

## FINANCIAL AND ECONOMIC MECHANISM AS A UNIVERSAL INSTRUMENT FOR TRANSFER OF LAND USE TO THE MODEL OF SUSTAINABLE DEVELOPMENT

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**Annotation.** It has been found that pursuing a state policy in the field of land relations in order to obtain economic benefits without taking into account environmental interests has caused an ecological crisis in land use, as evidenced by the results of the classification in the world environmental rating of Ukraine (102nd place among 132 countries). From these positions, \$5 billion is lost in economic equivalents due to poor crop yields on contaminated and degraded lands, with indirect losses reaching up to one billion hryvnias (\$40 million). It is proved that the existing disparities can be adjusted by the use of universal tools for implementing the financial and economic mechanism of influence on economic entities in order to achieve environmentally safe land use, focusing on the factors that shape the possibilities of using a specific type of instruments, namely: economic incentives, economic guarantees, market, mortgage, fiscal and innovative.

**Keywords:** financial and economic mechanism, instruments, sustainable land use.

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### **Formulation of the problem.**

Unsystematic policymaking by the government which declares a balanced use of nature, and in essence supports the interests of individual economic entities in order to obtain economic benefits without taking into account environmental interests has led to an environmental crisis. From these positions, the contribution of the agro-in-

dustrial complex to the ecological crisis (pollution and environmental degradation) reaches 35-40%, including land resources - more than 50, and surface water bodies - from 45 to 50% [1, p. 13]. Imperfections in the formulation and implementation of good environmental policies restrain the prevention of threats to the environment, as demonstrated by the results of its identification in the World Environmental Rating of

Ukraine (102nd place among 132 countries) [2, p. 70]. Due to erosion, about half a billion tons of topsoil is washed away each year, with 24 million tons of humus lost. In the economic equivalent, \$ 5 billion is lost, and because of the lack of harvest on such lands, indirect losses amount to one billion hryvnia [1, p. 13]. In this context, the interests of social development, the environment and the economy must be balanced, optimized to the greatest extent possible. Existing disparities can be adjusted by the impact of a set of universal financial and economic instruments on the subjects of land relations for the gradual transfer of land use to the sustainable development model.

### ***Analysis of recent research and publications.***

Coverage of versatile aspects of green land use has been the subject of lots of scientific papers of Ukrainian scientists. In particular, the problems of improving the economic mechanism of land conservation activities are devoted to the works of V. Holyian, G. Hutsuliak, B. Danylyshyn, D. Dobriak, Y. Dorosh, Sh. Ibatulin, A. Tretiak, O. Furdychko, M. Hvesyk and others. The current state, tendencies of development and legal regulation of ecological insurance in Ukraine as an instrument of financial and economic mechanism are covered in the works of N.O. Buryk, H.R. Vasylyshyn, L.M. Granovska and other scientists. Their experience provides a solid basis for the formation of an organizational and financial mechanism for sustainable land use; however, some issues need improvement over time.

**The purpose of the research is to investigate the essence of the financial and economic mechanism for ensuring**

sustainable (balanced) land use, focusing on the use of universal tools and factors that shape its use to achieve the goals.

### ***Results of the study and their discussion.***

The main purpose of translating land use into a sustainable development model is to ensure dynamic socio-economic growth through building a highly efficient economic system that fosters environmental sustainability. In view of this, it is necessary to focus on the use of tools as a holistic complex phenomenon for the implementation of the financial and economic mechanism and its involvement in the formation of appropriate priorities in the field of land use. Such instruments include *economic stimulus, economic guarantee, market, credit and mortgage, fiscal and innovative tools.*

