing farms in the Shavot district of the Khorezm region, irrigation water for the land cadastre, crop vegetation, residential buildings, the process of formation of the information system on free land areas was carried out in two ways. In the first method, data collection and analysis on the above were carried out in field conditions. In the second method, the analysis of the data received by satellite with high accuracy was carried out in camera conditions. In both methods, 12 farms specializing in cotton-grain production were selected. The results showed that in the second method, compared to the first, the labour cost was reduced by 8 times, the material costs were reduced by almost 6.2 times, and the accuracy of the received information was 22.0% higher in the second method compared to the first. In addition, by dividing the information obtained using the second method into thematic groups, and classifying, it was observed that error checking and general evaluation is easier to do than the first method. All this will certainly be of great practical importance for the land reform being implemented in the country. In addition to these, the rapid, digitized management of the state land cadastre, and the preparation of multi-coloured, high-quality cartographic materials for the district land cadastre will have a good effect on the rapid and positive resolution of problems related to the distribution and redistribution of land in the district and regional sections. It allows to make reports on the condition and other activities related to land cadastre maintenance using modern information technologies, to form the information base in a short time and on the basis of economic efficiency.

CONCLUSION

In general, based on the results of the theoretical and practical studies carried out above, it can be briefly concluded that the introduction of modern information technologies into the system will allow to fundamentally improve the management of land cadastre in the near future, as well as in other fields, to create and maintain it in digital form, and ultimately to

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turn it into a "smart" land cadastre. This, in turn, will be an important organizational and economic basis for providing the economic sectors, including land reform in the country with accurate, transparent and truthful information on the land cadastre, and increasing the income of the state budget.

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