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## Legal problems of rational use and protection of agricultural land in Ukraine

### *Problemas jurídicos del uso racional y la protección de la tierra agrícola en Ucrania*

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#### Abstract

Agricultural lands, like other categories of land, perform an ecological function as the main object of nature and habitat of man and all living and plant organisms, as well as an economic function as the main object of real estate and the main means of production in agriculture. In order to protect the land, landowners and users are obliged to take measures: to restore the fertility of agricultural land; to protect lands from water and wind erosion, mudslides, flooding, waterlogging, secondary salinization, drying, compaction, chemical pollution, production and consumption wastes and other negative impacts; to protect agricultural lands from overgrowing with trees and shrubs, weeds, preservation of the achieved level of reclamation. Greening of agricultural activity, observance of norms and requirements of land and ecological legislation by subjects of agricultural production are of fundamental importance. The article analyzes the current state of agricultural land use and provides suggestions for improving the efficiency of these lands.

Palabras clave: Agricultural lands, rational use, land protection, land degradation, conservation of lands.

## Resumen

Las tierras agrícolas, como otras categorías de tierras, cumplen una función ecológica como principal objeto de la naturaleza y hábitat del hombre y de todos los organismos vivos y vegetales, así como una función económica como principal objeto de la propiedad inmobiliaria y principal medio de producción en agricultura. Para proteger la tierra, los propietarios y usuarios están obligados a tomar medidas: restaurar la fertilidad de las tierras agrícolas; proteger las tierras de la erosión hídrica y eólica, deslizamientos de tierra, inundaciones, anegamientos, salinización secundaria, secado, compactación, contaminación química, desechos de producción y consumo y otros impactos negativos; para proteger las tierras agrícolas del crecimiento excesivo de árboles y arbustos, malezas, preservación del nivel alcanzado de recuperación. La ecologización de la actividad agrícola, el cumplimiento de las normas y requisitos de la tierra y la legislación ecológica por parte de los sujetos de la producción agrícola son de fundamental importancia. El artículo analiza el estado actual del uso de la tierra agrícola y ofrece sugerencias para mejorar la eficiencia de estas tierras.

Keywords: Tierras agrícolas, uso racional, protección de la tierra, degradación de la tierra, conservación de tierras.

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## I. INTRODUCCIÓN

Agricultural land as an object of legal relations is a unique natural resource that is depleted by improper use and requires significant costs to restore their fertility. That is why the legal provision of the proper use of agricultural land should take into account the connection of such lands with private and public interests and ensure their balance. In any legal system in almost all states, the rights of individuals who use agricultural land are limited to the existing needs of society for this category of land. In such cases, the public interest is to ensure food security of the country, sustainable development of the agricultural sector, preservation of a favorable natural environment, the possibility of growing environmentally friendly and safe products.

In Ukraine, the solution of these problems became relevant as a result of agrarian and land reform of the 90s, namely the introduction of the institution of private ownership of land, the possibility of involving agricultural land in civil circulation. Thus, after the elimination of the monopoly of state ownership of land and the transition from a planned economy to market relations in agricultural land use there were a number of legal problems that required understanding and development of measures to solve them.

First of all, we are talking about numerous facts of acquisition of agricultural land without the purpose of further use, but in order to resale it for other purposes. Such lands are not cultivated, they are not subject to erosion and other soil protection measures. As a result, the quality of this invaluable natural resource is deteriorating. Another manifestation of improper use of agricultural land is their irrational use - as a result of violation of the rules of agricultural technology there is a decrease in soil fertility and deterioration of the ecological condition of lands.

It should be noted that the land market was introduced in order to ensure a more rational use of land, as land users who are unable to rationally and economically use the land, were able to profitably cede it to those who have the ability to organize such use. However, to date, appropriate legal mechanisms have not been properly developed.