In an aggravated environmental situation in land use, an important role is played by attracting *international funds and investments* aimed at restoring and improving the quality of land, improving soil fertility as a necessary source of incentives for the implementation of measures aimed at the rational use and reproduction of land. Considering the importance of international financing of environmental measures, it should be noted that these are mostly not systematic cash inflows and, in quantitative terms, insignificant. In this respect, instruments of state incentives for the rational use and protection of land (*state subsidies; tax breaks; state investment funds*) should play a decisive role. Undoubtedly, these instruments have a high priority because they are characterized by a system of economic impact measures (imposition of taxes and penalties - on the one hand, and on the other - granting tax breaks, subsidies) for

entities to comply with environmental protection requirements. In view of this, the size of the sanctions should be such that land users, for example, are more profitable in using cost-effective technologies when using land resources instead of depleting land and soils. In the case of incentives, in this case, it is advisable to establish a fixed percentage of deductions from taxes on the implementation of land conservation measures. In addition, the privilege should be provided by a method of differentiation of tax rates, and when granting tax exemption, it should be determined by a fixed term.

The main principles of economic incentives for rational use and protection of land in Ukraine are stated in Art. 205 of the Land Code [3]. Economic impact measures are aimed at encouraging business entities to improve the quality of land, increase soil fertility and produce environmentally friendly products. It is also about providing funds from the state or local budget for the restoration of land, which was not the fault of the owners of the land. At the legislative level, provision is also made for granting preferential loans to landowners and land users for implementing measures aimed at rational use and protection of land at their own expense, provided by national and regional programs of land use and protection. However, the Tax Code does not provide privileges for such things.

In addition, the Land Code of Ukraine provides the exemption of citizens and legal entities from payment for land under agricultural reclaim or improvement of their condition in the period determined by the project and partial compensation from the budget funds of the lost income of land owners and land users, caused by temporary conservation of degraded and unproductive lands, if these measures were not

implemented because of their fault. The implementation of measures defined at the legislative level should first and foremost aim at preventing such land management, which is contrary to environmental regulations and environmental standards related to the protection and restoration of land resources.

*State investment funds*, as instruments of state incentives to rationalize land use, are considered to be one of the most profitable and at the same time the simplest instruments for investing. This fund brings together the capital of many participants, and its assets are owned by its investors under joint ownership.

In view of the above, *economic incentives* for the rational use and protection of land form the basis for environmentally friendly land use and the ability to provide land owners and land users with the same economic conditions.

Equally important instruments for implementing the financial and economic mechanism for rationalizing land use are *the instruments of economic guarantee (environmental funds and environmental insurance)*. These instruments are aimed at the accumulation and distribution of funds in case of ecological imbalance due to the negative effects of natural and anthropogenic factors. Environmental funds are at the forefront of maintaining environmental balance in land use.

The Global Environment Facility (hereinafter referred to as the GEF) is an independent international financial mechanism through the United Nations Development Program, the United Nations Environment Program, and the World Bank. It is the largest contributor to environmental projects (annual environmental spending is about \$ 1 billion), contributing to environmental improvements globally (biodiversity; climate change; international waters; ozone de-

pletion; ozone); pollutants). To support 2,400 of such projects in more than 160 developing and transitional economies, GEF has allocated \$ 8.7 billion in grants since 1991 [4].

Cooperation with international environmental funds is an important step for Ukraine to ensure sustainable land use and ecosystem restoration. Nevertheless, it is advisable to create its own State Ecological Fund, which would accumulate funds from fees for environmental pollution, special use of natural resources, monetary penalties for violation of environmental legislation and financial support for the implementation of environmental measures.

The State Ecological Fund will guarantee the compensation of economic entities damages in case of violation of ecological equilibrium and will perform the stimulating function of realization by the subjects of land relations of environmentally attractive projects. The financing and support of these projects is the basis for further sustainable land use in our country.

*Environmental insurance* is a very effective tool for environmental policy and guarantees of life safety. State's interest in introducing and developing environmental insurance that its reserves cannot remain the sole source of compensation for losses caused by man-made accidents and catastrophes for damage to the life and health of citizens, property of legal entities and individuals, the state environment, etc. The introduction of a system of civil liability insurance of business entities at high risk facilities, increases the liability of business entities at these facilities for the possible negative consequences of their activities.

