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RATIONAL NATURE MANAGEMENT AS A COMPONENT OF ENVIRONMENTAL SAFETY: ECONOMIC AND LEGAL ASPECTS

Abstract. The article deals with the analysis of economic and legal aspects of rational nature management as a component of ecological safety. The ecological problems of the current state of the natural environment of the country are analyzed. It is stated that environmental security is one of the most important components of national security of Ukraine, which depends on the rational use and reproduction of natural resources. The concept of rational nature management is formulated, the concept consists in the sphere of production and scientific activity aimed at the study, development, protection and transformation of nature in order to ensure favorable conditions for human life. It was found out that the rational use of nature necessarily involves the economic and legal component, which lies in getting the most out of economic and other activities in the use of natural resources at economically reasonable costs. The concept of economic and legal mechanism of nature management is defined, which is enshrined in the system of economic and legal measures, incentives and other regulators aimed at ensuring environmental protection, environmental safety and organization of rational nature management and is based on the concept of payment for the use of natural resources, introduction of economic and legal responsibility. Proposals have been formulated as for the implementation of additional measures of fiscal regulation of nature use by Ukraine, granting tax benefits to enterprises implementing relevant environmental protection programs, insurance of environmental risks.

Keywords: ecological safety, rational nature use, economic and legal mechanism, legal regulation, environment, norms of law.

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РАЦІОНАЛЬНЕ ПРИРОДОКОРИСТУВАННЯ**ЯК СКЛАДОВА ЕКОЛОГІЧНОЇ БЕЗПЕКИ: ЕКОНОМІКО-ПРАВОВІ АСПЕКТИ**

Анотація. Присвячено аналізу економіко-правових аспектів раціонального природокористування як складової екологічної безпеки. Проаналізовано екологічні проблеми сучасного стану навколишнього природного середовища держави. Констатовано, що екологічна безпека є однією з найважливіших складових національної безпеки України, яка залежить від раціонального використання і відтворення природних ресурсів. Сформульоване поняття раціонального природокористування, яким є сфера виробничої та наукової діяльності, спрямована на вивчення, освоєння, охорону й перетворення природи з метою забезпечення сприятливих умов життєдіяльності людини. З'ясовано, що раціональне природокористування обов'язково передбачає економіко-правову складову, яка полягає в отриманні найбільшої користі від господарської та іншої діяльності при використанні природних ресурсів за умови економічно обґрунтованих витрат. Визначено поняття економіко-правового механізму природокористування, яким є закріплена в законодавстві система економічних і правових заходів, стимулів та інших регуляторів, спрямованих на забезпечення охорони навколишнього природного середовища, екологічної безпеки та організацію раціонального природокористування та ґрунтується на концепції платності природокористування, застосування економічної, юридичної відповідальності. Сформульовано пропозиції щодо здійснення Україною додаткових заходів фіскального регулювання природокористування, надання податкових пільг підприємствам, що реалізують відповідні природоохоронні програми, страхування екологічних ризиків.

Ключові слова: екологічна безпека, раціональне природокористування, економіко-правовий механізм, правове регулювання, навколишнє природне середовище, норми права.

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Introduction. One of the main conditions of human life and society is the use of the natural environment and natural resources, which form the basis for economic, environmental, health, medical, cultural, aesthetic and other needs of society.

The use of nature, that is, the actual use of natural objects by man, the useful properties of the natural environment, has always existed, regardless of the forms of organization of human society and the stages of its development. This is the most fundamental factor in the relationship between society and nature, which performs the primary economic function (nature as a source of life), as well as affects the quantitative and qualitative state of nature. Nature management should be considered not only as economically but also as an ecologically significant activity of the state and the person.

Analysis of research and problem statement. Economic and legal issues of ensuring rational use of nature as a component of ecological safety are studied in the works of A. Bobylev, S. Balashenko, V. Golubina, M. Guzev, O. Kashenko, V. Muntyan, L. Rogozhin, V. Shevchuk and others. However, despite some developments, national scientists have not formed a unified approach to understanding this problem, which, in turn, is reflected in practice.

The aim of the article is to analyze the current state of economic and legal regulation of rational nature management as a component of environmental safety and to outline ways to solve problems in this area.

