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Efficiency of the Process of Balanced Land Use under Martial Law

Abstract

The article discusses the process of balanced land use and its efficiency, which is an extremely important element of socio-economic development of any country. Since land is Ukraine's main natural resource, the basis of life and a source of income, the efficiency of using this potential is not being realised to the fullest extent in the current environment. For more than two years now, Ukraine has been under constant shelling and land seizures, so the need to improve the level of land protection is urgent and, given the difficult conditions of hostilities, is becoming a top priority. The *purpose* of this article is to analyse the functioning of the land market and highlight the main changes and problems that have arisen in the course of the land reform. *Methodology*. For this purpose, both general scientific and special methods of cognition of phenomena were used: analysis, synthesis, selection and generalisation. *Results*. This allowed to identify the relevant tasks, which are to create fundamental conditions and rights for all users to dispose of the land fund, as well as to ensure compliance with the responsibility for improper use. This may become an important prerequisite for introducing new effective ways to address and improve the process of balanced land use. The revision of the existing legal framework for regulating the land market after the lifting of the moratorium on the sale of agricultural land, especially in the context of military operations in Ukraine, has helped to ensure, first and foremost, the protection and guarantee of property rights. *Practical implications*. The relevance of this paper lies in the implementation and formation of a land policy that will primarily ensure the development and functioning of the land market in the system of balanced land use, both today and in the near future. *Value/Originality*. The proposed new mechanisms for establishing land relations in a market environment will help to increase the efficiency of land use and the value of land resources, which should be extremely important for the growth of the full economic potential of the state and strengthening the position of Ukraine as a guarantor of global food security.

Keywords

land market, land use economics, land relations, balanced land use, economic efficiency, environmental efficiency, land reform

JEL: Q15, R14, R52



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1 Introduction

Exploiting the natural fertility of agricultural land is one of the guarantors of domestic demand and global food security, which Ukraine continues to do despite the war. However, this is only possible through rational, efficient and balanced land use, where the state creates conditions for proper compliance by all parties. In the global context, all leading countries care about the balanced use of land, which is a national treasure and an object of special protection regulated by relevant laws. Therefore, the right to control, be responsible for and enhance the value of land is vested directly in the state, as well as in all land users, regardless of ownership. The whole world community is concerned about the proper use of agricultural land, and its experience can be effectively applied in Ukraine.

The balanced use of the land resources, their restoration and preservation is one of the important

strategic tasks of sustainable development of the territories, but it should be noted that today the invasive and destructive war continues. The aggressor is occupying and destroying Ukrainian lands, causing losses estimated at 1.06 trillion UAH in land pollution and 15.8 billion UAH in pollution of Ukrainian soils (State Environmental Inspection of Ukraine, 2024). All this leads to irreparable damage that affects both the overall state of land use (damage to agricultural land is more than UAH 750 billion) and is of vital importance to Ukraine, threatening not only global environmental security but also food security.

Therefore, the main purpose of this article is to analyse the functioning of the land market in the context of the war, to identify changes and problems in the process of ownership, use and to highlight the main ways to solve and improve the whole system of balanced land use of agricultural land. This made it possible to define the objectives of

the study, which are to formulate the basic conditions, rights and responsibilities for land ownership and management, which can become a prerequisite for the introduction of new effective mechanisms in the process of balanced land use in Ukraine.

Even in such a difficult time, Ukraine has not ceased to act as a guarantor of global food security, and the condition and usefulness of land resources will depend on the efficiency of agricultural land use, which will constantly require systematic monitoring, preservation and protection both now and in the future. That is why the scientific novelty of this study lies in the proposed ways to improve the system of balanced use of agricultural land, which are allocated to separate areas and will contribute to increasing the value of Ukrainian land.

2 Literature Review

Recent scientific research in the field of land use is extremely important. They drew attention to the importance of regulating agricultural land use through regulations and making appropriate changes to the legislative framework governing economic activity. They analysed the state of functioning of the State Land Cadastre as a system of effective document management and a tool for regulating land relations in Ukraine, especially under martial law (Drebot, Tarnavskiy, 2022). The authors also demonstrated the importance of further improving the mechanisms of fiscal regulation of agricultural land use in modern conditions.

Consider the process of socio-economic phenomena in various spheres of activity, in the centre of which is a person. In the process of land use, where human activity is the primary and fundamental determinant that links the most important elements and institutions, such as property rights, income and expenses, and contracting, the order of the new institutional economy is formed (Derkacz, Shahab, 2020). The results of these studies make it possible to better understand this relationship in terms of socio-economic reality and the economic order that can be implemented in the process of balanced use of land resources. This position is also maintained by (Gadzalo, Ibatullin & Luzan, 2022) in their research, who identified the features of institutional support for the sustainability of the food system of Ukraine in the current crisis conditions and substantiated ways to improve with a proposal to modernise the entire institutional system with further European integration, and accordingly the state should become the most important component of security.

