

Experience of developed countries in environmental safety policy

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The article considers the problems of anthropogenic impact on the noosphere and the resulting need for forming global and national environmental safety systems. It is emphasized that today environmental safety is an integral attribute of modern states' development calling for a radical change in their civilizational imperatives and values, their environmental vision and understanding that it is the rational use, preservation, restoration and augmentation of natural capital that can form a safe environment for human health and life, a possibility of generation replacement, and the very existence of mankind. A comparative study is being conducted on the role of modern states and public authorities in the system of safeguarding against the consequences of environmental and natural-technological threats, and elaboration of effective mechanisms to implement state environmental safety policies. Taking the USA, France, Great Britain, Germany and other countries as an example, the main current approaches to the formation and implementation of state environmental policy are determined.

Key words: State; State governance; State policy; Environmental safety

Introduction

The twenty-first century has brought to the world agenda the problems of anthropogenic impact on the noosphere and the consequent need for forming global and national environmental safety systems. The scale of the problem is so great that it has grown to encompass all countries and all social and demographic groups of the planet population, from the US Vice President Alan Gore to a Swedish schoolgirl Greta Tintin Eleonora Ernman Thunberg.

Today, environmental safety is an integral attribute of the modern states' development. It requires a radical change in the imperatives and values of modern civilization, the countries' ecological perspective, their understanding that it is a rational use, preservation, restoration and augmentation of natural capital that can form an environment that is safe for human health and life, a possibility of reproduction of the next generations, and the very existence of mankind.

Depletion of natural resources coupled with a rapid population growth increase poverty creating a vicious circle of degradation and decay of both local human communities and ecosystems. The recent events (global climate change, threatening pollution of the atmosphere and oceans, the presence of pandemic factors that manifested themselves at the beginning of 2020) are forcing the majority of modern states to make extraordinary efforts in order to develop effective approaches to implementing environmental safety policies. As a result, as noted by Professor T. Pishenina, now-a-days there are two approaches to addressing the environmental challenges. The globalist approach is based on the principle that advanced countries with their powerful capital can destroy the entire world. That is why other nations need to be more open to ensure environmental safety. The modern approach is built on recognizing the priority of national security achieved through self-sufficiency due to sustainable development of countries'

own environmental safety of production, based on the concept of multifunctionality of any country's security, when a state is concerned, above all, of its own interests (Pishenina, 2013). According to many economists, the current environmental and social problems are deeply rooted in economic systems. As a famous researcher F. Capra pointed out, global capitalism has benefited some national economies, but in general its social and economic impact has been devastating (Capra, 2002), since the new economy inflicts damage on the environment not only by affecting global ecosystems directly, but also due to violation of environmental laws across the board. In other words, the destruction of nature is not a mere side effect, but an inherent feature of the global capitalism structure (Piketty, 2017).

In this regard, a study of the role of modern states and public authorities in the system of safeguarding against the consequences of environmental and natural-technological threats, and development of effective mechanisms for implementing state policies in the field of environmental safety are the urgent tasks of our time.

Research Methodology

The works of scientists of world-wide reputation, such as D. Barker, J. Bell, J. Benyus, A. Brown, G. Brundtland, K. Hoffmann, F. Capra, M. Castells, P. Luisi, J. Mander, D. Meadows, G. Pauli, T. Piketty, D. Randers, N. Reimers, W. Sachs, T. Sandler, J. Stiglitz, V. Vernadsky, E. Weizsaecker and others, are devoted to finding solutions to global governance and security problems, resolving the issues of sustainable environmentally safe development.

As we see it, the works by these scientists have laid a solid methodological basis for studies in the above mentioned areas. However, in our opinion, rapid global changes that have taken place in the world in recent years, affecting virtually all states, require new approaches to addressing the problems related to providing an effective environmental safety policy.

In our view, it is possible to talk about an essential relationship between the global evolutionary process and the process of ensuring global environmental safety, which in turn determine, as Academician V. Vernadsky put it, a potentiality for the noospheric evolutionary stage. In accordance with the concept of V. Vernadsky, the governance of the transition to the noosphere is inseparable from the need to prevent the ecological disaster and manage environmental safety at all the hierarchical levels of the global socio-ecological system.

