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**EFFECTIVE CRITERIA OF LEGISLATION IN THE FIELD OF
ENVIRONMENTAL SAFETY**Elena N. Abanina (a)*, Elena A. Sukhova (a), Konstantin G. Pandakov (a), Dmitry E. Petrov (a)
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Abstract

The article deals with the problems of environmental safety considering ecological friendliness in legislative acts. The authors analyze modern global and national environmental challenges. It is established that not all countries act too immediately on developing new environmental problems taking on a dramatic proportions throughout the world. Internal environmental problems are identified, that, taking into account their harm and the extent of their expansion, can pass into the category of global environmental challenges (air and water pollution in cities, an increase of production and consumer waste). The authors find out whether modern environmental threats are taken into consideration when developing laws in the sphere of environmental safety. Besides, on the basis of the analysis of the legislation, the authors show the problem of mixing the categories of "environmental challenges" and "environmental threats" and offered a criterion for differentiating these categories. The environmental factors are determined, which should be taken into account when developing environmental legislation defining the goals of legal regulation, the mechanism for implementing the norms, and the financial mechanism. The principles for determining environmental factors in legislation are developed (the complex nature of environmental problems; priority in the protection of some natural objects over others; permanent or continuous implementation of ecological compliance measures; efficiency in identifying urgent environmental threats and challenges). In conclusion, in order to determine the effectiveness of legal rules in the ecological compliance sphere, the authors propose criteria for the effectiveness of legislation of the national, regional and local levels.

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Keywords: Environmental safety, environmental challenges, environmental threats

1. Introduction

At present, the environmental situation in the world is characterized as persistently negative, which is associated with numerous environmental threats. Taking into account the forecasts of the rapid rate of degradation of natural resources, the role of the system for ensuring environmental safety is increasing. These problems have repeatedly become the object of research by many scientists. The authors drew attention to the inefficiency of the modern system of ensuring the ecological compliance of the state, while paying attention to rather narrow issues related to security objects: from the regional and local (Bespalov & Kotlyarova, 2018; Forman, 2014) to the national (Gibadullin et al., 2019) and international level (Caverzan et al., 2018).

In this area, the legal security is becoming especially important in the sense of the formed system of legislation. It serves a legal platform for the development and implementation of other measures to ensure environmental safety.

2. Problem Statement

The environmental tension growth causes legitimate concerns: despite active lawmaking in the environmental sphere, the number of environmental offenses continues to grow, the negative impact on the environment is increasing and, in general, there is no protection of all ecosystems. We think, that this is due to the shortcomings of the legal regulation of the issues of ensuring environmental safety taking into account special environmental factors.

Now, there is no single list of environmental considerations for legislation establishing the legal basis for ensuring environmental safety. Consequently, there is a need to develop environmental standard that will serve as a criterion for the effectiveness of legislation in the field of environmental legislation.

3. Research Questions

The main research issues include identification of contemporary global and national environmental challenges, environmental threats; determination of environmental considerations for legislation; selection of individual indicators from the imposed requirements – indicators of achieving the goals of legislation in the field of ecological compliance.

4. Purpose of the Study

The purpose of our research is to develop criteria for the effectiveness of legislation in the field of environmental safety (in terms of taking into account environmental considerations) in the context of modern environmental challenges.

5. Research Methods

The research is based on general scientific methods: the structural and functional method (to establish a link between environmental threats and the effectiveness of legal norms); private scientific methods: the method of analysis (for collecting, generalizing materials from domestic and foreign research), the method of deduction and classification.

6. Findings

Global environmental challenges include climate change and its consequences, reduction of natural resources with an increase in their consumption, desertification, land degradation, reduction of biological diversity. The analysis of environmental legislation both at the international and national levels shows that in general, governments try to take global environmental challenges in their legal acts. However, this is often of a declarative nature, not supported by a mechanism for implementing measures to combat global challenges.

In addition, each state determines a list of internal environmental challenges. For example, a high degree of urbanization and, as a consequence, pollution of the environment in densely populated areas, depletion and pollution of water, air pollution by vehicles, an increase in the volume of waste generation, etc. Not all countries take into consideration the fact that internal environmental challenges are the causes of global ones, and, accordingly, do not regard the degree of danger of such challenges to the whole world. Meanwhile, internal national challenges often develop into global environmental problems.

For example, the problem of air pollution, recently characteristic only for large cities, has become worldwide due to the transboundary nature of pollution. Over the past decade, the quality of the air that more than half of the world's population breathes has deteriorated. Moreover, about 6% of deaths in cities are associated with air pollution (Henry & Douhovnikoff, 2008).

The second environmental problem is an increase in the volume of waste generation. According to the expectations of UN experts, by 2050 the total volume of waste generated in the world will increase from 2 billion to 4 billion metric tons. Difficulties arise at all stages of waste management, but especially during disposal, when a method of incineration, placement in an open landfill or processing is chosen (based on economic interests).

Therefore, it is important not only to recognize this problem as a potential threat, but also to move quickly to zero waste technologies (Dawson, 2019).

Within the framework of this environmental problem, several new environmental challenges can be identified that the states were not ready for. First, it is a challenge to the spread of COVID-19, namely, increase in the volume of medical waste (Hadi et al., 2021), problems with the collection and disposal of masks, gloves – "covid waste". This waste, as well as expired pharmaceuticals, is disposed of in landfills together with the waste of the population (Belov et al., 2021). With a decomposition time of 450 years, this waste is a time bomb.