Research results. Most of the global catastrophes of mankind are caused by the consumer attitude of society to nature. It leads to the depletion of natural resources, environmental degradation, exceeding the level of anthropogenic pressure on nature, due to ignoring the ecological capacity of the planet, etc. [1].

According to the experience of the advanced countries of the world, it is quite difficult to pursue an effective environmental policy in the country even in a developed economy. The problem of environmental protection in Ukraine, which is experiencing a deep systemic economic crisis, is even more complex. Ecological problems of the current state of the environment of the country are caused by at least two main factors: 1) irrational use of natural resources, which reduces the productivity of the biosphere; 2) pollution that threatens all living things, especially man himself [2; 3].

This is confirmed by numerous facts. In Ukraine, in 2020, more than 54 million m³ of household waste was generated, or more than 15 million tons, which are disposed of in 6,000 landfills and dump areas with a total area of almost 9,000 hectares. The number of overfilled landfills reaches 261 (4.3%), and 868 (14%) do not meet environmental safety standards, the need for construction of 318 new landfills has been identified. The average tariff for household waste disposal in the country is almost 130 UAH/m³, including 42 UAH/m³ for landfilling. The average tariff for household waste management for the population is UAH 111.7/m³, incl. 37.8 UAH/m³ for landfilling. According to expert estimates, in 2020, services for the removal of household waste amounted to more than 5.2 billion UAH. The volume of paid services amounts to almost UAH 4.9 billion.

The situation in the field of water use is also in crisis. It is primarily due to the presence of extremely water-intensive industries in Ukraine, as well as outdated technologies that require 2—6 times more water than the technologies of developed countries. According to the level of rational use of water resources and water quality, Ukraine, according to UNESCO, ranks 95th among 122 countries. Such processes lasted for decades and led to a sharp deterioration of the environment [3]. Once again, it is regrettable to state the lack of advanced technologies, in particular due to lack of funding.

This ecological situation in Ukraine has been formed for a long time due to the neglect of objective laws of development and reproduction of the natural resource complex. There were structural deformations of the national economy when preference was given to the development in Ukraine of raw materials and extractive industries, the most environmentally hazardous. The economy of Ukraine was dominated by resource-intensive and energy-intensive technologies, the introduction and expansion of which was carried out in the cheapest way — without the construction of appropriate treatment facilities and compliance with basic norms and rules of nature management. The situation was complicated by the low level of environmental awareness of society, which led to significant environmental degradation, excessive pollution of surface and groundwater, air and land, and the accumulation of large amounts of highly toxic industrial waste.

Given this, the creation of an environmentally safe environment for life and health, stabilization and improvement of the environment by integrating environmental requirements into the socio-economic sphere are the goal and main direction of national environmental policy [3]. The basis of such a policy is the basic principle according to which guaranteeing environmental safety is an important duty of the state (Article 16 of the Constitution of Ukraine [2]). This principle is based on the right of everyone to a safe environment for life and health and to compensation for damage caused by violation of this right (Article 50 of the Basic Law of Ukraine).

Much attention is paid to the analysis of economic and legal aspects of environmental management in the scientific literature. Thus, A. Bobylyev and S. Balashenko state that the rational use of nature is a scientifically sound, effective use of natural objects and resources in combination with the requirements for environmental protection [4].

According to V. Shevchuk and L. Rogozhin, rational use of nature is a purposeful socio-economic activity of society, which provides the fullest satisfaction of its growing needs by comprehensive intensification of the use of natural resources [5].

O. Kashenko defines nature management as any economic activity to manage a certain ecological and economic system [6].

V. Golubina emphasizes that nature management is a consciously created system of production relations that reflect the interaction of the economy and the natural environment in the process of social reproduction. This is a complex and multifaceted process that has two sides: production and technical and socio-economic ones [7].

According to V. Muntyan, the principle of rational and efficient use of natural objects reflects the legally confirmed economic side of ecological use, which is an effort to obtain the greatest effect from the economic exploitation of natural resources, without causing economic and environmental damage to the environment [8].

Thus, the concept of rational use of nature necessarily implies an economic component, which is to obtain the greatest benefit from economic and other activities in the use of natural resources at economically substantiated costs. Achieving high rates of rational use of nature is not possible without legal regulation, which regulates its order, boundaries, and so on.