We can formulate a scientific hypothesis about the failure of the concept of the "golden billion", which is a regressive strategy for managing the global socio-ecological system. In our opinion, a strategy for sustainable development of civilization should be regarded as a progressive governance strategy. This strategy should be underpinned by a systemic interpretation of sustainable environmentally safe development as a manageable organizational process, ensuring a bifurcationless transition of the global socio-ecological system to a noospheric attractor state (a network society for sustainable development). In this regard, the principle of "determination from the future" is becoming increasingly popular as a fundamental methodological principle of the theoretical and practical activity in the 21st century.

A framework for developing a system of providing environmental and natural-technological safety and modern mechanisms for preventing threats and relieving their consequences should be built with account of the fundamental environmental and social, and biospheric laws of complex nature closely related to various areas of social life. First of all, this is rejection of traditional thinking, and formation of a new worldview and a strategy for information society development in the context of an increasing interdependence of states.

In this regard, the purpose of the present article is a scientific analysis of the problems associated with searching for more effective methods of getting over the global environmental crisis. From this point of view, we deem it quite relevant to try to develop certain recommendations to ensure the environmental safety of countries across the world.

Results and Discussion

The problem of the national and global socio-ecological system security is an extremely complex systemic challenge, without equals or even approximate algorithms for its resolution. The experience of the most advanced countries of the world indicates that activities aimed to prevent emergencies caused by industrial accidents, natural and environmental disasters, climate change, pandemic threats, to eliminate their negative consequences, and to ensure a sustainable environmental safety of states and citizens safeguarding them from external threats is a kind of strategic support for their livelihoods.

At the same time, the high importance of addressing this problem is stipulated by a real danger of destruction of all life on earth. As O. Palienko rightly outlined, by causing disturbances in the biospheric self-organization and self-renewal processes, destruction of the ozone layer and critical environmental pollution, a catastrophic depletion of natural resources, thermal crisis, expansion of epidemic diseases and the threat of genome destruction, Man is a threat to the natural life-support systems and the self-regulation of the planet's biological processes. Therefore, the main goal of society and its sustainable development is achievement of environmental safety. Within the system of values of society, environmental safety should be a top-class priority (Paliyenko, 2017).

A potential damage of the anthropogenic pressure on the ecology of our planet was described by the author of the world bestseller *Capital in the Twenty-first Century*, a French economist Thomas Piketti, who stated that one of the key aspects of modern globalization is a possible depletion of natural capital during the 21st century, when, according to experts, damage caused to the environment before the end of this century is estimated by a double-digit percentage of the entire global GDP (Piketty, 2017).

In this vein, for the practical implementation of state policy, it is important to optimize management decisions based on economic, environmental and social criteria, which makes it possible to achieve economic growth, create an effective public administration system, and satisfy the social needs of people. Hence, it is promising to create methodological projects for a systemic solution of urgent problems in the field of environmental safety management and environmental protection with a close interconnection of all living things. As we see it today, there is a need for creating a concept of a universal environmental safety management. Analyzing this problem allows us to outline a complex of interdependent causes of the global environmental crisis, identify a set of relevant parameters, and show that the global socio-ecological system (control object) is in an essentially nonequilibrium state due to the increased anthropogenic load.

In our opinion, the solution to the environmental safety problem can be obtained through development and implementation of effective state environmental policies that meet the environmental needs of various states and are legally formalized in the relevant regulatory framework. The modern world demonstrates trends in a qualitative transformation of environmental management systems in the context of establishing information (network) society for sustainable development.

The need arises to bring to the forefront the state's environmental function that determines the corresponding vectors of environmental management and state environmental policy, the provision of which is laid upon the organizational, legal, political, economic and other public administration mechanisms. In this way, an integrated system of environmental safety of the state and

society is created – a condition under which political-management and socio-economic systems are capable of both providing a proper living and working environment for citizens, preserving their physical and spiritual health, and taking care of long-term national interests that go beyond the lifespan of one or two generations, pursuing the goal of not only a rational use and augmentation of the country's natural wealth, but also ensuring a sustained growth and societal reproduction of the human population of the state.

Various countries all over the world have gained extensive experience in creating effective management systems, economic, financial and other types of resource support for environmental safety policies. In this regard, it will be useful to focus on the experience of advanced countries in implementing effective security policies in general, and environmental policy in particular.