Secondly, every year the situation with electronic waste, generated because of the end of the life of electronic devices (TVs, smartphones, computers, etc.), is getting worse. This waste is dangerous both for

the natural environment and for humans, as it contains hazardous substances such as mercury, chromium, cadmium, polyvinyl chloride, lead, etc. (Gupta & Nath, 2020).

In addition to identifying environmental challenges, for the formation of effective legislation, it is necessary to clearly consolidate and classify environmental threats. The types of environmental threats are not enshrined in Russian legislation. Moreover, the laws mix the categories of "challenges" and "threats", which do not allow building a competent system of protection. In our opinion, the environmental threat differs from the constantly existing environmental challenges by its quality – the potential for causing environmental damage.

The list of environmental challenges taken into account in legislation and subsequently affecting its effectiveness includes:

- the territories with a high population density and with a high degree of environmental pollution and degradation of natural objects;
- air and water pollution and poor water quality of water storages;
- reduction in the number of plant species;
- reduction in the species diversity of the animal world and the number of populations of rare animal species;
- low-level of development and implementation of sustainable technologies;
- criminalization of ecosystem exploitation of natural resources.

Environmental threats are the development of catastrophic events that can harm an individual, society, and the state. Depending on the source, all environmental threats can be subdivided into natural threats (natural phenomena and insurmountable natural forces leading to pollution, depletion, degradation of nature: volcanic eruptions, earthquakes, floods); and anthropogenic threats (the consequences of economic activities that can cause environmental harm: the use of toxic and poisonous substances in agriculture, hydro and nuclear energy, etc.).

Thus, the above data and analysis of the ecological state and its individual regions, we can propose the following environmental factors that should be considered when developing legislation in the field of ensuring environmental safety at the national, regional and local levels:

- the list and degree of danger of global and internal environmental challenges;
- list of environmental threats, the risk of their potential implementation;
- potential consequences in case of realization of environmental threats;
- preventive measures to prevent damage to the environment in the event of the implementation of environmental threats.

A clear definition of these environmental factors will make it possible to develop measures to ensure the safety of humans and the environment. The definition and consolidation of environmental factors in legislation should be based on the following principles:

- the complex nature of environmental problems (an increase in the generation of hazardous waste will lead to soil and groundwater pollution as well as air pollution, etc.);
- priority in the protection of some natural objects over others (each region is characterized by a different ecological state associated with the level of industrial development. In accordance

with this, it is necessary to determine environmental risks and set priorities in solving problems and ensuring the protection of natural objects from these risks);

- constant or continuous implementation of measures to ensure environmental safety (it is impossible to determine the calendar period for solving environmental problems, the protection of atmospheric air or the protection of water resources should be carried out constantly, as it can cause harm to human health);
- efficiency in identifying current environmental threats and challenges (for example, not a single act dedicated to environmental safety mentions the named new global eco-threats: e-waste, medical waste from COVID-19).

Since legislation in the field of ensuring environmental safety is a form of expression of state will, legislation must meet not only environmental efficiency criterion, but also a number of others.

Firstly, the management efficiency criteria of legislation:

- the presence in legal acts of the principle of combining federal, administrative-territorial, municipal, industrial and natural-geographical approaches in environmental safety management;
- the presence in legal acts of a clear separation of economic, control and supervisory functions in the activities of environmental safety management bodies;
- the presence in legal acts of norms establishing the participation of citizens and public organizations in environmental safety management.

Secondly, economic or financial criteria for the effectiveness of legislation:

- consolidation of funds aimed at supporting environmental activities;
- preferential taxation, preferential lending, other financial support.

Thirdly, informational criteria for the effectiveness of legislation:

- legislation must comply with the open principle, accessibility, reliability, validity, timeliness, completeness of environmental information.

Focusing on these problems, we can offer the following environmental criteria for the effectiveness of legislation in the field of environmental safety:

- the volume of emissions of pollutants into the air, the volume of discharges of pollutants into water bodies (it is necessary to take into account the total volume of emissions and discharges for each type of pollutant for each year);
- the extent and rate of decline in biodiversity (it is necessary to indicate the number, age and sex composition of objects of the animal world inhabiting a certain territory, as well as the area and species composition);
- area of contaminated land (exposed to contamination; oil pollution; heavy metals pollution; subject to other negative processes);
- the size of the population living in unfavorable conditions (living in cities with high and very high levels of air pollution);
- share of generated, utilized and recycled waste (in the total volume of waste for each hazard class).

Securing these criteria as indicators of achieving the goals of legislation will make it possible to track in which direction the legal norms are effective, in which direction they are ineffective, and promptly change the policy in this area, if necessary.

7. Conclusion

As a result of our research, we found that legislation in the field of environmental safety is characterized by a number of problems: global environmental challenges are not always taken into account; the degree of danger of internal environmental challenges, which, given sufficient conditions, can become global environmental challenges, is not determined; the degree of danger of environmental threats is not assessed; there are no environmental requirements that should be evaluated when developing legislation in the field of environmental safety.

In order to resolve these problems, it is necessary to conduct a full monitoring of environmental legislation and the state of the environment; based on the findings, develop and approve a list of global and internal environmental challenges, environmental threats and the degree of their danger; environmental factors that must be taken into account when developing legislation and criteria for the effectiveness of legislation in the field of ensuring environmental safety.

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