It is worth emphasizing that on the basis of market land relations, mainly specialized, export-oriented commodity agricultural production is developing today. Modern Ukrainian agribusiness is dynamically adapting to the needs of national and world agricultural markets and abandoning non-profit crops and livestock industries. In order to grow high yields, agricultural lands are depleted, as a result of which the soil cover is destroyed and the ecological stability of agro-landscapes is reduced.

Extensive agricultural production causes significant damage to the productive potential of the land fund and significantly reduces the resilience of land to degradation processes. Soil degradation has recently become one of the most important industrial and environmental problems, without the solution of which it will be impossible to ensure high ecological and economic efficiency of land use by future generations. Solving the problem of preserving and restoring the fertility of agricultural lands in the process of economic activity is becoming one of the most important tasks in achieving global food security.

Considering the predatory attitude to land use, there is an urgent need to develop new and implement existing soil protection systems for agriculture to improve the condition of agricultural landscapes, protect soils from degradation and increase their fertility. Such systems should be based on environmental principles and adapted to specific natural and socio-economic conditions.

## II. RESULTS OF THE RESEARCH

### *The current state of agricultural land use*

Land is the basis of human activity and life, the natural basis of production and creation of material goods of society. It is an invaluable reference wealth and the basis of sustainable development of any country. The most valuable component of the earth and the most important resource of mankind is the soil.

Today, agriculture largely determines the current state of use of agricultural land. At the same time, the peculiarities of their use determine the level of agricultural development. Among all categories of land by purpose, agricultural lands have a special status.

Article 22 of the Land Code of Ukraine recognizes as agricultural lands those ones provided for agricultural production, agricultural research and scientific activities, location of relevant production infrastructure, including infrastructure of wholesale markets for agricultural products, or intended for these purposes. Agricultural lands include: (a) farmlands (arable land, perennial plantations, hayfields, pastures and fallow lands); (b) non-agricultural lands (economic paths and runs, protective forest belts and other protective plantings, except those classified as lands of other categories, lands under farm buildings and yards, lands under the infrastructure of wholesale markets for agricultural products, lands of temporary conservation, etc.).

The best and most valuable of them are farmlands, on which, in fact, agricultural products are grown. Therefore, the legislation establishes a special regime for their provision, use and withdrawal. The rest of the agricultural lands are ancillary to farmlands.

The total land fund of Ukraine is about 603.5 thousand square km, of which 70.8% are agricultural lands, mainly farmlands, which occupy almost 68.80% of the territory of Ukraine (including: arable lands - 53.9%, perennial plantations - 1.5%, hayfields - 4% and pastures - 9.0%). By structure of ownership of agricultural lands: 31 million hectares - private property, 8.7 million hectares - state property, 1.7 million hectares - communal property. According to the structure of agricultural land use: 56% are leased from private owners, 29% are cultivated by owners themselves, 8% are leased from the state, 7% are not cultivated. Ukraine accounts for almost a third of black soil reserves and 27% of arable land in Europe. About 90% of the territory of Ukraine is involved in the use of the population, the rest (about 5 million hectares) is in its natural state (Land Directory of Ukraine 2020).

Ukraine is one of the countries with a high level of land supply: 64 hectares of arable land per 100 people (for comparison - in the European Union - 24 hectares, including in France - 32 hectares, in Germany - 14 hectares) (Taratula, 2014, p. 420). We should also note that these countries not only meet their food needs in their own products, they are important exporters, including to Ukraine.

Land protection is an important condition for ensuring their long-termed and effective use. According to V. Andreytsev (2001, p. 59), land protection is a set of economic, soil protection, scientific and technical,

organizational and state-legal measures aimed at increasing land productivity, restoring and increasing their fertility, carried out for the purpose of rational land use, ensuring its preservation due to compliance with the requirements of land legislation and obligations under land law agreements.

In the land legislation of Ukraine, along with the terms “land use” and “land protection”, the term “rational land use” is widely used. V. Nosik understands the rational use of land as a scientifically sound, comprehensive, most appropriate use of land for its intended purpose with mandatory compliance with scientific and technical systems of agriculture, which ensures the preservation and improvement of soil fertility while complying with environmental rules of natural resources and improving the environment for next generations (Nosik, 2006, p. 379). This definition accurately reflects the intended purpose of the land as one of the main conditions for its rational use.

