ENVIRONMENTAL IMPERATIVE IN THE CONTEXT OF GLOBALIZATION PROCESSES: MODERN CHALLENGES

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Summary

Today, scientists and public figures are increasingly leaning towards the idea that the new model of globalization characterized by multifaceted nature should be formed in the world. In this context, the criterion for measuring the success of states should not be the desire for high economic growth rates but the possibility of transition to sustainable development models, which pay special attention to environmental globalization. The purpose of the article is a scientific and practical substantiation of the essence, role, and significance of environmental imperative, which will improve the mechanisms and tools for implementing environmental policy amidst globalization processes. Methods used in the study comprise general scientific ones (analysis and synthesis, induction and deduction), methods of theoretical research (from abstract to concrete), and historical method. In terms of the analysis of potential environmental threats and vulnerability, a risk-based approach and world-systems theory were applied. The theoreticalmethodological analysis of the essence of the environmental imperative amidst globalization processes was presented. The reality and scale of today's environmental threats were proved. The authors formulated a conceptual vision of the scenario of influence events as separate factors that destroy the environment of the whole planet and the danger of nuclear conflict, as well as the synergistic effect of ensuing consequences. The mechanisms and the ability of the country and the world to counter probable environmental threats through identifying their potential vulnerabilities are substantiated.

Keywords: threats, world-system, environmental security, danger of nuclear conflict, environmentalization, synergy.

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1. Introduction

Global human impact on the environment and the devastating nature of consequences from the desire to create a full-scale industrial complex with a powerful heavy industry and the interrelation of the currently emerging and more remote effects of this impact require multifaceted international cooperation in the social and environmental sphere. Research efforts should be aimed at studying both environmental management issues and comprehending the

enormity of the arising problems and the responsibility for their settlement. Everyone should understand the timeliness of unification as a requirement for a positive solution to global problems. International cooperation on environmental protection and sustainable use of natural resources, given the national rights and sovereignty of states over their natural wealth, will undoubtedly contribute to the formation of a global vision of the problems of human civilization development. One of the main goals of international cooperation is to reverse the negative effects and, most importantly, eradicate their roots.

The relevance and scale of international cooperation in the socio-environmental field persistently need to focus the attention of scientists and various state organizations on its development.

Keeping in mind the ambiguous impact of globalization on the progress of our civilization, humanity faces a choice: to continue destroying its habitat or to start actions towards restoring and protecting it, in particular, by working out mechanisms for managing global processes to prevent the aggravation of contradictions in the modern world. This poses the challenge of polling the efforts of the world's states and shaping effective environmental policies of universal nature (*Perha*, 2014: 39).

The purpose of the article is a scientific and practical substantiation of the essence, role, and significance of the environmental imperative, which will improve the mechanisms and tools for implementing environmental policy amidst globalization processes.

Methods used in the study comprise general scientific ones (analysis and synthesis, induction and deduction) and theoretical research methods (from abstract to concrete), and historical method. In the context of the analysis of potential environmental threats and vulnerability, a risk-based approach and world-systems theory were applied. The work relies on the materials of domestic and foreign research foundations.

The logic of this scientific paper includes the following: a theoretical-methodological analysis of the essence of the environmental imperative amidst globalization processes; proving the reality and scale of today's environmental threats; a conceptual vision of the scenario of influence events as separate factors that destroy the environment of the whole planet and the danger of nuclear conflict, as well as the synergistic effect of ensuing consequences; mechanisms and the ability of the country and the world to counteract probable environmental threats through identifying their potential vulnerabilities.

2. Theoretical and methodological principles of the environmental imperative in globalization processes

Analysis of modern literature on globalization issues indicates the existence of rather radical thoughts about the depth of its impact on social relations and a person's position in society. According to scientists (Pashulia, 2011; Perha, 2014; Khaustova, 2016; Dominik et al., 2005; etc.), social global changes have created and continue to create preconditions for reforming almost all spheres of operation of many countries. They are determined by the availability of a broad range of acute theoretical and practical globalization-driven problems of the modern world, which prompts each country to outline its original theoretical vision of the relevant macro-process and formulate strategies for survival and development in the globalizing environment along with organizational mechanisms for their actualization.

After all, globalization does not imply the establishment of specific universal models. Even in the economic sector, there is no free movement of goods and capital; moreover, the information revolution does not reduce but more likely widens the economic gap between wealthy and poverty-stricken country countries. As for culture, the most typical response to globalization trends is the appeal of peoples to their spiritual sources with an emphasis on national traditions (Nye, 2002: 81, 98). Globalization was promoted, in particular, by the interdependence of national economies that is manifested in the increase in information exchanges, capital flows, the strengthening of company cooperation, and environmental globalization because of relevant entrepreneurship.

