

A STUDY OF MODERN TECHNIQUES OF LAND MANAGEMENT AND CADASTRE  
FOR SUSTAINABLE CITIES

ДОСЛІДЖЕННЯ СУЧАСНИХ МЕТОДІВ ЗАБЕЗПЕЧЕННЯ ЗЕМЛЕУСТРОЮ ТА КАДАСТРУ  
ДЛЯ СТАЛОГО РОЗВИТКУ МІСТ



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**Abstract.** The work is devoted to the study of land resources of Ukraine and search of ways of improvement of modern approaches to land management decisions. Special attention is paid to determination of methods of rational use of land Fund of Ukraine. Investigated the processes occurring in the land sector of the country that require the development of new conceptual approaches to the implementation of the land administration processes on the basis of conscious analysis of modern problems of land management and cadaster.

**Key words:** land use decisions, land resources, land fund, land management, land cadaster, land, territorial device.

Formulation of the problem. In the current conditions of land use issues of land management and cadastre become more and more relevant. The transformational processes taking place in the social and economic life of the country require the development of new conceptual approaches to the implementation of land management processes based on the analysis of land management and cadastre problems. In the socio-economic development of the society of land resources, land use and land relations throughout the human history played a key role.

As an object of legal regulation, land from an economic point of view acts as an object of economic activity and is the material base of any production process, organically serving as a source of satisfaction of a

wide range of diverse human needs. Earth in the ecological sense is a natural object, an integral part of the natural environment that interacts with other objects of nature in a broader sense that encompasses all natural resources.

The purpose of the article is to study the methods of land and cadastral issues, as well as to develop modern approaches to solving land management issues, stimulate rational land use and nature management.

To achieve this goal, the following tasks are addressed:

- to study the current state of land management of the country;
- to analyze the possibilities of modern approaches to rational land use;
- to develop optimal complex approaches by generalizing existing ones;
- to make a choice of principles and approaches after comparative analysis;
- To define an approach that satisfies the modern vision of land management and cadastre.

Main part. The land fund of Ukraine covers all land within its territory, regardless of its intended use, types of management and forms of ownership. The composition and purpose of the lands of Ukraine are defined in the Land Code of Ukraine. All categories of land have a special legal regime. The main purpose of the land of Ukraine is divided into the following categories [2]:

- agricultural purpose;
- residential and public buildings;
- nature conservation and other nature conservation purposes;
- health appointment;
- recreational destination;
- historical and cultural destination;
- the forest fund;
- water fund;
- industry, transport, communications, energy, defense and other purposes.

Of great technical importance are the lands provided for the needs of agriculture. Their main part consists of lands, which include arable land, pastures, gardens, and hayfields.

The settlements' lands have a legal regime in which the development of a base for communal, cultural and housing and housing construction is being developed, which contributes to the development of the service sector.

In the category of land, industry, transport, communications, defense are territories in the use of industrial production, enterprises of various types of transport; land provided for the operation and deployment of military units, and others.

The lands of nature protection, recreation, recreation and historical-cultural destination have great recreational and environmental significance. In recent years there has been a tendency to increase the area of land in this category, which is a positive factor in determining the ecological and recreational role of these territories.

To date, the state administration of land resources is carried out by legislative and executive authorities that regulate land relations. The work of these authorities is to predict and plan the use of land resources, as well as to establish norms and procedures for land use.

State regulation of the use of land resources is a system of interconnected technical, economic, environmental, economic and legal measures aimed at the regulation of land relations and the organization of the rational use of land resources and their protection.

According to Art. 162 of the Land Code of Ukraine, which protects land is a system of legal, organizational, economic and other measures aimed at the rational use of land, the prevention of unjustified agricultural land seizures, protection against harmful anthropogenic influences, reproduction and increase of soil fertility, increase of productivity of forest land, provision of a special regime for the use of lands for nature conservation, recreation, recreation, and historical and cultural purposes.

Protection of land resources presupposes the preservation and restoration of useful properties of soils; reduction of ecological destructive anthropogenic influence and increase of ecological influence on land and natural resources; promotion of rational use of land resources; preservation of nature reserves and recreational territories; prevention of environmental problems and timely liquidation of their consequences.

The main measures aimed at the protection of land are the construction of anti-erosion facilities, amelioration works, the creation of protective plantations on the ground, the introduction of new technology and

technology, and the improvement of the quality characteristics of low-productive land. It should be noted that the effectiveness of these activities is directly related to the process of rationalizing the use of land resources, which involves the implementation of sound environmental norms, the use of resource-saving technologies, planning of economic activity and environmental and technical justification of the location of production, installation of treatment facilities. In addition, the rational use of land resources should correspond to their intended purpose and ensure the profitability of production, which will promote the development of industries for which land is the main means of production.

