Sustainable Development of Territories during the Period of Post-War Environmental Restoration

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Abstract: - The aim of the article was to substantiate the transformations of the conceptual foundations of sustainable development of territories during the period of post-war ecological restoration of states. The main methodological tools were the methods of modelling, experiment, and morphological analysis. The research showed that countries faced a globally important task in the ecological restoration of territories in the post-war period. The destruction of the environment and its pollution caused by military actions sharply reduce the positive indicators of the state of the environment. It was proved that sustainable development goals act as effective vectors for improving the state of the environment in the period of post-war ecological recovery. The implementation of ecologically significant actions during the post-war ecological recovery in Bosnia and Herzegovina shows that this process is complex and difficult. The problems of contradictory decisions, corruption, and lack of transparency should be considered. The environmental strategy of BiH ESAP 2030+ of Bosnia and Herzegovina, developed by the SDG, can be an example of the corresponding legislative regulation in Ukraine. The UNDP's project Sustainability of Protected Areas (SPA) implemented in Bosnia and Herzegovina in the context of popularizing ecotourism is also worth noting. A similar project can be implemented in Ukraine in the context of sustainable development of the country during the period of post-war ecological restoration. The main long-term problem in the territory of Ukraine is the demining of regions, which will also determine the terms of implementation of recovery procedures.

Key-Words: - Territorial Development, Sustainable Development, Public Management and Administration, Post-War Reconstruction, Local Self-Government, Environment, National Security.

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1 Introduction

Territorial space as a carrier of human activity consists of the ecosystem, people, and their interactions. A responsible attitude is necessary to effectively harness the potential of territories through sustainable technologies to address ongoing planetary crises, [1]. Every region of the world strives to make every effort to achieve positive results in achieving a high level of sustainable development. Climate change, urge towards reducing fossil fuel emissions, the transition to renewable energy sources, and a closed-loop economy have fuelled striving for sustainable development, [2]. However, these territories also face unique challenges that affect the achievement of their respective goals. Humanity has become increasingly immersed in major environmental, social, and economic problems worldwide, [3]. Such problems more and more often result from military conflicts, which inevitably cause the destruction of the environment.

Armed conflicts produce direct and indirect effects on the environment. Nature is being devastated by military operations. Military operations involve intensive shooting with a large number of industrial risks. Industrial complexes,

combustible storage facilities, and processing plants are at risk. The hostilities cause water and soil pollution, the release of pollutants into the atmosphere, and the irreversible degradation of biodiversity. Militarization, and corresponding changes in the management system, economy, and settlements, worsen the condition of the population and habitat of wild animals. All the above reasons contribute to long-term damage to the environment.

Post-war countries face a situation where the achievement of peaceful objectives is far beyond the cessation of hostilities, [4]. Among other things, the population of those territories faces damage caused to the environment. Wars and natural disasters cause the devastation of territories and communities, which leads to a decrease in the quality of life of people in view of instability. The return of the population to the territory of residence, new challenges in land use planning lead to the transformation of the environment, and the extraction of natural resources increases significantly, [5]. Land-use deforestation is a frequent consequence in post-war scenarios, [6]. The reduced institutional capacity to manage the environment further exacerbates the damage and impedes recovery long after the end of the conflict.

An important task is the ecological restoration of territories, which is the process of reproducing the structure and functions of ecosystems that have been degraded or destroyed, [7]. There are many approaches to environmental management to contribute to conflict prevention, mitigation, resolution, and recovery. The realities of settlements, societies, and the environment can be improved through restoration in accordance with sustainable development principles, [8]. It is necessary to carefully study the existing experience of recovery after military conflicts, paying special attention to the solution to environmental problems. The aim of such a study should be to outline the appropriate principles for the future recovery of affected countries, such as Ukraine. It is important to consider the experience of countries that are moving towards EU accession. They have the necessary experience in restoring the environment after military conflicts. It is necessary to study the experience of implementing appropriate restoration programmes, inflow of foreign capital and technology transfer. It is important to study examples of restoration using the principle of a carbon-free future.