It is crucial to acknowledge the contributions of scientists such as Tretiak et al. (2023), who have dedicated their entire scientific career to studying the process of land use in Ukraine. Their work has been of immense significance. The focus of this

study is on the introduction of tools and methods for assessing the efficiency of the land use process, with a view to determining its quantitative and qualitative indicators in terms of their value. Finally, the growth of efficiency is understood as the excess of the return on land capital over the attraction of land costs in the organisation of land use. On the basis of these studies it can be stated that the process of balanced land use is determined from the point of view of its efficiency with the calculation of cost indicators in accordance with the results achieved by economic entities in land use in accordance with the goal of maximising the market value of land use.

A study of the European approach to land management development and their analysis was conducted by Lazareva, Mas, and Borysevych (2022), which identified the advantages of individual countries and highlighted the prospects for the development of land management in Ukraine. This study also emphasised the necessity of conducting land management in the interests of business entities and the development of a clear system of land management projects. It is evident that the primary objectives are to regulate lease relations in the interest of land users, implement environmental protection measures, develop a land management concept for spatial development, manage land in an ecologically sustainable manner, support rural development, enhance productivity, identify land suitable for different uses, manage land and resources in a unified manner, and integrate land management and land resources management functions.

The analysis of the current state of soil monitoring in Ukraine, which substantiates the directions of land management, soil science, scientific and scientific-organisational support with the definition of directions for its development, and among the researchers who study the process of land use from the standpoint of ensuring global food security in view of military operations, it is worth highlighting Borodina (2022), who revealed the current features of the critical state of the agricultural market of Ukraine and ways to overcome the consequences of the military threat in the modern globalised world.

Despite the fact that this issue has received sufficient attention from scientists, rational and balanced land use will always be relevant and will require constant monitoring and implementation of appropriate mechanisms and solutions by both the state and all stakeholders.

3 Research Methodology

When writing the article, both general scientific and special methods of cognition of phenomena were used, which correspond to the purpose and objectives of the study, namely:

- The comparative method of the study allowed to analyse the legal regulation of the land market functioning and to identify problems and shortcomings in the introduction of the land market;
- the method of separation and structural-functional analysis helped to structure new conditions for landowners and land users, taking into account martial law;
- the dialectical method was used to analyse the main market processes that have a direct impact on the land use system;
- the logical and generalising methods made it possible to formulate a portrait of landowners and land users, which determined the basic model of land relations in the land market;
- through a comprehensive methodological analysis, the author studied the global experience of developing and regulating land markets, which became the basis for the formation of appropriate mechanisms for balanced land use in Ukraine;
- the synthesis method helped to propose the main ways of solving and improving the process of agricultural land use in the respective territories;
- the abstract and logical method was used for theoretical generalisation and formulation of conclusions.

4 Results and Discussion

The regulation of the land market in Ukraine has long been inadequate, and the ban on land sales until 2020 has only exacerbated the problem of balanced land use. Although it has been four years since the moratorium was lifted, the full-scale invasion and constant shelling and military operations in most of Ukrainian territories have led to a decrease in land use. This is mainly due to the fact that many land resources in the conflict zone have already been destroyed or their use has become impossible. There are also temporary restrictions on the rights of land owners and users that prevent them from fully rationalising their property.

Therefore, the land market should first and foremost satisfy the basic rights of Ukrainians to use and dispose of their property, legally receive a fair price and payment for land, which will be set in accordance with market conditions, and bear responsibility in accordance with the requirements of balanced land use. This will help to make land resources a good investment capital to be invested for the purpose of generating income and will form a new portrait of a landowner who will primarily care about increasing productivity and increasing the value of land.

And the new conditions that have emerged in the functioning of the land market in wartime should contribute to the balanced use of agricultural

land, which will determine the basic model of land relations between all participants in this process:

- The ability to change the cost of land lease in accordance with changes in its value, which will encourage owners to control the process of rational use, conservation and protection of land resources for owners, and for users it will be an opportunity to receive more income;
- assistance in the development of farms, attraction of state support and opportunities for their development, which will help to increase the efficiency of the level of proper use of land, generate income and develop their own economic activities;
- introduction of effective mechanisms for obtaining land loans or subsidies from the state will help support agriculture, which is currently a crucial task for Ukraine.