The main areas of rational use of land include:

- correct organization of production and its rational placement;
- optimal distribution of land resources between sectors of the national economy;
- development and introduction of a new system of agriculture, aimed at preserving and improving the natural properties of land;
- specialization of production;
- improvement of the regulatory framework;
- introduction of a rigid system of penalties;
- Clear planning of the volume of public procurement,
- effective price policy;
- timely carrying out of economic land management;
- establishment of clear requirements for the accuracy and timeliness of submission of land cadastral data;
- monitoring of the activities of land protection bodies;
- introduction of a system of motivation for rational land use at different levels;
- development of environmentally safe production.

The modern system of rational use of land resources should be aimed at preserving and recreating the land-resource potential; introduction of efficient land use technologies; optimization of use of agricultural lands; creation of an effective land market; formation of the state and regional system of management and monitoring of the use of land resources; settlement of land ownership relations; consolidation of agricultural land.

Actual problems of land management and cadastre affect the technical, ecological, economic and social aspects of our society's life.

Currently, the problem of land management and inventories is actual, as in our country the potential is being implemented very slowly, impeding both social and economic development. Lack of proper organization and financing of land management led to the following problems of land management:

- loss of reliable information and databases on quantitative and qualitative state of land;
- destruction of agricultural infrastructure;
- occurrence of spatial defects of land plot

The disadvantages of land use of agricultural enterprises often arise as a result of the complex process of forming the land masses of agricultural enterprises and lead to high economic costs to eliminate these problems:

- delays in the registration of land-use documentation for legal entities and individuals;
- Excessive cost of land management services.

At present, expensive land management works are on the shoulders of landowners, since there is not enough public funding. For the organization and financing of land management, a competent policy is required from the state.

There are no inventories on agricultural land, most of the land plots are not cadastral, so they are not considered to be registered. Land-holding works on the transfer of ownership or use (lease) to agricultural organizations or citizens of non-agricultural lands have not been carried out. All this does not allow obtaining reliable information about land plots, boundaries, qualitative characteristics and location. Such disadvantages indicate a cadastral failure. As a result, the state is losing due to the reduction of the total amount of budget receipts from registration of transactions with land shares and other land plots.

The main disadvantage of the Ukrainian land cadastre is its fragmentation, the availability of information in it only about 10% of legally used land plots, that is, information in the Unified State Register of land is available only on land plots placed on cadastral accounting on a declarative principle.

The ecological efficiency of land management is manifested through the influence of land management measures on the environment and the nature of the use of land, the restoration and conservation of land, the reclamation of disturbed lands, protection of lands from erosion, villages, flooding, waterlogging, secondary salinization, drying, consolidation, etc. reclamation measures in the land management system allow for economically profitable land.

The main task is to prevent deterioration of natural resources and their exhaustion. At the heart of solving this problem are the increase of waste gas production, the development of new ways to obtain energy, solve the demographic problem, the development of resource-saving technologies. Do not violate ecological balance, giving ecosystem recovery, can only be based on the rational use of land. The essence of land use is environmental regulation and a system of prohibitions on all forms of exploitation that lead to the destruction of the integrity of the territory.

In the socio-economic development of the society of land resources, land use and land relations, throughout the human history, played a key role, therefore, the nature and extent of land transformation should be considered as one of the decisive factors determining the level of effectiveness of the development of the national economic system.

It is worth noting that the ecological aspects of land use for solving global problems in the field of ecology involve the joint efforts of many land users. The significance of these problems is due to the fact that they affect the regulation of land relations.

Conclusions and perspectives of further exploration. The land utilization and cadastre system is currently in the stage of improvement and development, and therefore requires a deep elaboration of many issues, including the principles of determining the cadastral value. Consideration and elimination of problems in the system of land management and cadastre, their knowledge and changes in practice are extremely important for humanity. This will preserve the natural significance of objects of land management.

Consequently, the article examines the methods of land and cadastral issues, as well as developed modern approaches to solving land management, promoting sustainable land use and nature management.

The following tasks were solved:

- the state of land management of the country is studied;
- the possibilities of modern approaches to rational land use are analyzed;
- developed optimal complex approaches by generalization of existing ones;
- selected principles and approaches after comparative analysis;
- an approach, which satisfies the modern vision of land management and cadastre, is defined.

The main results obtained in the development of this article are the implementation of certain approaches for the management of land resources in Ukraine.

As a result of the research, further scientific advances have been made on the rational use of land, the promotion of rational land use and cadastre.

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**Анотація.** Робота присвячена дослідженню земельних ресурсів України, пошуку шляхів вдосконалення сучасних підходів до вирішення землевпорядних рішень. Особлива увага приділяється визначенню методів раціонального використання земельного фонду України. Досліджені процеси, що відбуваються в земельній сфері країни, які вимагають розробки нових концептуальних підходів до здійснення процесів управління земельними ресурсами на основі сучасного свідомого аналізу проблем землеустрою та кадастру.

**Ключові слова:** землевпорядні рішення, земельні ресурси, земельний фонд, землевпорядкування, земельний кадастр, ділянка, територіальний устрій.

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