In the most developed countries of the world, for example, in the USA, this kind of activity is treated as one of the fundamental directions in the national security policy implementation. The best known system in this regard is the US Federal Emergency Management Agency (FEMA), which is directly subordinate to Head of State (Omarov & Kryukov, 2017). It was created pursuant to Executive Orders of US President No. 12127 of March 31, 1979 and No. 12478 of July 20, 1979 on the basis of the Defense Civil Preparedness Agency of the US Department of Defense, the Office of Civil and Defense Mobilization, the United States Fire Administration, the Federal Disaster Assistance Administration and Federal Insurance and Mitigation Administration in order to concentrate in one department the authority to coordinate efforts aimed at managing the preparation of the country's economy for operating in emergencies.

The FEMA prioritized goals include a 'dual-use' strategy, i.e., a strategy to be used for both peacetime and wartime. Therefore, the main functions of federal agency are as follows:

- Coordination of the activities of the US federal government, state and local governments on mobilization planning and preparing the economy for war, as well as ensuring the safety of the vital activity of the population in emergency situations of natural and technogenic nature;
- Planning of measures to ensure the continuity of public administration functioning in case of emergencies that affect national security;
- Integrating and coordinating the work of all the emergency prevention components and warning systems in case of emergencies in peacetime and wartime and organization of management efforts to eliminate the aftermath;
- Training of civilians and governing bodies personnel to perform their tasks;
- Organization of insurance activities in protection of the population and territories from emergency situations of various nature and compensation for damage to individuals and legal entities affected by their negative consequences (Omarov & Kryukov, 2017).

The most characteristic feature of the FEMA activities in fulfilling its assigned functions is the development and implementation of significant state targeted programs (e.g., in mobilizing the country: 'government preparedness', 'reserves preparedness') and other programs and projects within its area of responsibility. In organizational terms, the FEMA is headed by Administrator who has several Deputy Administrators and a Chief of Staff. The Agency consists of departments (Mission Support, US Fire Administration, Regional Administration, Federal Insurance and Mitigation Administration, Office of Response and Recovery, Office of Chief Counsel), and functional units regulating the main aspects of the FEMA activities, such as administrative, financial, information, staff management, logistics and others. The next important elements of the FEMA organizational structure are its regional departments, located in each of the ten military-economic mobilization districts. These units maintain close working contacts with representatives of federal ministries and agencies that have their own bodies in the regions, as well as with the emergency management departments of the states that make up each district. Notably, the most important feature in the organization of the FEMA is that, having an extensive network of territorial governing bodies, this agency does not have its own units for the actual fulfillment of tasks in disaster areas. Therefore, in the event of emergencies of different nature, the FEMA is authorized to engage any federal forces, funds and resources to rescue people and eliminate the negative consequences, in particular the National Guard, the US Corps of Engineers, fire brigades, medical services, construction organizations, police, public organizations and associations of other kinds. In addition, the FEMA provides centralized management of emergency rescue operations and implements the necessary financial and material and technical assistance to local authorities and the affected population. In the same way the tasks of protecting the population and territories from emergency situations are fulfilled in Australia (Andronov et al., 2004; Paliyenko, 2017), where the implementation of the state environmental safety policy is entrusted, among other bodies, to a government entity – the Emergency Management Service (EMA). EMA is a coordinating body of state power in charge of developing the national strategies, plans and programs for dealing with various disasters, to be implemented in peacetime and wartime. EMA trains specialists and educates the population how to act in the event of an emergency, develops and improves communications and warning systems, and renders financial and material assistance to the territorial (state) and local governments of the affected areas. However, the experience of creating and operating such systems has not become widespread yet. The analysis of organizing protection of the population and territories from emergency situations of a natural, technogenic and military nature in other advanced countries showed that not all of them have specialized organizational bodies designed to resolve the above issues.

For instance, in Germany (Hvesik et al., 2014) the solution to all problems of ensuring environmental safety and, above all, those related to the organization of protection of the population and territories from natural, technogenic and military emergencies in general, is entrusted to a central state executive authority – the Ministry of the Interior which fulfils its environmental function through:

- Coordination of the country's joint efforts in implementing state policy in the environmental sphere;
- Information support for the leadership of the country and federal lands in case of threats and emergencies, warning the population of disasters;
- Management of operations to protect the population, and the operational planning of actions;
- Training of management bodies and emergency rescue personnel and other units for performance of their assigned tasks, as well as training the population to act in emergencies.