Today, scientists and public figures are increasingly leaning towards the idea that a new model of globalization of multifaceted nature should be formed in the world. In this context, it is important to emphasize that the criterion for measuring the success of states should not be the desire for economic growth high rates but the possibility of transition to sustainable development models, which pay special attention to environmental globalization.

At the beginning of the twenty-first century, most scientists realized the need for environmental globalization in view of environmental entrepreneurship (Gonzalez J., Gonzalez O., 2006). In addition, researchers began to concentrate on elaborating an environmental approach under personnel management (Jaramillo et al., 2018). In fact, the EU and US companies started engaging employees in conservation activities and granting them "green" competencies that expand their understanding of the planet's ecology and its problems (Zhao et al., 2014).

However, in addition to the benefits, globalization raises many challenges that allow talking about its "seamy" side. The approach of the world environmental catastrophe triggered by the unprecedented scale of human impact on the environment, primarily due to economic globalization, is among the main threats to modern progress. In this context, it is worth pointing out the monopolization of the world economy and the increasing influence of transnational corporations, the ecologically destructive impact on the environment, and the growth of unemployment and public debts, which contradict sustainable development goals – a growing gap between developed and underdeveloped countries in economic, environmental and social advancement (*Perha, 2014:11*).

Speaking of globalization processes, it refers, first, to the massive and large-scale transference of human activity beyond the borders of individual states to regions and continents; secondly, the mounting intensity of interrelations in the field of trade, investment, finance, migration, and cultural activities; thirdly, the unprecedented acceleration of the dissemination of ideas and information, capital circulation, the movement of goods, and population migration driven by the development of comprehensive transport and communication systems; and, fourthly, the blurring of boundaries between local and global events (*Smolii*, 2004).

To the point, I. Wallerstein, in his works, emphasizes that the school of world-system analysis had addressed globalization before the word appeared. Further, the scientist notes that the unit of world-system analysis does not mean a national state, but a world-system (Vallerstayn, 2006).

We also note that interpreting the determinants of the formation and development of modern social conflicts, I. Wallerstein highlights in his contributions the growing threat of environmental disasters. In his opinion, environmental disasters raise the issue of a source of financial and other tangible costs aimed at eliminating the effects of environmental pollution. Thus, on the one hand, environmental disasters acquire a socio-class and ideological character. On the other hand, they can and do lead to social conflicts in society because it is unlikely that any social group will voluntarily agree that the adverse consequences of disasters are eliminated at its expense, especially if they occurred due to the fault of some other actor. Actually, following

his logic, it seems fair to say and conclude that a current environmental catastrophe is a specific form of social conflict and an expression of a new internal social conflict of a devastating nature. Let us give a rather remarkable statement by I. Wallerstein: "I argued in my last book, The End of the World as We Know It: Social Science for the Twenty-First Century, that the modern world-system is approaching its end and is entering an era of transition to some new historical system whose contours we do not know, and cannot know in advance, but whose structure we can actively help to shape" (Vallerstayn, 2002: 42-43; Kozakov et al., 2011).

Extending the idea of transformational processes in the context of the current study, we hold that it is the *environmental imperative* that determines the requirements of the global process of society's transformation, the formation of relevant environmental policy and its implementation in all spheres of life. N. Moiseiev introduced the category of "environmental imperative" into science relatively recently, in the 80s of the last century, due, in particular, to the intensive transformation and essential impletion of the "ecology" concept (Moiseev, 1988).

O. Topchiev, V. Sych, V. Yavorska and O. Dolynska prove that the mentioned term derives from the origins of Kant's imperative; however, it focuses not on the category "man – man" but "man – nature". As a result, a discussion about the value-regulatory principles of the environmental imperative and its scope immediately emerged in the scientific *environment* (Topchiev et al., 2019: 98).

In particular, Yu. Shpylova and M. Ilina emphasize that the term "environmental imperative" was introduced by analogy with Kant's categorical imperative and, in the legal sense, meant a ban or requirement to comply with the rules of environmental protection, a set of priority and mandatory restrictions on human activity (Shpylova et al., 2017: 8). In other words, according to M. Drobnokhod, it is the urgent need to comply with the laws of nature, to understand and undeniably perceive the requirements and restrictions defined by the laws in all spheres of human life, including a healthy lifestyle (Drobnokhod, 2004).

The term's relevance is explained by the fact that failure to comply with the imperative's requirements may lead to catastrophic consequences for humanity.

3. The biggest global environmental threats

Comprehensive branches of modern science, such as social ecology and human ecology, integrate the achievements of social, natural, and technical sciences. Both branches are taking shape. The complex problems of social ecology and human ecology are determined by the interaction of socio-historical and natural processes. On the verge of these vectors, the global challenge – war and peace – must be explored.