Businesses are also interested in this type of insurance, since in the case of man-made accidents they become ob-

jects of high risk and are not able to compensate the victims. Citizens receive guarantees of protection of their own property, and in case of occurrence of an insurance event - ensuring the restoration of their rights. The insurer's interest lies in the ability of the organization to cover environmental risks so that the costs of preventing the occurrence of insurance events and payments associated with the insured events do not exceed the insurance premiums for this type of insurance.

The main distinguishing feature of environmental insurance in a land use system is that its object is the risk of civil liability and the risk of claiming damages to the landowner or land user in accordance with the rules of civil law. In addition, the procedure for the implementation of environmental insurance at the legislative level is not defined. The mechanism of environmental insurance at the national level should be regulated by environmental legislation (in the field of land protection, land use ecology and real estate insurance; introduction of obligatory insurance of agricultural land by landowners and land users; training of specialists in land issues). At the regional level, there is a need to: 1) create a data bank on the susceptibility of the territory to the effects of dangerous natural and man-made processes; 2) orientation of the State Land Cadastre on land insurance information support; 3) establishment of a specialized body for agricultural land insurance. In this respect, the organizational component should properly function in the direction of: introducing a practice of continuous environmental audit of enterprises, institutions and organizations; defining the scientific, organizational and economic basis of environmental risk analysis and management; stimulating activity.

In Ukraine, the procedure for environmental insurance is regulated by the Constitution of Ukraine, the Laws of Ukraine “On Insurance”, “On Environmental Protection”, the Decree of the Cabinet of Ministers of Ukraine “On Compulsory Insurance of Civil Liability for Nuclear Damage” and other by-laws. Despite the considerable number of legislative acts, the system of environmental risk insurance in Ukraine is at the stage of formation and requires the development of effective mechanisms for its formation. This is due to the fact that the rules of civil and insurance legislation do not fully reflect the specifics of relations in the field of environmental protection and the social orientation of environmental insurance.

A rather important instrument of economic guarantee of rationalization of land use is compensation of losses of agricultural and forestry production as a measure, which is manifested in levies as compensation for the reduction of land area used in agricultural and forestry industries. Monetary proceeds from these losses are credited to local budgets and are directed exclusively to the following activities: land development for agricultural and forestry needs; Improvement of appropriate lands; protection of land in accordance with existing programs and projects of land management; carrying out works on land inventory and regulatory monetary valuation of land [5]. It is clear that these funds should be effectively allocated to the activities listed and potentially used.

In the presence of the least economic activity in any case there is a demand for land, and as a consequence *market instruments (market price of land, expert evaluation of land, land auctions, environmental marketing)* begin to operate.

*Expert monetary valuation* of the land is made on based on methodological ap-

proaches such as: 1) capitalization of net operating or rental income (direct and indirect); 2) comparison of selling prices of such land; 3) taking into account the cost of land improvements. When conducting it, attention is focused on one of them, which is provided with completeness of information about the land plot [6]. And *the market price* of land is formed on the basis of expert monetary valuation without which the successful purchase and sale of land is impossible.

According to The State Service of Ukraine for Geodesy, Cartography & Cadastre, as of January 1, 2018, the regulatory monetary value of one hectare of arable land on the average in the country was 27.5 thousand UAH (i.e. about 840 EUR). The most expensive arable land is estimated in Cherkasy region - almost 34 thousand UAH / ha (about 1050 EUR), the cheapest - in Zhytomyr region - 21,2 thousand UAH / ha (about 650 EUR). For comparison, the divergence in agricultural land prices within the EU Member States is 32 times. The lowest level of the average value of one hectare of arable land is recorded in Romania - about 2 thousand euros, the highest in the Netherlands - almost 63 thousand euros [7].

Nevertheless, according to the estimates of economists, the market value of the lands of Ukraine is about \$ 1.5 trillion, and according to the normative monetary estimate their value does not exceed \$ 300 billion. As it turned out, the most undervalued agricultural land is \$ 225 billion valued at market value and only about \$ 40 billion for regulatory monetary value [13]. At the same time, given the potential of land fertility, land value in Ukraine should increase by more than \$ 10,000 per hectare [14].