The system of law has formed a complex institution — natural resource law, which consists of land, mining, water, forest law and so on. It is a system of legal norms that regulate the order, conditions of rational use of natural resources, without violating environmental safety, to meet the needs of man and society.

Unfortunately, in a transition economy there are no highly effective economic prerequisites for the formation and implementation of environmental and economic interests. It is a question of target ambitions of the state, public organizations, restrictions at realization of economic interests which, as M. Guzeev claims, form ecological orientation [9].

Until recently, there were attempts to solve the problem mainly by applying administrative and legal methods, prohibitions and restrictions, but it did not give the expected result. Chapter X of the Law of Ukraine «On Environmental Protection» of 25.06.1991 [10] somewhat smooths out this contradiction by including the principle of economic incentives in the mechanism of regulation of environmental relations: environmental protection will be effective only when it becomes part of the economic mechanism and will be cost-effective for the entity.

As O. Veklych rightly emphasizes, the formation of ecological and economic interests and elimination of contradictions between them is the goal of the economic mechanism of ecological regulation [11].

Means of combining environmental and economic interests of social progress are defined in Articles 31—33 of the Law of Ukraine «On Environmental Protection», which outlines environmental standards and regulations [10]. This Law of Ukraine pays special attention to environmental safety (Articles 50—59) (*Table 1*).

Table 1

Legislative provision of ecological safety according to the Law of Ukraine «On Environmental Protection»

No	Article	Mandatory environmental safety requirements
1.	art. 51	during the placement, design, construction, reconstruction, commissioning and operation of enterprises, buildings and other facilities
3.	art. 53	when protecting the environment from uncontrolled and harmful biological effects
4.	art. 54	when protecting against acoustic, electromagnetic, ionizing and other harmful effects of physical factors and radioactive contamination
5.	art. 55	when preventing pollution by industrial, household, other types of waste
6.	art. 56	when using vehicles and other mobile vehicles and installations
7.	art. 57	when conducting research, implementation of discoveries, inventions, application of new equipment, imported equipment, technologies and systems
8.	art. 58	during the construction of military, defense facilities and the realization of military activities
9.	art. 59	when starting and developing settlements

Note. [10].

Legal norms to ensure environmental safety, which are contained in significant quantities in the legislation of Ukraine, have a comprehensive, intersectoral impact on the regulation of legal relations in various spheres.

There is every reason to believe that the economic and legal mechanism of nature management is a system of economic and legal measures, incentives and other regulators enshrined in the legislation, aimed at ensuring environmental protection, environmental safety and the organization of rational nature management. Such a mechanism is based on the concept of payment for nature management, the use of economic and legal liability, and provides a system of economic and legal instruments.

An example of economic and legal regulation of nature is the principle of free general and special use of natural resources (paragraphs) of Art. 3 of the Law of Ukraine «On Environmental Protection»). Payment for special use of natural resources is a source of replenishment of state and local budgets with the subsequent expenditure of funds for environmental purposes, it also encourages nature users to rational use of natural resources, to the efficiency increase of environmental activities, it is an important component of economic and legal mechanism.

At the present stage, the principles of formation of the system of payments for the special use of natural resources, the structure of the relevant fees and the procedure for their collection are regulated, in addition to environmental legislation, primarily by financial (including tax) legislation. At the same time, experts note that the system of state regulation created in Ukraine in the sphere of paid nature management has proved ineffective, as its mechanism does not stimulate the development of economic activity in the use of natural resources. The current level of fees has not provided sustainable progress in the mobilization and accumulation of financial resources, as well as the targeted allocation of funds or a certain share of them for environmental activities [12].

Quite often budget and tax regulation is considered together as fiscal regulation, which is defined as a set of various levers and instruments of legislative, executive and control nature, through which the state and local governments create conditions for effective resource provision to meet socio-economic needs of each region [13; 14].

In our opinion, additional measures of fiscal regulation of nature management should be:

- differentiation of water payment standards in different industries;
- promoting the targeted use of payments for resources;
- introduction of taxation of private hunting lands and other forms of monopolization of natural resources;
- granting tax incentives for the introduction of resource- and energy-saving technologies;
- strengthening control over the use of natural resources and the application of appropriate penalties;
- activation of tax levers for economical use of natural resources.