The issue concerned has specific aspects that express the basic contradictions of modern times, in particular, concerning the need to combat imperialism's forces of reaction which are aimed at conquering new territories, establishing political and economic control over other states and neglecting values of civilization. At the same time, it also has natural and environmental aspects. They are related to the environmental and medical-biological effects of nuclear conflict. The headlines of "time-bombs" are very often heard, but in the context of our study, we can present the concept of "time-bombs" as two directions, two dangers, that are global today and threaten the life of the entire planet: "bomb-1" – a set of factors destroying the environment of the entire planet; "bomb-2" – the danger of nuclear conflict (accidental or intentional).

Describing the factors of "bomb-1", we consider the study findings by scientist V. Kinhal (Kinhal, 2020; Kinhal, 2021), who notes the seven most crucial environmental threats to the

Earth of the list of 30 major global environmental problems, appropriate. Thus, V. Kinhal, using statements and reports of world environmental organizations, holds that these are:

- 1. Climate change. Climate change is increasing the frequency and intensity of natural events like droughts, wildfires, heat waves, rainstorms, tropical cyclone, and hurricanes. Causes: global temperature increase (the increase of carbon dioxide levels are blamed for an increase of global temperatures by one degree Celsius over pre-industrial levels; temperature increase has also led to sea level increase of 1–4 feet since 2010, causing shrinkage of Arctic ice caps and longer growing season).
- 2. Species extinction and biodiversity loss. Intensive agriculture, unsustainable fishing, wildlife poaching, habitat degradation and destruction, acid rain, and climate change are threatening thousands of species. The human induced rate of species loss is estimated to be around 1.000 to 10.000 times the normal rate. Causes: these are attributed to consumer demands as people branch out into areas that were once home to various species.
- 3. Air and water pollution. 92% of the world population lives in areas with polluted air which causes 11.6% of global recorded deaths, points out World Health Organization. Air quality is particularly bad in cities, and this situation is going to get worse as more people move to cities. Causes: plastic pollution is so great that micro-plastics is found in 83% of tap-water in the world; chemical pollution from agriculture and industries is another problem where plants and animals are killed or are affected by toxins; nutrient pollution from fertilizers, households, and other sources end up in lakes, ponds, and the oceans to cause eutrophication. In the oceans nutrient pollution together with global warming has caused 500 dead zones.
- 4. Water crisis. All the continents are affected by a water shortage. Though the earth's surface is covered 70% by water, only 2.5% is fresh water that people, plants and animals can use to survive. Causes: water loss (water shortage occurs due to physical lack of water.). Expanding agriculture alone uses 70% of this resource. 80% water loss is reported in developing and emerging countries.); drought and high temperatures deplete water supplies (physical water shortage occurs during prolonged droughts and rising temperatures; an increase in population further strains the water reserves).
- 5. Natural resources drain. A growing world population might seem like an obvious threat to the environment, which is directly linked to the unique system of supply and demand. Causes: consumer demand against natural resources (human requirement of renewable goods in one year needs 1.5 years to produce; in the fishery industry, 63% the world's marine life is over-fished with few to no renewable methods in place).
- 6. Deforestation impact. The world's forests which cover 30% of the land are threatened by deforestation. Causes: deforestation is a major environmental problem (the Global Risk Report 2018 notes that in 2016, 29.7 million hectares of forests were cut down; forest fires; natural ecological balance disrupted (deforestation disrupts the natural balance of ecological systems in the area where the trees have been harvested and far beyond; food production can be impacted due to drought, and erosion is directly linked to the loss of forests).
- 7. Soil degradation. The soil degradation causes are soil erosion, soil compaction and the application of agricultural chemicals. A third of the global soil is degraded (this includes "20% of the world's cropland, 16% of forest land, 19% of grassland, and 27% of rangeland").

4. Nuclear conflict danger

The analysis of the danger of the "bomb-1" & "bomb-2" combination also deserves special attention. It entails assessing the environmental and medical-biological effects of the possible activation of the "bomb-2" in the form of nuclear conflict. This is the scenario of the "nuclear winter" by N. Moiseiev, K. Sagan, and other scientists. As far back as 1977, the American scientist K. Sagan published some war scenarios associated with the exchange of nuclear strikes of thousands of megatons (Sagan, 1977; Sagan, 1986).

A 1983 study by N. Moiseiev known as "nuclear winter modelling" showed that a large-scale exchange of nuclear strikes between superpowers would lead to global climate change, after which there would be no place on earth for our species, and that the nuclear apocalypse was much closer than meets the eye.