Based on the above, it is appropriate to emphasize that the concepts of “land protection” and “rational use of land” should not be identified and distinguished. After all, they are in a characteristic relationship, which is that the rational use of land is one of the forms of their protection.

In recent years, there has been a steady trend in Ukraine to deteriorate the quality of land due to their degradation, as well as to reduce the area of agricultural land, including arable land. At the same time, the negative phenomena that occur with land not only reduce the land resource potential of the country or its individual regions, but also adversely affect the quality and quantity of other natural resources: water, forest, flora and fauna, etc. This necessitates the formation of restrictions on land use that would ensure an economically efficient and ecologically safe use.

Currently, the main reasons for the deterioration of the quality of land, especially agricultural, should be called:

- ignoring scientifically sound methods of agriculture, including non-compliance with tillage technologies for crops;
- predatory attitude of land users to land, the purpose of which is to make a profit in the early stages of the organization of agricultural production in the cultivation of mainly monocultures, which have the maximum selling market price;
- imperfection of the mechanism of state control over the quality of land;
- lack of economic incentives for landowners and land users to preserve soil fertility, etc.

### ***Degradation of agricultural lands and ways to prevent it***

The most serious factor in reducing land productivity is their degradation. Among the developed lands, agricultural ones are most often subject to degradation, which is caused by deep, sometimes irreversible transformations of vegetation and soil cover in the process of agricultural production.

The causes of soil degradation in Ukraine are: (a) erosion, acidification and salinization of soils due to mechanical destruction by water and wind, improper implementation of reclamation measures; (b) desertification, aridization due to drying and compaction; (c) pollution by substances of anthropogenic origin; (d) direct losses due to diversion to urban buildings, roads, airfields, etc.; (e) soil depletion (dehumidification) due to irrational and inefficient agriculture.

The solution to the problem of soil protection from degradation processes should be provided by a set of measures:

- optimization of the structure of agricultural landscapes and land use systems;
- introduction of a system of anti-erosion measures of permanent action (water-regulating earth hydraulic structures on arable lands, soil-protective agrotechnologies, etc.) by ecologically justified organization of water protection, reserve and recreational zones;
- conservation of degraded and unproductive lands with their subsequent siltation or afforestation (Tarariko, 2013, p. 15).

As already mentioned, one of the main reasons for the deterioration of agronomic properties of the soil is erosion. Soil erosion is the most common and most dangerous phenomenon of land degradation. Erosion accounts for 83% of the total area of degraded soils. It causes great economic and environmental damage.

As a result of soil destruction, its fertility is lost, crops are damaged or die, fertilizers are taken out of the field, the environment is polluted, the ecological balance is disturbed and natural systems are degraded. Therefore, the protection of soils from erosion is the most important problem, without the solution of which it is impossible to achieve sustainable development of agriculture and society.

Factors, which influence the occurrence and intensity of erosion processes are divided into two groups: a) natural (occurring under the influence of precipitation or wind) and b) anthropogenic (related to human economic activity). In Ukraine, for agricultural lands, the intensity of soil erosion averages more than 10 t/ha per year, reaching in some areas up to 50-100 t/ha per year and even more (Chornyi, 2003, p. 54).

Today, 18% of Ukraine's land is affected by erosion, and this figure is growing every year (on average by 100 thousand hectares), which causes soil degradation, thereby reducing the efficiency of land use. According to the State Geocadastre of Ukraine, the total area of agricultural lands that are adversely affected by water and wind erosion is 30.7%, deflation-hazardous soils occupy 19.1% of their total area.

Measures to protect soils from erosion are hampered by land reform, which has divided arable land into shares. The latter don't have boundaries in nature, so it's impossible legally to create new forest belts and embankments, and provide other measures. In addition, modern scientific advances are hardly used in production. The issue of establishing a single and self-governing state Soil Protection Service (or similar body) in the country is not sufficiently resolved. All these problems need to be solved immediately, because delays in their solution lead to inevitable losses of soil fertility, economic losses and deterioration of the environmental situation in Ukraine.