The environmental tax and the system of penalties play an important role. Not only the size of the fine is important, but also the probability of its application (*Table 2*).

Nowadays, the environmental tax in Ukraine is the lowest compared to developed countries. According to experts, there is a clear understatement of current tax rates per unit of pollution [14]. Improving the environmental situation is impossible without a comprehensive system of organizational and economic transformations at different levels of nature management, which should be based on an effective combination of administrative and legal influence on nature users and measures of economic and legal regulation of rational nature management [15].

At the present stage of development of market relations within the framework of the international concept of ecological safety it is necessary to define new approaches to management of economy and ecology, their mutual coordination for the world community and Ukraine as well.

Table 2

Environmental tax on some types of pollutants

243.2. Tax rates for air emissions by stationary sources of pollutants (compounds) for which the hazard class is set		
Danger class	Tax rate, hryvnias per 1 ton	
I	17536.42	
II	4016.11	
III	598.4	
IV	138.57	
245.1. Tax rates for discharges of certain pollutants into water bodies:		
Name of the pollutant	Tax rate, hryvnias per 1 ton	
Ammonium nitrogen	1610.48	
Organic substances (according to biochemical oxygen consumption) (BOC 5)	644.6	
Suspended substances	46.19	
Petroleum products	9474.05	
Nitrates	138.57	
Nitrites	7909.77	
Sulfates	46.19	
Phosphates	1287.18	
Chlorides	46.19	
246.2. Waste tax rates, which are set depending on the hazard class and level of hazard of waste:		
Waste hazard class	Waste hazard level	Tax rate, hryvnias per 1 ton
I	extremely dangerous	1405.65
II	highly dangerous	51.2
II	moderately dangerous	12.84
IV	low-risk	5.0
V	low-hazard non-toxic waste from the mining industry	0.49
248.1. Tax rates for temporary storage of radioactive waste by its producers beyond the period established by the special conditions of the license:		
Waste category	Tax rate for temporary storage of radioactive waste (except for waste presented as a source of ionizing radiation), hryvnia for 1 cubic meter	Tax rate for temporary storage of radioactive waste presented as a source of ionizing radiation, hryvnia for 1 cubic centimeter
Highly active	602418.72	20080.63
Medium and low activity	11245.14	4016.11

Note. [13].

Nowadays, new directions of formation of economic and legal mechanism are outlined: economic stimulation of environmental protection, creation of specialized financial and economic base — ecological funds of different levels, specialized branches of economy, so-called ecological industry — market of ecological technologies and services. Recently, the strategies of «ecologization of the economy», «environmentally friendly production», «eco-efficiency of production», the transition to a «green economy» and so on have become popular. However, the listed innovations of economic and legal regulation in this area still require their scientific understanding and legislative support.

Certain transformations are already observed today. For example, electricity production by power plants of other types (block stations and other sources) increased by 102.7 million kWh, or 19.5% compared to the same indicator in 2019 and amounted to 628.1 million kWh.

During four months of 2020, thermal and nuclear power plants and district boilers released 11254.8 thousand Gcal of heat, which is 770.1 thousand Gcal (or 6.4%) less than in the corresponding period of 2019.

During January – April 2020, UAH 5,072.9 million of capital investments was disbursed by enterprises of the fuel and energy sectors belonging to the Ministry of Energy of Ukraine at the expense of all sources of financing, which is 8.9% more than in 2019.

UAH 5072.9 million of capital investment was disbursed in the energy sector, which is 9.4% more than the same period last year.

Workson the construction of the Dniester PSP, the reconstruction of TPP power units, the cascade of Dnieper HPPs, and the construction of main power grids to supply power to nuclear power plant units continue.

UAH 8.6 thousand of capital investment was disbursed in the coal industry [16].

The planned allocations from the State Budget for 2020 provide for expenditures under the budget program «Measures to eliminate depressed coal mining enterprises» in the amount of 659.7 million hryvnias (with amendments). In fact, since the beginning of the year, 73.1 million hryvnias have been allocated to enterprises that are at the stage of liquidation and preparation for liquidation, as well as for the maintenance of drainage complexes, including:

- mines preparing for liquidation — UAH 7.1 million;
- SE «Ukrshahthydrozahist» — UAH 9.0 million;
- SE Ukrvuglerestrukturizatsiya — UAH 57.0 million [17].