When analysing the land market and its legal and regulatory framework, it is not possible to fully assess it and predict its further development, as land relations are established depending on the current situation and military operations in Ukraine. Nevertheless, the land market continues to function, legal regulation is being implemented and supplemented by the government, and the importance of preserving, protecting and rationally using land resources is one of the top priorities of Ukraine. Therefore, even in these challenging conditions, it is important to react quickly and make appropriate decisions, taking into account the main problems faced by all land market participants in terms of balanced land use. These include:

Problem 1. The current market for agricultural land is not sufficiently active. There are several reasons for this: the land market has a large number of potential buyers who outnumber the potential sellers many times over, because most people do not want to get rid of their land during the war or do not know how to dispose of it. The opening of the market also revealed that most of the land is leased or in emphyteusis and cannot be sold because it already provides its owners with a stable income, despite its land use efficiency. As the value of agricultural land fluctuates between 10-30% above the normative monetary value, most owners of agricultural land have set a rather high price or expect the value to increase in the future. All this leads to inefficient land management and disruption of the process of balanced land use.

Problem 2. Martial law. Despite the constant updating of the state regulation of land relations and the provision of guarantees to parties to transactions on land ownership and use, the response and implementation of relevant measures and actions are primarily related to martial law. And the possibility of land damage as a result of hostilities and occupation does not add incentives to fully activate the land market.

Problem 3. Fragmentation of plots sold on the land market. The land is divided into lots of either too large or too small a size, so the average area of a land plot for sale is 2.5 hectares, and those who want to concentrate 100 hectares in their hands as quickly as possible are forced to buy them in different areas.

Problem 4. Real and fair land prices. Those who thought they could buy land for a song have been proved wrong. At present, the value of land does not exceed one third of the normative monetary valuation of agricultural land and has not yet reached the level of land prices in European countries, which means that the prices for buying and selling this land will continue to rise in the future, especially after the war is over. Given that the pre-war forecast of the World Development Bank was that Ukraine would see a gradual annual increase in land prices in the range of 7-10%, most owners will wait for better times. And given the continued occupation of some Ukrainian land, its value will be worth its weight in gold.

Problem 5. Most buyers on the market do not know how to dispose of the land they have purchased. According to the sale and purchase agreements for agricultural land, buyers invest their free funds in order to resell it in the future or wait for a decision to change the designated purpose. This leads to a disruption in the rational use of land, as most buyers do not wish to engage in agricultural activities.

Problem 6. Inequality in access to finance for small farmers, which is caused by the fact that most farmers do not have enough money to buy land. The process of land lending is currently suspended, so in order to develop agriculture, the state needs to initiate new profitable lending programmes or allocate grants specifically for those who will be engaged in farming. This will make it possible to control the process of land use and support for agricultural activities.

Problem 7. Establishment of proper infrastructure. As most land requires proper infrastructure for cultivation, it is simply absent or outdated. This requires large investments, and they are mostly owned by large agricultural holdings, which leads landowners to prefer to lease land rather than cultivate it themselves. This undermines the competitive environment and fair market conditions for small farms. Given that land lending and mortgages are available only to large agribusinesses, the government should introduce programmes to provide low-interest loans to those who intend to link their activities directly to land.

Problem 8. Allowing legal entities to enter the farmland market will only lead to a certain redistribution of the farmland market. After all, most of those who really want to work on the land and are ready to engage in agricultural activities

have not been able to acquire large amounts of money in two years. And the state has not implemented any subsidy or low-cost loan programmes for this purpose, which has resulted in agricultural land being acquired by large agricultural enterprises, i.e., legal entities entering the market.

Problem 9. The importance of hromadas in the system of balanced land use. Given that all state land has been transferred to the ownership of municipalities, this should be a positive decision, but often they do not have full powers and do not have enough resources to make competent decisions related to the new principles of land management and land use. It is also important to take into account the algorithm for the creation of cartographic maps for hromadas, which will allow to simplify the planning of territories taking into account the balanced use of land (Prykhodko, Romaniuk, Kukhtar, Bodnaruk, Dovhan, 2021).

However, to solve all the problems, it is necessary to implement the necessary changes and finally complete the land reform, which will ensure, first of all, transparent and fair conditions for the balanced development of the entire land use process. This can become the basis for effective agricultural development, which will further strengthen Ukraine's reputation as a country with the most developed food potential. To this end, it is necessary to introduce such ways of solving and improving the process of agricultural land use, which can be borrowed from the international practice of already established land relations, which will contribute both to the growth of the agricultural potential of Ukraine and to the strengthening of its economic potential, and all this can be achieved by the effective establishment and development of the land market (Goshtynar, 2020).

In addition, by creating favourable conditions for agriculture on the land, economic value growth can occur if there is a constant increase in investments, rational land use and increased land productivity. And an increase in the number of domestic farms working and cultivating their own land will help to create a fair competitive environment (Perovich, Perovych, Hulko, Malanchuk, 2020). All this will be more profitable if an educated farmer cultivates his own land on his own, rather than renting it to large agribusiness giants, as the analysis of international practice shows. This will lead to a reduction in the amount of land that is not cultivated and used rationally, as Ukraine has one of the largest agricultural potentials of any country in the world, according to global indicators.