### ***Restrictions as a means of ensuring the proper use of agricultural land***

In order to overcome the negative degradation processes that occur with the land resources of Ukraine, it is also necessary to apply restrictions on land use. Restrictions on land use are special conditions for the use of land plots and the regime of economic activity on them, established by law or authorized bodies in the manner prescribed by law, compliance with which prevents damage to the land resource fund in whose interests the restriction is established (Karakash, 2004, p. 147). Today there is a need to establish so-called soil protection restrictions for agricultural lands.

Soil protection restrictions in land use are a system of scientifically based conditions and requirements that limit the landowner or land user in land use, which ensure the preservation and reproduction of fertility and productivity of soils, their protection from degradation processes, as well as ecological sustainability of agricultural landscapes. The main purpose of soil protection restrictions is the regulation of certain forms of agriculture, compliance with limits on the scale and intensity of economic activity to prevent negative changes in soil quality, their ecological condition, as well as ensuring rational and environmentally friendly land use, increasing yields and improving its quality.

Conceptual provisions on soil protection restrictions are insufficiently detailed in the current norms of land legislation of Ukraine. Thus, according to the Law of Ukraine "On Land Protection" on agricultural lands it is possible to restrict activities on: intensive land use; plowing of hayfields, pastures; cultivation of certain agricultural crops, application of separate technologies of their cultivation or carrying out of separate agrotechnical operations; use of degraded, unproductive and polluted land plots. This law also regulates the responsibilities of landowners and land users, including tenants, who must implement soil protection measures to prevent the deterioration of land quality and the environment in general.

Although the legislation of Ukraine imposes on the landowner and land user responsibilities for efficient use of land in accordance with the intended purpose based on a set of measures for land protection, but the mechanism for regulating land relations and solving environmental and economic problems in organizing rational use of land resources in land sphere is not clearly formed.

It should also be noted that in the process of land reform there is a problem that the owners do not use the land independently, and tenants are interested only in short-term business projects, which seek to maximize profits this year without implementing any soil protection measures. The consequence of this is an increase in the degradation of land, mainly for agricultural purposes, which in turn leads to their withdrawal from arable land.

One of the steps to solve this problem is the introduction of additional economic instruments to regulate land relations in the form of financial penalties, so-called sanctions, for those whose activities or

inactions have caused or are causing land degradation, which loses soil fertility. After all, for example, if a certain land use for several decades will constantly degrade the land, then the time will come when there will be nothing to protect. Therefore, in order to stop land degradation and forcibly impose a high agricultural crop on landowners, financial sanctions should be applied, the amount of which should be determined by the method of calculating public losses from land degradation. But today in Ukraine there is no legally established and standardized methodology for determining losses from land degradation. Although in 2007 the Cabinet of Ministers of Ukraine adopted a Resolution "On approval of the Methodology for determining the amount of damage caused by unauthorized occupation of land, use of land for other purposes, removal of soil cover (fertile soil layer) without special permission", but it does not make it possible to assess the degradation of land, because it is about the complete destruction of the fertile soil layer, rather than the deterioration of its properties. Earlier, in 2002, the Cabinet of Ministers of Ukraine adopted a Resolution "On approval of the Methodology for assessing losses from the consequences of emergencies of man-made and natural nature", but it sets standards for losses only from the consequences of man-made and natural emergencies, not from economic activities of landowners and land users.

In agriculture, it is urgent not only to assess good quality land, but also degraded and disturbed land, taking into account their soil fertility to determine the damage caused to them by users. Public losses caused by the degradation of agricultural land should include not only losses in the form of direct losses of agricultural products and reduced economic production in the agricultural sector, but also compensatory costs - to restore soil fertility and disturbed condition (Popova, 2013, p. 49).