The aim of the article is to substantiate the transformations of the conceptual model of sustainable development of territories in the period of post-war ecological restoration of states. In this regard, it was necessary to fulfill the following research objectives: 1) summarize the main vectors of transformations in the field of sustainable ecological development of territories, 2) consider the current state, the main problems, and prospects for the implementation of sustainable development goals during the post-war ecological restoration of the territories on the example of Bosnia and Herzegovina with the aim of a possible implementation of relevant strategies for the post-war ecological restoration of Ukraine.

2 Literature Review

The study by Elder and Olsen was the main instrument of this research, [3]. The authors studied the environment-related objectives in the Sustainable Development Goals. The paper identified the main factors for achieving an integrated approach to the environment at the level of goals and objectives, and the importance of this issue. The research of Ozili influenced the author's position on the issue under study, [9]. The author conducted a comprehensive analysis of aspects of sustainable development and sustainability based on the relevant literature. The fact that the inclusion of sustainable development goals in environmental management provides certain positive benefits was emphasized. It should be noted that the work lacks information about a sustainable solution to the problem of post-war recovery of the country.

The findings of Khan in the field of comparison of the main environmental consequences of war and conflict were taken into account during the study, [10]. A special place in the work is given to consideration of the main direct and indirect effects of war and/or conflict on the environment. Attention was paid to the survey and comparison of the literature related to the impact of conflict on the environment in countries experiencing war or conflict. The results obtained by O'Driscoll regarding the analysis of best practices in post-conflict recovery from academic, political and NGO sources are of particular note, [11]. Questions were raised as to whether a safe environment and the support of the local population and government are considered prerequisites for successful post-conflict recovery.

The study by the author on connected systems of man and nature necessary for supporting territorial ecological recovery and promoting national and regional high-quality development, is worth noting, [7]. The author did not focus on post-war environmental restoration. In the works, the researchers discuss issues of sustainable

environmental development and related financing in Bosnia and Herzegovina, [12]. The authors focused on the need for adequate funding for environmental protection, climate change, and sustainable development, [13].

In turn, the authors studied the necessary components for post-war ecological recovery in Ukraine, [14]. It was concluded that the achievement of sustainable development goals of Ukraine during the period of post-war ecological restoration can serve the sustainable development of territories and acceleration of the country's accession to the EU. The study was used in shaping the author's opinion, [6]. It emphasizes the ecological consequences of intensive hostilities in Ukraine. The authors made a detailed analysis of the possibility of an ecological disaster and noted the further significant uncertainty regarding the consequences of military operations for the environment and the population. In their work, researchers analysed the possibility of adopting sustainable development with its numerous dimensions, [8]. The authors outline such relevant vectors as objectivity, subjectivity, and implementation in practice. The importance of each of the organizational, institutional, and cultural aspects of recovery is noted along with all economic, social, and environmental aspects.

The study of the questions confirms that special attention must be paid to the sustainable development of territories during the period of post-war ecological restoration. The diversity of scientific research in this field is also noted. Therefore, it is urgent to carry out research by taking into account new research criteria.

3 Methods

Scientific and methodological tools were widely used during the research, the results of which were tested and reflected in the article. The research design is shown in Figure 1.

Fig. 1: Research design

Modeling was the main practical research method, which provided an opportunity to investigate the internationally declared ideal sustainable development model based on abstract and logical thinking based on the principles of visibility and objectivity of the phased implementation of sustainable development goals on the territory of Europe. This method will help to build an updated conceptual model of the foundations of sustainable development of territories in the period of post-war ecological restoration of states within the scope of further research.

The method of experiment was applied to make the author's generalized list of the basic leading vectors of post-war ecological recovery reforms in the context of sustainable development and the leading environmental goals of the European Union, taking into account the scientific debatability of the issue under research and law enforcement practice. The observation was another practical method, which was used to consider the leading features of the post-war restoration of the territory of Bosnia and Herzegovina in the context of EU membership. This method helped to make the author's list of the main reforming transformations of post-war environmental restoration, which are of fundamental importance for ensuring the sustainable development of territories.

