



Environmental management as a component of Ukraine's modern economy: Management under the conditions of martial law

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Abstract: The development of environmental management in Ukraine is determined by the urgent need to overcome environmental problems and ensure the environmental safety of society, especially under the conditions of martial law. Today, the domestic economy is three times more resource-intensive than the world economy, the technological base and infrastructure complex of public production are rapidly wearing out, which leads to a decrease in the level of technological and environmental safety. Environmental management is related to the national economy and forms information about the need to use natural resources when promoting effective development. A comprehensive project-targeted approach to the development of new forms of ownership and market economy reflects the interrelationship of all parts of the nature management project. The development of the scientific foundations of nature management is facilitated by the formulation of a general plan for the placement of productive forces. The ecological situation in Ukraine has long been called a crisis. In recent decades, new scientific directions have appeared, the result of which have been new ideas about human, society and nature and their coexistence. One of these directions is environmental management, which today is the ideology of production activity management, as it provides an effective toolkit for solving current problems and preventing the emergence of new production environmental and economic issues.

Keywords: eco-management, eco-safety, natural resources, ecosystem, martial law

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Introduction

It is difficult to overestimate the importance of the natural environment, because without it there would be no humans, no animals, no plants. A safe natural environment ensures the right to life. Environmental degradation increases the destructive impact of natural disasters and, unfortunately, continues to cause their further occurrence. The dramatic increase in large-scale disasters recorded over the past half century is a worrying sign of this trend.

For Ukraine, the last decades have been characterized by a high degree of the natural environment pollution, by consumption and destruction of the natural environment due to the quick speed of development of production, urban agglomeration increases, urban agglomeration growth, amount of waste, economic and other activities, as well as the growing concern for environmental safety (Pavko, 2021).

In addition, taking into account the realities of today and the consequences of high intensity military operations, there is an increase in mass emissions of chemical substances into the atmosphere, pollution of aquifers and seas, destruction of soil cover, excessive physical damage to sensitive landscapes and biodiversity. Damage to ecologically sensitive infrastructure, water treatment facilities, dams, destruction of buildings and structures in large areas requires critical attention. Special attention should be paid to the accumulation of chemical, toxic and radioactive waste, which requires processing, disposal and effective management. The most effective mechanism for minimizing these levels is to guarantee the right to a healthy environment and ensure environmental safety.

1. Analysis of recent research and publications

Problems arising in the field of ecology have become a driving force for many scientists to attempt to understand the situation from different view points. Therefore, the theoretical and methodological basis of the research is made up of the works of well-known Ukrainian and foreign scientists, including: S. Alekseev, O. Balynska, Y. Baulin, Y. Bilas, V. Vovk, T. Garasymov, O. Hryshchuk, D. Stetsyuk, P. Stetsyuk, A. Tokarska, V. Tatsii, M. Havronyuk, V. Shapoval, V. Sheiko, and others (Babynska, 2020).

The contribution of foreign authors to ensuring environmental safety and the activities of state authorities is significant, in particular: A. Lyon, G. Grossel, M. Burgman, E. Bennett, P. Hansen, K. Wilson, and others (Bodak, 2020).

2. Discussion

The current ecological situation, the continuous deterioration of the environment and the increase in the causes of natural resources depletion due to industrial production in economic activities have led to the growing concern of scientists, politicians and public figures.

The impact on the environment is one of the most important priorities in the global problems facing humanity. It is increasingly difficult to find a balance between maintaining the pace of economic growth and minimizing the negative impact on nature, which makes it necessary to find solutions to environmental problems, especially in the conditions of martial law (Voloshyn & Voloshyn, 2018).

The initial stage of the development of global environmental management can be considered a standard BS 7750 (Specification for Environmental Management System) in the field of environmental management system, formulated in 1992 by the British Institute for Standardization in accordance with the requirements of the British Industry Confederation. Later, the standard became the basis for the preparation of international documents, namely:

- in 1992, the European Community prepared requirements for an environmental audit;
- creating a system of environmental management and environmental audit (EMAC);
- in 1993, the requirement to create an Eco-Management and Audit Scheme (EMAS) was established (Dyachuk, 2020).

The British standard BS 7750 is the model for the development of the European recommendation EMAS (Eco-Management and Audit Scheme). The standard contains requirements for the environmental management system, the implementation of which is necessary to ensure environmental protection, and the standard also enables any business to create its own effective environmental management system. EMAS is aimed at assessing and improving the environmental characteristics of enterprises and creating conditions for providing environmental information to the public.

According to EMAS, the environmental management system consists of the following components: assessment of environmental conditions and identification of environmental problems; definition of the task to be solved; environmental audit of specific economic objects; introduction of environmental management and environmental policy (Dyachuk, 2020).