In this respect, *capitalization of land use* as a system of measures aimed at forming factorial (environmental, social,

economic) components of land capital, tools and methods of influence on the growth of land value in the respective territory at all hierarchical levels and categories of land (industry, purpose) becomes a significant importance. The increase of the level of capitalization of land use is completely connected with the system of institutional, intellectual, land management, financial and economic measures and their realization due to the purposeful activity of both state authorities and local self-government bodies.

For the most profitable sale of land in Ukraine, land auctions with legislative defined procedure were introduced (Article 135 of the Land Code of Ukraine). And the Law of Ukraine “On Land Auctions” is a basis for ensuring transparency and openness of the processes of buying and selling land. In July 2019, 517 state-owned, 447 communal and 7 privately owned land plots with a total area of more than 13,000 hectares were offered for sale at 410 auctions. From 971 land plots only 602 (62%) were sold or leased. For the remaining lots (253) the auctions did not take place due to the absence of buyers, which was the reason for the failure of the land auctions for January-July 2019. And, as a result, community budgets underperformed approximately \$1 million. After all, since 2016, the weighted average demand for land plots has been in the range of 60 to 75 percent. Such are the realities of the current land plot market – supply outweighs demand [8].

Profitability of land use, competitiveness while ensuring the production of organic, environmentally friendly and safe agricultural products, compliance with the condition of greening of agriculture is ensured through well-established marketing. This is formed within the framework of a set of mea-

asures of market nature aimed at reducing the destructive impact of humanity on the environment, called - *environmental marketing*.

In the field of land relations, it is advisable to introduce at the legislative level the concept of “*land marketing*”, the essence of which would be revealed in the substantive component of types of marketing, namely: marketing of the use, protection and reproduction of land and resource potential; marketing of economic regulation of rational use (incentive, land tax, damages, etc.) of land use; marketing of the development of land management and research scientific and technical documentation; marketing of strategic land-use planning; marketing of measures aimed at reducing the risks of land use threats.

Equally important leverage for the implementation of the financial and economic mechanism of sustainable land use are *credit and mortgage* instruments, since they are aimed at activating and efficient use of long-term financial resources aimed at rationalizing land use and solving a number of social and environmental problems. Although there have been some changes at the legislative level for lending, there are limited opportunities in the mortgage market.

According to the current legislation of Ukraine, the pledge may be agricultural land, which are privately owned by citizens of Ukraine, and land use, formed on a lease basis, have no mortgage rights. Under the current conditions, the process of transferring land to a mortgage in the short term is almost impossible.

Limited opportunities for the development of land mortgages are also associated with the low cost of agricultural land. After all, mortgage lending should take place on favorable terms for both agricultural producers (the ability of borrowers to re-

pay debt) and lenders. Non-repayment of loans leads to the loss of the pledged land by the peasants. Therefore, the formation of a mortgage lending system requires the creation of appropriate institutions and mechanisms by the state, and above all "... coordinated work of a special financial institution - the Agrarian Bank of Ukraine and its subdivisions in the regions, which will facilitate the movement of funds and pledge of property rights in order to obtain loans (up to 3% rate) by agricultural producers"[9, p. 55 No. 1, 2019], because agriculture is a very risky business. Provision the buyer or the land user with credit resources will stimulate and generate offers in the market, especially in the conditions of economic crisis due to the low purchasing power of both individuals and legal entities.

*Fiscal instruments* are based on the principle of payment for land use and ownership. Forms of payment for land are land tax, rent and the standard price of land. It is important that the land payments to the special budget accounts of local budgets be used only for the regulation of land relations, land management, state land cadastre, land protection, economic incentives and other costs related to the rational use of land. However, only a small fraction of these funds is used for these purposes.