Systematising the legal framework to establish effective land relations in wartime, which requires immediate decisions and sometimes the need to anticipate certain situations, will help ensure guarantees for landowners and land users. It is important to finally implement the previously

announced state programme to support land users, with an allocation of about 500 million UAH. This also hinders the land reform, which is the key to ensuring food security in the country and the world.

Thus, the formation of a new land policy that will contribute to the efficiency of the land market will require the introduction of the following ways to address and improve the system of balanced use of agricultural land and should focus on the following areas:

- Ensure transparency and efficiency of the land market. Conduct systematic monitoring of land management and compliance of land relations between land users and landowners with their inclusion in a functioning database containing an open and accessible information base.
- Empowering hromadas to dispose of land resources and instruments, which should also be responsible for improper use of land. After all, at present, hromadas must ensure, first and foremost, the efficient use of land, which will increase the payment of taxes and related fees, as well as ensure the protection of their own land users. That is why it is necessary to provide guarantees for bona fide tenants and owners, which will help to increase the market price of land.
- Establish a land credit fund to ensure the continued functioning of small farms, which will become equal participants in the land market through affordable credit conditions with state support. This will facilitate full distribution among land market participants and access to financial support, as well as improve the competitive environment, which could be a key factor in land reform. Even after the moratorium is lifted and the war ends, farmers and small land market participants will still need incentives in the form of state and financial support.
- Under martial law, it is necessary to adhere to the defining principles of land reform and constitutional legislation that will guarantee land ownership, especially for those who lost it with the occupation of their land plots. After all, most land users worked and earned income directly from cultivating land and selling their produce.
- Introduction of market-based land relations. Any use of land should be in line with market indicators, which will generate income not only for land users but also increase the payment of taxes and other payments. In case of inefficient use of land, it should be withdrawn and bona fide owners should be attracted with appropriate investments. For this reason, it is necessary to create conditions that will encourage land users to increase the productivity and value of their land plots to meet their own needs and take into

account the economic, social and environmental factors of Ukraine's development.

The consequences of the hostilities will have a long-term and cumulative negative impact on the state of the land fund, so it is necessary to develop possible alternative forecasts and development scenarios in accordance with the principles of green post-war reconstruction of Ukraine (Principles of green post-war reconstruction of Ukraine, 2022). This process should be aimed at a detailed study and modelling of various trends in ensuring, protecting and improving the system of balanced use of Ukrainian land, through continuous monitoring, planning and forecasting of all stages of land use, taking into account the ways suggested above.

The inability to use some agricultural land is primarily due to the continuation of the war, lost profits from the lack of agricultural production, pollution due to the destruction of industrial and municipal infrastructure, the impact of military operations and demining in accordance with environmental restoration plans (Planning for environmental restoration, 2022). But despite the problems that arise in the balanced use of natural resources, Ukrainian land will always have the highest value, because by conquering and defending it, people increase not only its value but also its significance. Hence, when peace comes, although it is difficult to predict, Ukrainians are absolutely sure that after the victory, Ukraine will become one of the strongest and most independent countries in Europe.

5 Conclusions

During the years of independence, a new system of market land relations was created when a land policy was introduced that introduced private land ownership in Ukraine alongside state and communal land ownership. According to the Constitution, the rights of citizens, legal entities and hromadas ensure equality of land ownership.

However, the land reform, which has not yet been completed in Ukraine, has become one of the longest in the world, and for a long time Ukraine has not had a fully developed land market. Land relations developed under limited conditions, and the deprivation of landowners of the right to dispose of their agricultural land, which is guaranteed by the Constitution, only exacerbated the process of balanced land use. This has resulted in a lot of land being concentrated in the hands of those who do not use it efficiently and do not increase its value.

International experience shows that in most countries the land market was established in a market environment, where the entire legislative, institutional and organisational framework contributed to the increase of productivity and value of land, as well as to the growth of its social significance.

This can also be helpful, and despite the hostilities, land reform should create the conditions and directions for Ukraine's full economic growth, such as regulating the free land market, introducing fair relations in land management and preventing corruption schemes in land relations. Therefore, the process of balanced land use should be aimed at rational use, protection and preservation of own land resources, which will contribute to the growth of the economic potential of the country as one of the most agrarian countries in the world.

The issues that will arise in the process of balanced land use require immediate action and

important decisions, so the research topic will always be relevant. Furthermore, the potential for further research should be considered in the context of constant monitoring, forecasting and territorial planning of the state of land use efficiency. Despite the uncertain situation and the military actions in the country, as well as the failure to regulate land relations between the main participants in the land market and to define their role in the land use system, this is a complex process in which a large number of different issues need to be addressed. It will require constant analysis and control.

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