Moreover, economic liability for violation of established regimes for protection and use of land should include:

- imposition of penalties for the use of land not for its intended purpose, reducing soil fertility, erosion development, the violation of land legislation;
- compensation for losses and lost profits to owners, land users and tenants;
- penalty for late payment for land.

Examining the foreign experience of imposing financial sanctions on those landowners whose activities lead to the deterioration of land quality and determining the amount of damage caused by them, it should be noted that in Europe there are no such financial sanctions for land degradation, as it is considered a landowner's business. It is also worth noting that in European countries there is no control over land fertility, because everything there is mostly subsidized. That is, if the state wants landowners to use the land in a certain way, then it stimulates them financially. This indicates that a certain culture of agriculture has developed in Europe a long time ago, because the farmer there knows that he will manage this land for ten years, so he does not want to worsen its quality.

### ***Conservation of land as a direction of improving the efficiency of agricultural land use***

The optimization of the structure of agricultural land use should begin with the conservation of degraded, unproductive and polluted lands. Relevant legal requirements are concentrated in chapter 28 of the Land Code of Ukraine. The emergence of the institute of land conservation is due to the significant spread of soils erosion processes, their physical and chemical depletion. In order to ensure the development of legislative provisions on this procedure, the Procedure for Land Conservation has been developed. According to this act, when classifying agricultural lands as degraded, unproductive, man-made contaminated or radiation-hazardous, their conservation is carried out (Ministry of Agrarian policy of Ukraine, 2013). Of course, the conservation of lands, as an agro-technical and organizational-legal measure for their protection and reproduction, will help reduce the area of agricultural land of intensive use, as well as increase soil fertility.

However, the obstacle to the implementation of the conservation procedure is the excessive fragmentation of agricultural land. The fact is that during the total privatization of the lands of collective agricultural enterprises, only agricultural lands were subject to share - arable land, perennial plantations, hayfields and pastures. At the same time, non-agricultural lands (previously transferred to collective ownership) were not involved in the distribution process. Collectively owned land is now divided between millions of individual owners, each of whom is independent in deciding whether to use the land owned by him. The best agricultural lands are distributed (approximately 27 million hectares), the total area of private lands is about 32 million hectares (Fedchyshyn et al., 2020, p. 166). According to the Procedure for land conservation, such land conservation is carried out at the initiative of their owners, land users, including tenants. At the same time, the law does not stipulate their obligation to initiate such a procedure. However, it is important to

keep in mind that not everyone is aware of the need to temporarily decommission degraded and depleted land in order to further generate more profits without harming the environment.

Landowners should be offered conditions to optimize land use that would benefit them from temporarily conserving their land. To do this, it is necessary:

- to prepare a detailed mechanism for legal support for the withdrawal from agricultural use of land subject to this procedure;
- to clarify the procedure for financing this measure;
- to clarify the rights and obligations of land owners and users;
- to determine the conditions and mechanism of compensation for losses to land owners for restricting their land rights.

However, only the conservation of agricultural land, as a separate measure, cannot ensure the effectiveness of public policy in the field of legal support for improvement of soil fertility. To achieve this goal, there is a need to apply a complex set of measures, which are combined into a scientifically sound system of agriculture.

Correctly calculated system of agriculture should combine various organizational and economic, technological and technical measures and methods, namely: optimization of land use, reduction of plowing of agricultural lands, observance of crop rotation rules, correct use of pesticides and agrochemicals, land reclamation, measures to combat soil erosion, application of a landscape approach to solving the problem, etc. These methods of farming may vary depending on the intensity of operations with different measures and methods of agricultural production. But ultimately, they are all aimed at increasing the economic and natural fertility of soils. Thus, one of the important forms of legal support to increase their fertility is a correctly chosen and provided by the legislation of Ukraine agricultural system.

Among the forms of agricultural production known today (extensive, intensive, conventional, integrated, etc.), the organic system of agriculture is considered to be the most successful. This is a very promising area of agricultural development. Organic farming is able not only to stop soil degradation, but also to increase the fertility of unproductive lands. The problem of greening of agricultural production is relevant for all developed countries. Being included in the concept of organic production, it embodies the idea of a healthy lifestyle and healthy eating.