The implementation of the environmental management system allows a systematic approach, clarifying the division of responsibilities between employees, and reducing the costs of raw materials and resources. Such schemes are implemented in Great Britain, Germany and the USA. The ISO 14000 series of standards – “Environmental management” is one of the most important international environmental initiatives and includes more than 20 standards. ISO is the name of an international non-governmental organization for standardization, which was created to develop standards, regulations and other similar documents for the protection of the environment. The system of ISO standards should ensure the reduction of the negative impact of human activity on the environment (Fig. 1).

Today, the importance of environmental factors in the activities of international organizations, institutional investors and transnational corporations, and in the politics of countries around the world is growing. The trend of transition to an ecological economy is a reality in most developed countries.

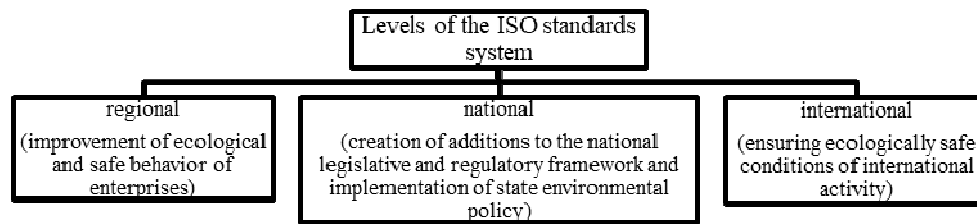


Fig. 1. Levels of the ISO standards system (Dyachuk, 2020)

An ecological economy is an important development in structural reforms in the new situation, aimed at the following: raising awareness of the real environmental, energy and socio-economic conditions of the world and determining ideological options for a better understanding of the dilemma of “economic growth versus protection and preservation of the environment”; finding the best way and more effective tools for solving problems faced by society. The ten-year-old question of the stability of the domestic economic environment is complicated by the negative geopolitical situation that arose as a result of the military aggression of the Russian Federation against Ukraine, which has already led to significant casualties among the civilian population and caused damage to the environment and natural heritage of Ukraine (Zarezova, 2020).

The scale of necessary changes in the direction of greening the Ukrainian economy is staggering for its society as a whole. In addition, the study of the state of the natural environment showed that currently there are a number of industrial enterprises in the zone of active hostilities, in particular, nuclear power plants, ports, hazardous waste warehouses (mineral fertilizers, paints, fuel and lubricants, etc.), and chemical and metallurgical enterprises. Fires have been recorded at oil depots, gas stations, and landfills, and there are reports of damage to heat and water supply facilities (sewage pumping stations, filter stations, water pumps). It will only be possible to fully carry out a real assessment of the damage caused after the end of the active hostilities.

Protection of the quality of atmospheric air, water, land, soil, subsoil, forest resources, as well as preservation of territories and objects of the nature reserve fund will continue to be a priority of the Ukrainian state.

During this period, environmental regulations and business requirements are also changing dynamically. During the period of martial law in Ukraine, changes were made to the legislation on environmental protection, in particular: obtaining some permit documents based on the submission of declarations with the need to carry out all procedures after the abolition of martial law, in accordance with the requirements of the CMU Resolution No. 314 of March 18, 2022; termination of the provision of administrative services in the field of monitoring, reporting and verification of greenhouse gas emissions, and, therefore, the absence of checks on this basis and responsibility for the untimely submission of such reports, in accordance with the Resolution of the CMU of February 28, 2022 No. 165 and the Law of March 3, 2022 No. 2115; exemption from payment of environmental tax for 2022

of enterprises located in the territories of hostilities, in accordance with Law No. 2120 (Zarezova, 2020).

These and other changes in environmental legislation should take into account the realities of the martial law and create conditions for the fulfillment of the tasks assigned to the economy.

At the same time, in the territories that were not affected or not completely affected by hostilities, the issue of environmental protection and preservation of economic dynamism is the basis for the further development and reconstruction of Ukraine. Threats to the environment are global, so we must continue to conduct business, taking into account the requirements of current environmental legislation.

The task of environmental legislation is to regulate relations in the spheres of preservation, use and reproduction of natural potential, ensuring environmental safety, preventing and eliminating the negative impact of economic activity on the environment, protection of natural resources, biological genetic fund, protection of the surrounding environment, landscapes connected with historical, cultural heritage, other natural complexes, unique territories and natural objects (Inozemtsev, 2020).

Ukraine has a procedure for using natural resources. There is general and special use of natural resources. According to the special procedure for the use of natural potential, citizens, enterprises, institutions and organizations under special licenses acquire ownership, use or rent of natural resources, carry out paid production and other activities. Among other things, economic measures for the protection of the environment provide for the limitation of the use of natural potential, the discharge of pollutants into the environment, the establishment of environmental tax rates, compensation for damage caused by violations of the legislation on environmental protection, in accordance with the established procedures (Inozemtsev, 2020). The main objects of normalizing the load on the natural environment are presented in Figure 2.