The axiological method served as a basis for an idea of value orientations in society in the context of sustainable development. On the basis of known data, the method of extrapolation was used to build a theoretical framework for transformations of the conceptual model of sustainable development of territories in the period of post-war ecological restoration of states, explaining the influence of various factors, the nature of their interaction during of military conflicts.

The method of comparison was used when analysing the legal regulation of the restoration of the natural environment and cleaning the territories of states from pollution after the active hostilities, both statically and dynamically. This method was also applied to learn the general and distinctive properties of the constituent elements of the studied legal norms. Comparison helped to compare the qualitative characteristics of the environment after the active phase of hostilities and forming a comprehensive view of the effectiveness of law enforcement practice. This method showed that the lack of comprehensive approaches of the EU member states to the approval of the sustainable development goals in the context of ensuring effective post-war ecological recovery of the EU membership candidates leads to the superficial implementation of the declared goals at the national level. The levelling of overcoming the corruption component can produce a negative impact on the post-war ecological recovery as a whole, and can potentially lead to artificial trends and distortion of the real state of environmental pollution. The results of applying this method gave grounds to state that the existing negative consequences of military actions on the territory of states are a complex task at the cross-border level, which must be fulfilled globally through coordinated reform innovations and a balanced approach to the introduction of sustainable development into the process of post-war ecological recovery. The doctrinal approach and morphological analysis helped to find out and interpret the content of the regulatory acts and documents in the area under research, to establish the most adaptive combination of legal norms for post-war ecological restoration. The application of the method of historical analysis contributed to a more effective forecasting of the ways of further improvement of post-war ecological restoration in the territory of Ukraine, taking into account the experience of Bosnia and Herzegovina. This method enabled looking at the trends of the efficiency of sustainable development in the period of post-war recovery through a historical perspective. Structural and genetic analysis and synthesis were used to identify promising reformed elements of the essence of the object under study by means of the selection of components of transformational processes of sustainable development. The cause-and-effect analysis identified the current factors influencing the concept of sustainable development and predicted the consequences from a global perspective.

The forecasting method was used to identify the problem of organizational support for the strategy of humanity's sustainable development in the context of effective post-war recovery. This requires the implementation of a dynamic system of managing global processes using a cybernetic feedback control model, a balanced system of indicators of the current state, and coordinated methods of responding to the growth of negative trends that affect human safety. Such a system will require new institutions or the reorganization of existing ones. Their functional duties will be developing and implementing of a sustainable development programme using a systemic approach, ensuring the functioning of transparent monitoring, control systems, and prompt response to the challenges of post-war recovery.

In addition to the above-mentioned methods, the methods of classification and typology were used to

generalize the results of environmental reforms aimed at the accelerated recovery of the territories of states affected by armed conflicts. The logical method was applied as a universal means of argumentation of the conclusions in the area under research in the context of the outlined problem.

The used methodology is determined by the aim of the article and the outlined objectives. It helped to reveal the issues outlined in the article as much as possible and to offer a proper solution to the problems that arise during law enforcement in the current realities.

4 Results

Sustainable development is a carefully planned approach, the principle of growth with more efficient use of resources. The sustainable development goals are to ensure a balance between economic growth, environmental protection, social well-being, and effective governance. This approach is essential to ensure that resources are available and sufficient for all generations. The report of the Brundtland Commission, formerly the World Commission on Environment and Development was necessary for the implementation of strategies to prevent the deterioration of the environment. It has become important to study how environmental restrictions affect energy efficiency and the development of the global economy. The Political Declaration and Implementation Plan were adopted at the 2002 World Summit on Sustainable Development in Johannesburg. They include provisions covering a range of measures to be taken to achieve sustainable environmental development. Sustainable development has come to be considered the ultimate goal of the United Nations' plan for the planet.