Ukraine has everything necessary for the formation of agriculture, focused on the production of organic products: long-term agricultural traditions, vast areas of agricultural land, as well as an insignificant level of intensification and chemicalization of the agricultural sector in comparison with industrialized countries. Taking into account the considerable resource potential of the country in the agricultural sector, it is of great importance to provide a mechanism that would contribute to the development of organic agricultural production in Ukraine and increase on the basis of this competitiveness of the national economy (Fedchyshyn, 2020, p. 940).

The close relationship between agriculture and the natural environment dictates the need to take into account the ecological laws of the organic world in the process of agricultural production. To ensure such accounting, it is necessary to proceed from the possibility of forming optimal structures of agro-ecological systems, appropriate to the relief, climate, soils and vegetation of the region. This approach allows to solve the problem of production of the required amount of agricultural products with minimal costs and at the same time prevent the development of negative processes and the preservation and reproduction of soil fertility.

One of the options for solving this problem is to optimize the structure of land use by rationally allocating production and improving the structure of sown areas, as well as the introduction of restrictions on the use of degraded lands. In order to ensure the safety of agricultural land, it is necessary to systematically conduct a comprehensive survey to develop land use and protection schemes, land use management, soil protection measures, determine the area of degraded and unproductive land that is subject to temporary withdrawal from commercial circulation. Carrying out such a structural transformation of land use will increase the volume of agricultural production and reproduction of soil fertility, despite the reduction of arable land.

In assessing the prospects for solving the problem of rational and efficient use of land resources in agriculture, which will ensure the production of the required number of products with an intensity that does not cause environmental damage, we should proceed from structural transformations of land use in two directions:

- ⇒ application of intensive forms of land use on the best quality lands by carrying out soil improvement measures and application of soil protection technologies taking into account bioclimatic conditions of production;
- ⇒ reduction of arable land due to withdrawal from agricultural circulation (conservation) of unproductive lands and restoration of their fertility by siltation and further use as fodder lands.

### III. CONCLUSION

Given the above, it can be argued that in modern agricultural development, land degradation is a fundamental basis for the loss or reduction of land productivity, which leads to negative environmental consequences and economic decline of the state. That is why in modern conditions, when the protection of agricultural land has become an urgent and priority task, the scientific substantiation of economic assessment of losses caused by land degradation to agriculture. Moreover, there is also a need to develop methods for determining the economic efficiency of the most advanced soil protection measures, technologies and complexes based on their overall comparative assessment.

In order to rationally use and protect lands from depletion, degradation, pollution, as well as the preservation of landscape and biological diversity, there is an urgent need to develop in Ukraine a National Program of Land Use and Protection. The program should provide the following methods of protection of agricultural lands: protection of lands from erosion, waterlogging, secondary salinization, landslides, compaction, pollution by industrial, radioactive and chemical substances; reclamation of disturbed lands; improvement of agricultural lands. An important element of the program is the development of land management projects that will take into account the specific conditions of land use, its soil and climatic resources. On this basis, a set of balanced measures for land use and protection, increasing soil fertility, the formation of environmentally friendly agricultural landscapes should be determined.

A necessary measure to optimize the structure of the land fund should be the withdrawal from intensive cultivation of degraded and unproductive agricultural lands. The soils of these lands are characterized by negative natural properties, low fertility, and their economic use for its intended purpose is economically inefficient. As a result, it will be possible to reduce the level of plowed land to the optimal level and concentration of agricultural formations on productive lands in order to increase the level of competitiveness of domestic agricultural products and increase production.

Regulation of these processes is an important task of Ukrainian state, the solution of which will ensure environmental protection of land, increase the efficiency of agricultural production and its competitiveness in world markets, preserve the most valuable part of the state land resources - agricultural land.

#### ***Conflict of interests***

The authors declare no conflict of interest.



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