In this respect, *environmental taxation* is able to play an exceptional role in environmental problems solution in the context of Ukraine's exit from the socio-economic crisis, with limited financial and material resources, as the government influences through environmental taxes and subsidies (stimulates or counteracts) public relations and the macroeconomics as a whole. So accumulated tax funds should be directed precisely at promoting nature conservation by consumers, development and introduction

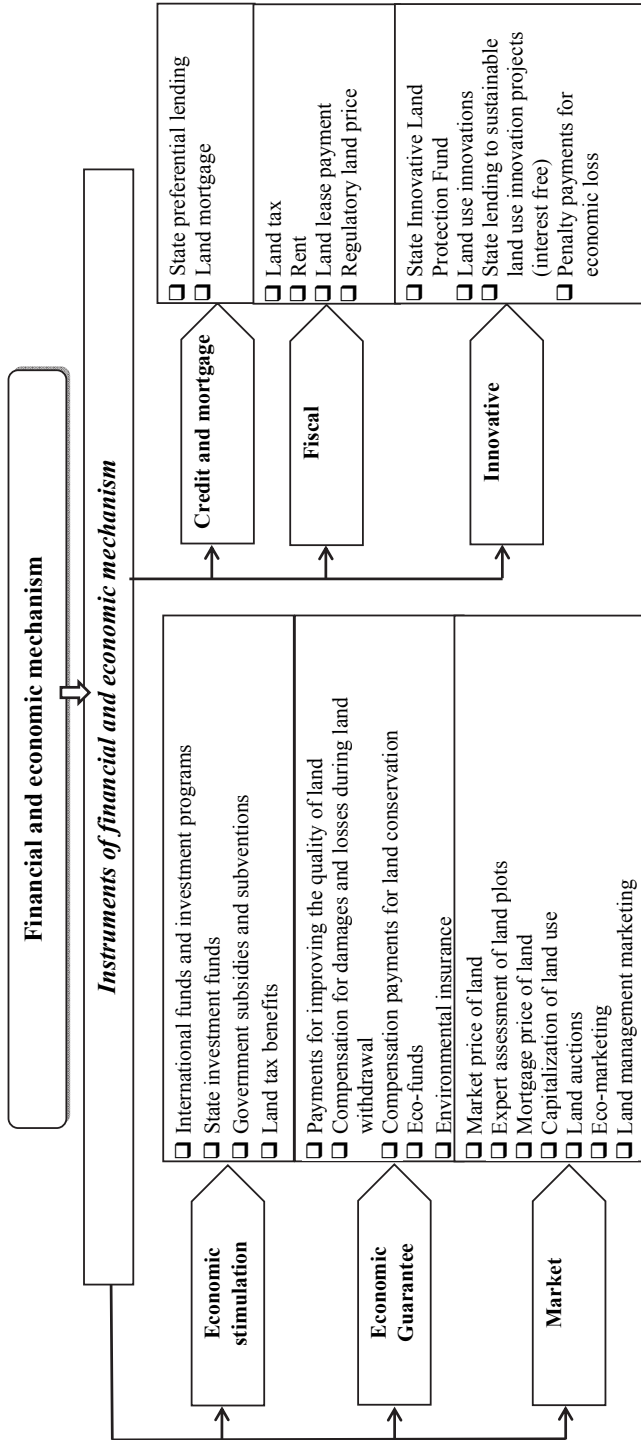
of non-waste technology, waste disposal, clearing of old dumps and others. So, the main purpose of the environmental tax is to encourage the taxpayer to positive behavior regarding protection of the environment and ensuring environmentally friendly land use.

Effective tools aimed at the rationalization of land use, its profitability are *innovative tools* based on modern developments in science and technology. In addition, the process of dissemination of land-use innovation must take place at the local (economic) level, which in the future will positively contribute to the growth of the country's economy as a whole.

In order to finance activities for the creation and implementation of new competitive technologies and developments, a *State Innovation Fund* has been established in Ukraine, the formation of which is carried out at the expense of budgetary allocations allocated for targeted financing of innovative scientific and technical programs and projects. This fund and its regional offices are consulted, and a preliminary examination of innovative projects and programs is carried out. The widespread introduction of innovations in the economy is a guarantee of the progressive development of the economy [10].