In addition, they stressed that the planet would not come full circle. All flesh (rainforests, biota) will not withstand such a blow, and an analysis of the scenarios of a potential nuclear war demonstrates that there will be a complete rebuilding of the entire biosphere. It will not disappear but will morph into a qualitatively new state that is distinguished from the modern one, and there may be no place for a man (Moiseev, 2017: 254, 255). Going ahead with the study of the topic under consideration, it is worthwhile mentioning the global mathematical modeling of Al Gore (Hor, 2001). It deals with the coexistence of man and nature, the rigid opposition of modern industrial civilization to the ecological system of the Earth and possible ways of transforming our civilization to restore ecological balance on the Earth and transform the planet into a safe and prosperous place for people to live.

Although attitudes towards the above theory have changed somewhat, and there has been more emphasis on the statements about the seriousness of global climate change, the modern realities speak volumes, as confirmed by the speech of the Secretary-General of the United Nations António Guterres in 2020 that the world is in a critical situation. In particular, he compared it to the one on the eve of the last times in the "Revelation of Saint John the Theologian", when the horsemen of the Apocalypse carrying wars, diseases, grief and death had already come to the world. He also compared the most serious of these threats with each of the horsemen (*Guterres*, 2020). Guterres compared the current world situation to that of 1962 when the world was on the cusp of nuclear war.

5. A synergy of environmental threats due to hostilities

The globalization of the environmental situation has given rise to both positive and negative processes. In other words, the globalization of the environmental situation led to the globalization of environmental problems. If we analyze the socio-historical dynamics of the environmental situation on the planet, in its various regions, and relations predominant in the "nature-society" system, we can observe that the origin of environmental challenges and their universal nature are not accidental in the twenty-first century. Therefore, in order to make sure of the validity of this idea, it is necessary to refer to conceptual doctrines of synergy.

We draw attention to today's crucial and painful issue, which is a global challenge not only to the European community but to the entire world. It concerns the war that Russia unleashed through a full-scale invasion of the territory of Ukraine. Not only do hostilities affect food security and have economic consequences for all countries but it is also a matter of environmental security and a shared future. Moreover, this may make the "bomb-1" & "bomb-2"

combination real. Any military conflict does not have a local character when it touches upon the environment. First ("bomb-2"), these are Russia's threats to use nuclear weapons, which is a challenge to the entire civilized world (nuclear conflict in Ukraine, nuclear weapons, nuclear threat, ballistic missiles); the seizure and shelling of Zaporizhzhia and Chornobyl nuclear power plants, which can trigger unprecedented global environmental implications. Secondly ("bomb-1"), the ecosystems cannot be divided with conditional boundaries by drawing them on a map. If the natural balance is destroyed in one geolocation, it is inevitably to be felt by the other. According to the Minister of Environmental Protection and Natural Resources of Ukraine Ruslan Strilets "...from the first days of the Russian invasion, we can confirm about 257 cases of ecocide, namely: explosions of fuel and lubricants warehouses, oil products storage facilities with the ensuing environmental consequences, air strikes on enterprises that use dangerous chemicals in production, damage and destruction of wastewater treatment plants, and drain of waste water into our reservoirs, as well as damage to the soil cover, burning of forests especially in the territories of the nature reserve fund, the destruction of 2.5 million hectares of Europe's environmental network, the extinction of European biodiversity, and the deforestation of Ukraine, which will also affect the food security of the world. In general, 20% of all protected areas of Ukraine remain in danger due to the actions of the Russian Federation..." (Strilets, 2022).

Summing up, we can mark that when there is a likelihood of environmental risks affecting the present and future common good, the situation requires that decisions rely on a comparison of the risks and benefits possible in each of the alternatives.

6. Conclusions

Consequently, the analysis of studies on the causes and nature of global challenges allows us to draw some conclusions essential for enhancing business and socio-environmental mechanisms relevant to ensuring global responsibility and preventing their evolvement.

First, it is crucial to recognize that global challenges exist, and the reasons for their occurrence are most often associated with the irrational consumer attitude of a person towards nature and ignoring its limitations. The formulation of global responsibility mechanisms and strategic plans to overcome global environmental challenges requires introducing environmental forecasting procedures into strategic planning processes to manage risks and propose alternative solutions. It is essential to introduce the concept of "global challenge" into the legislation on strategic planning at all levels to vertically integrate policies and mechanisms for their prevention.

Secondly, studying the social and environmental threats of the factors associated with the "bomb-1" & "bomb-2" combination is a complex problem of science. It should be analyzed, in particular, on the verge of young scientific branches – social ecology and human ecology – environmental globalization and global environmental danger. The beforementioned should be the future direction of our research.

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