A special feature of the organizational structure of the German system is that, under the general management of its activities by the Federal Ministry of the Interior, Building and Community (BMI), some Federal Ministers are also responsible for various forms of support for this activity. Therefore, BMI incorporates the Standing Committee on civil defense to which the civil defense

departments of the Ministries of Interior of the federal lands are subordinate. Along with this, Germany widely uses economic instruments to ensure its environmental safety. In particular, the country actively employs environmental fees, and licenses 'for interaction with the environment', and a direct state protection of natural resources and people's living environments through environmental taxes, contributions, duties, etc. Considerable financial resources are allocated by the state on a grant basis for research and development of environmental technologies and activities (Abdurasulova & Dobaeva, 2014).

Similarly, the overall management of the system of environmental, technological and civil safety in the UK is carried out by the Home Office through the relevant department and the Interministerial Planning Committee, coordinating the activities of other ministries and agencies. At the local level, key measures are undertaken by the councils of counties, administrative regions, and municipalities through specially created committees. In wartime they are united into regions and sub-regions of civil defense, working closely with the military command bodies of Great Britain and NATO, similar to those in Germany. At the same time, the system of protecting the population and territories from emergency situations of various nature in the UK is in a sense similar to the American FEMA, since it does not have its own forces and means, except for the Royal Observer Corps conducting radiation detection and dosimetric control. In France (Omarov, 2018) environmental safety is an integral part of the system for preventing and eliminating emergencies of natural, technogenic and military nature, built in a similar way. The doctrine of its structure reflects the main directions of state policy in this area, the main of which are: preventing, forecasting, planning, public alert, hierarchical organization, unity of command and solidarity (interaction).

Currently in France, the general management of the system for environmental protection of the population and territories is carried out by the Minister of the Interior through the Directorate of Civil Defence and Security. Due to the fact that a vast majority of measures are carried out by different ministries, agencies and organizations, the Minister is given an exclusive right to coordinate and organize their collaboration both in everyday settings and during emergency rescue operations.

As in a number of other advanced countries (the USA, Great Britain), the state environmental management of France is successfully combined with market regulation mechanisms based on the 'environmental risk' concept. This concept provides for both payments to study potential environmental threats from the operation of industrial complexes or enterprises, and a direct sale of 'pollution rights' to them – a paid amount of permissible harmful emissions into the environment (Abdurasulova & Dobaeva, 2014).

The application of a variety of charges for industrial emissions and fines for non-compliance with environmental safety requirements, alongside with a system of permits, licenses, etc., is widely used in Eastern Europe (Poland, Czech Republic, Slovakia, Hungary, Estonia, Lithuania, etc.).

Conclusion

Thus, the analysis of international experience allows us to assert that in most cases state environmental safety policy does not yet provide for creation of specialized state institutions to address environmental problems, but is implemented through previously established systems for protecting population and territories from natural, technogenic and military emergencies as part of civil defense. Obviously, a civil defense system is capable of ensuring the vital activity of people and society, economic and infrastructure facilities in case of environmental threats. However, it is unable to withstand global environmental disasters, of which Dennis and Donella Meadows and Jorgen Randers warned at the very beginning of this century, drawing attention to the fact that human civilization is already beyond the permissible growth limits. It is predicted that by 2030 the world's population will exceed 7 billion people, resulting in a critical anthropogenic pressure on the nature (apparent overpopulation, scarcity of basic resources: water, hydrocarbons, etc.) that will take the form of a global environmental crisis, accompanied by catastrophic events (Meadows, 2004).

The start of 2020 has proved that such a global apocalyptic scenario no longer looks unrealistic. Indeed, despite adoption of the recent environmental laws, the increased use of environmentally friendly products, and a number of encouraging successes of the environmental movement, we have not been able to compensate for the massive deforestation and unprecedented slaughter of multiple species of living creatures. By depleting natural resources and reducing the biodiversity of the planet, we are destroying the very fabric of life on which our well-being is based (Capra, 2002).

Among other things, it should be emphasized that in order to solve environmental safety problems, it is necessary to reform the key approaches: firstly, institutions in the age of globalization; secondly, counteraction to the spread of genetically modified products and promotion of environmentally sustainable agriculture; and thirdly, eco-design, that is concrete efforts to reorganize human physical structures, cities, technologies and industries in order to make them environmentally sustainable, the key strategies for achieving environmental sustainability being closely related to a broader eco-design perspective.

More stringent environmental laws, upgraded ways of economic managing, and more efficient technologies – all these are necessary, but insufficient. We need more profound systemic changes based on the understanding that globalization has no future unless it is made more humane, environmentally sustainable and cherishing human rights and values (Barker & Mander, 1999).

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