Energy conservation and the introduction of clean technologies in Ukraine are priority areas for development. Due to the existing potential of land, mineral and human resources, the available research infrastructure and location make it possible to become an equal player and become successful in the energy field. On the other hand, we need to focus on introducing *eco-innovations* in time because of the high level of environmental pollution caused by industrial waste, the Chornobyl disaster, etc., which is largely related to land

*Financial and economic mechanism of transfer of land use to the model of sustainable development.*



*Fig. 1. Structural and logical scheme of implementation of financial and economic mechanism of transfer of land use to the model of sustainable development*

*Source: Improved by authors using sources [11,12, p. 17]*



resources. It is about introducing technologies that will improve the quality of land as a strategically important natural resource for Ukraine.

For better perception and systematization of the results of the conducted researches, a structural and logical scheme of realization of financial and economic mechanism of transfer of land use to the model of sustainable development is offered (Fig. 1).

### **Conclusion.**

Summarizing the conducted research, it should be noted that an ecological balance in land use is possible with the combination of financial and economic instruments and their purposeful influence on economic entities, taking into account the communication quality between representatives of state authorities, local government, community and business. At the same time, it is necessary to emphasize the factors that shape the possibilities of using a right type of instruments (availability of legal and institutional framework, land use planning, completion of the process of privatization of land plots, transparency of land valuation, transparency of land use restrictions, filling of natural resources inventories, etc.).

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**ФІНАНСОВО-ЕКОНОМІЧНИЙ МЕХА-  
НИЗМ ЯК УНІВЕРСАЛЬНИЙ ІНСТРУМЕН-  
ТАРІЙ ПЕРЕВЕДЕННЯ ЗЕМЛЕКОРИСТУ-  
ВАННЯ НА МОДЕЛЬ СТАЛОГО РОЗВИТКУ**  
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**Анотація.** З'ясовано, що ведення державної політики в сфері земельних відносин із метою одержання економічної вигоди без урахування екологічних інтересів спричинила екологічну кризу в землекористуванні, про що демонструють результати ідентифікації у всесвітньому екологічному рейтингу України (102-е місце серед 132 країн). Із цих позицій в економічному еквіваленті втрачається 5 млрд доларів із-за недобору врожаю на забруднених і деградованих землях, а побічні збитки сягають мільярда гривень. Доведено, що наявні диспропорції можна врегулювати завдяки застосуванню універсального інструментарію для реалізації фінансово-економічного механізму впливу на господарюючі суб'єкти з метою досягнення екологічно безпечного землекористування, акцентуючи увагу на факторах, які формують можливості використання характерного виду інструментів, а саме: еко-

номічного стимулювання, економічного гарантування, ринкових, кредитно-іпотечних, фіскальних та інноваційних.

**Ключові слова:** фінансово-економічний механізм, інструменти, стале землекористування

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**ФИНАНСОВО-ЭКОНОМИЧЕСКИЙ  
МЕХАНИЗМ КАК УНИВЕРСАЛЬНЫЙ  
ИНСТРУМЕНТАРИЙ ПЕРЕВОДА ЗЕМЛЕ-  
ПОЛЬЗОВАНИЯ НА МОДЕЛЬ УСТОЙЧИ-  
ВОГО РАЗВИТИЯ**

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**Аннотация.** Установлено, что ведение государственной политики в сфере земельных отношений с целью получения экономической выгоды без учета экологических интересов вызвала экологический кризис в землепользовании, о чем демонстрируют результаты идентификации во всемирном экологическом рейтинге Украины (сто второе место среди 132 стран). С этих позиций в экономическом эквиваленте теряется 5 млрд долларов из-за недобора урожая на загрязненных и деградированных землях, а побочные убытки достигают миллиарда гривен. Доказано, что имеющиеся диспропорции можно урегулировать благодаря применению универсального инструментария для реализации финансово-экономического механизма воздействия на хозяйствующие субъекты с целью достижения экологически безопасного землепользования, акцентируя внимание на факторах, формирующих возможности использования характерного вида инструментов, а именно: экономического стимулирования, экономического обеспечения, рыночных, кредитно-ипотечных, фискальных и инновационных.

**Ключевые слова:** финансово-экономический механизм, инструменты, постоянное землепользование.