The Law of Ukraine «On the Basic Principles (Strategy) of the State Environmental Policy of Ukraine for the period up to 2030» of February 28, 2019 outlines important strategic goals and tasks, which include:

- ensuring sustainable development of natural resource potential of Ukraine and economically sound system of payments for special use of natural resources;
- stimulating the introduction of more environmentally friendly, resource-efficient production and environmental innovations, including environmental modernization of industrial enterprises by reducing the environmental tax rate or in the form of a fixed annual amount of compensation (tax refund);
- providing targeted budget funding for environmental measures and non-state investment in environmental projects [3].

Table 3

Planned indicators of the strategy of the state ecological policy of Ukraine for the period till 2030

№	The name of the indicator	Unit of measurement	Target values			
			basic 2015	2020	2025	2030
1.	The share of renewable energy sources	% of total consumption	4	8	12	16
2.	Discharges of polluted wastewater into the marine environment	% of total discharges to the marine environment	15	11	9	5
3.	Massif of water with good ecological condition	% of the total number of water bodies	-	-	20	30
4.	Proportion of landfilled waste	% of the total amount of generated waste	50	45	40	35
5.	Volumes of use of primary raw materials	% of total raw materials used	90	85	80	70
6.	Resource consumption of gross domestic product	value of natural resources until 2015	100	90	80	60
7.	Area of lands of the nature reserve fund	% of the total territory of the country	6.3	10.4	12.5	15
8.	Area of territories of nat. ecological network	% of the total territory of the country	38.2	39	40	41
9.	Forest cover of the country	% of the total territory of the country	15.9	16	16.5	17.5

Table 3 (continued)

№	The name of the indicator	Unit of measurement	Target values			
			basic 2015	2020	2025	2030
10.	Greenhouse gas emissions	% of greenhouse gas emissions in 1990	37.8	<76	<60	<60
11.	Emissions of pollutants from stationary sources	% of emissions in 2015	100	<6	<16.5	<22.5
12.	Electric transport	the total number of newly purchased vehicles		0.1	0.5	10
13.	Environmental efficiency index	index	-	79.691	83	85

According to the data in *Table 3*, Ukraine is focusing its efforts on increasing the share of renewable energy sources; increasing the area of lands of the nature reserve fund, the areas of the national ecological network; reducing emissions of pollutants from stationary sources; reduction of the share of landfilled waste, etc.

Thus, in Ukraine, measures are taken to ecologize the economy and ensure the environmental security of Ukraine [18]. It should be emphasized that the term «ecologization», until recently not very common, became especially popular in the late twentieth century. New terms have been introduced into scientific circulation, in particular, «ecologization of social development», «ecologization of the economy», «ecologization of international trade», «ecologization of production», etc. [19; 20]. The terms «greening of world politics», «greening of international relations» etc. function in the foreign scientific literature of the early 1990 [21—23].

Conclusions. Analysis of the current state of economic and legal regulation of environmental management has shown the need to create a flexible mechanism that would cover a set of interconnected elements aimed at preserving and improving the quality of the environment. This can be achieved by developing new and improving existing economic and legal instruments for regulating the use of nature and environmental protection.

Rational use of nature necessarily includes the economic component, which provides the greatest benefit from economic and other activities in the use of natural resources, and the costs must be economically substantiated. Achieving high rates of rational use of nature is impossible without legal regulation, which regulates its order, boundaries, and so on.

The complex institute formed in the legal system — natural resource law — united land, mining, water, forest law, etc. Natural resource law is a system of legal norms that regulate the order, conditions of rational use of natural resources, without violating environmental safety, to meet the needs of man and society.

The policy of the state in the sphere of rational nature management testifies to the need to reform the national tax system. The most stimulating factor in the field of economic and legal regulation of rational nature management should be the improved tax system, in particular, granting tax benefits to enterprises that implement relevant environmental programs. Given the increase in the number of man-made accidents and environmental disasters, environmental risk insurance should be an effective mechanism for raising funds for the rational use of nature.

A clear and balanced tax policy in the sphere of environmental management will allow to overcome the negative processes in both economic, legal and environmental spheres, and in the long run — to achieve sustainable development of environmental and economic systems and environmental safety of citizens in general.

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