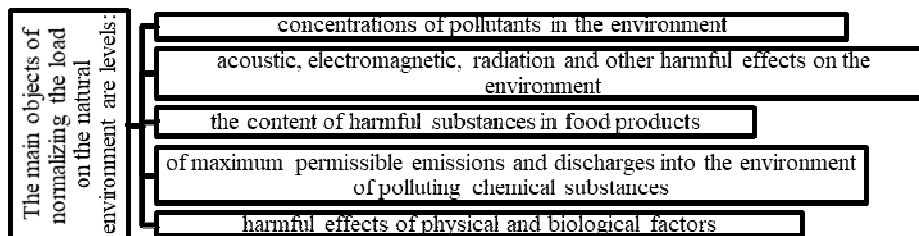


Fig. 2. The main objects of normalizing the load on the natural environment (Inozemtsev, 2020)

War, according to the definition of scientists, is the planned actions of one person with the aim of causing great damage to another with the aim of occupying the relevant territory of the latter. It is worth noting that strikes in military battles are often directed against enemy forces without taking into account the consequences of the influences on the environmental. At the same time, the concept of waging war by destroying the environment in which the enemy lives is not new.

Scorched earth tactics have been around since ancient times. The first scientific studies of the harmful effects of military operations on the environment were presented in the late 1960s and early 1970s. The fact that the US military is carrying out predatory destruction of nature in Vietnam, Laos and Cambodia has given birth to a new term “ecological genocide”, which has a similar meaning to the concept of “genocide”. The scientific interpretation of this term is that US military operations in Indochina using means of mass destruction had irreversible negative consequences for all forms of life in this territory (Fig. 3).

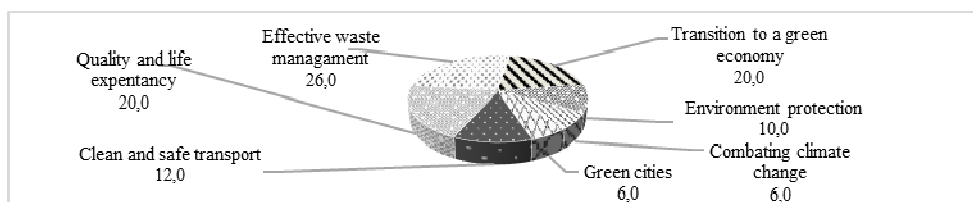


Fig. 3. Priority ranking of issues in the field of environmental protection (Lutkovska, 2020)

Bomb blasts disrupted the groundwater, filling the region with groundwater and meltwater, making it a breeding ground for mosquitoes. In some areas, the subsoil hardens, forming an iron-rich crust on which vegetation cannot begin to exist. The environmental situation in Ukraine before the start of hostilities was difficult, which can be explained by the location of powerful industrial enterprises in the region (Kosovych, 2020).

The activity of the Armed Forces of Ukraine today is determined by the significant impact of man on the environment. The operation of weapons and equipment, public facilities in military towns, military training and exercises must strictly comply with the norms of environmental protection legislation of Ukraine. Large-scale fires are increasingly affecting military installations. Contamination of the main components of the environment has been disrupted and continues to exist as a result of non-compliance with environmental safety requirements during the work of units and conducting combat training.

The use of modern weapons in military conflicts also negatively affects the ecological state, disrupts natural ecosystems and biome connections, and also leads to human intervention in natural processes. In addition, the direct impact includes explosions that destroy ecosystems, and causes noise pollution in residential areas, which negatively affects the state of the environment as a whole. The direct impact of projectiles and pollution by burnt military equipment completely destroys the ecosystem. Bursting cartridges, burning parts of military equipment pollute the soil and water with heavy metals and toxic elements.

Environmental problems that have been accumulating at military facilities for decades are not easy to solve in a relatively short period of time. But the main idea in the life of future generations should be a balance of active human activity and an ecologically safe state of the environment. The reform of the Armed Forces

of Ukraine in modern economic conditions should be carried out according to the criteria of achieving maximum indicators of combat capability at a given level of financial, material and technical support and environmental security (Prokopenko et al., 2010).

Conclusions

Taking into account the difficult socio-economic, political, demographic, ecological, military situation of Ukraine, there is a need to intensify the processes of introducing environmental management in domestic enterprises (regardless of their type of activity and forms of ownership) through the implementation of a system of promising international environmental standards, including ISO 14001: 2015. On the basis of this standard, a holistic and strategic approach to the environmental policy of the enterprise, its further development and integration into trade relations with EU countries should be formed. Countering military encroachments on the components of the natural-territorial complexes, in particular its soil foundations, is an urgent and problematic issue today. There is a need to develop a broad system of engineering methods and environmentally appropriate approaches to restore landscapes worldwide. The situation is further complicated by the fact that Ukrainian ecologists do not have sufficient practical experience in restoring the territory after the consequences of hostilities or militarization. Therefore, it is already necessary to use international cooperation to attract leading specialists with experience in ecological restoration of ecologically dangerous territories.

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