Economic, environmental, and social factors must be balanced to achieve sustainability. It is necessary to ensure sustainable consumption of natural resources, such as materials, fuel, land, water, etc. This should be done by reducing risks and measuring the impact of companies' operations on the environment. In 2015, all UN member states adopted a 15-year plan to achieve the Sustainable Development Goals (SDGs), [15]. The result of fulfilling 17 goals and 169 objectives should be to end poverty, protect the planet, and ensure the improvement of life and prospects of the population.

According to the 2022 UN Sustainable Development Goals Report, interrelated crises seriously threaten the achievement of the 2030 Sustainable Development Goals. A quarter of the world's population lives in conflict-torn countries, and 100 million people have been forcibly displaced worldwide, [16]. In this context, the World Bank has defined the idea of post-war recovery as the creation of the social and economic background of society. The modern restoration of post-war territories is based on the restoration of social, economic, and ecological potentials with the introduction of sustainable development. Environmental management occupies a special place in this process. Sustainable post-war recovery must be adjusted to manage natural resources and waste.

Bosnia and Herzegovina can be an example of the implementation of sustainable development goals in the process of post-war ecological restoration of territories. The EU was concerned that other powers, such as Russia or China, might extend their influence into the Balkans. The EU leaders clearly stated that the promotion of EU expansion towards the Western Balkans is of significant importance in the context of the decision to grant candidate status to Ukraine and Moldova in 2022. the promotion of EU expansion towards the Western Balkans is of significant importance The member states agreed on December 15, 2022, to grant Bosnia and Herzegovina an EU membership candidate status. The candidate status was a clear signal to the government agencies of Bosnia and Herzegovina, which now have a full mandate to carry out as many reforms as possible.

The step was made despite the fact that the country with a population of three million people has been saddled with a difficult environmental situation since a devastating war three decades ago. That is why the example of the post-war recovery of this state in the context of Ukraine's European path is of great importance to be taken into account in the processes of this country after the end of Russian aggression. The impact on the environment during the Bosnian war depended on the format of hostilities in the region. About 45% of industrial enterprises were destroyed during the war, including about 75% of oil refineries. Damage to transport infrastructure accounted for 35% of major roads and 40% of bridges, [17]. The war in Bosnia ended with an international conflict-settling agreement. In 2002, the National Steering Committee for Environment and Sustainable Development was established in the country. Bosnia and Herzegovina has started preparations for joining the EU. Bosnia and Herzegovina received $ 545.6 million in environmental financing between 2015 and 2020, [18].

The conditions for the production of renewable energy have been defined in accordance with the EU directives on sustainable development according to

the 2016 Renewable Energy Action Plan of Bosnia and Herzegovina. The country has begun to pass legislation on the construction of wind farms, as the country has significant potential for this source of renewable energy. The country sought to build 300 hydroelectric power plants due to the country's large technical hydropower potential. However, the hydropower-related sustainability goals have been distorted as they have become conflated with hydropower projects embedded in complex bureaucratic systems. Corruption was widespread in the country, as evidenced by data from the Corruption Perception Index in Bosnia and Herzegovina, [19] (Table 1):

Table 1. Indicators of the corruption rate in Bosnia and Herzegovina according to the assessment of the corruption perception for the last 9 years

	2013	2014	2015	2016	2017	2018	2019	2020	2021
0 — highly corrupt, 100 — very clean	42	39	38	39	38	38	36	35	35
Place among the countries	72 out of 177	80 out of 175	76 out of 168	83 out of 176	91 out of 180	89 out of 180	101 out of 180	111 out of 180	110 out of 180

Moreover, from 2013 to 2020, the situation with the corrupt elements in the country worsened and stabilized only in 2021. In Bosnia and Herzegovina, social norms have undergone changes due to the position of the oligarchy to reflect new configurations of power. Obtaining a concession for a hydropower project required permits from different authorities. There was also a question about the poor quality of the relevant environmental examinations. The local population did not support projects of the construction of small hydroelectric power plants. They focused on environmental protection and insisted on the possibility of negative effects of hydroelectric power plants on the microclimate. In June 2022, the Federation of Bosnia and Herzegovina amended the Law on Electricity. It was prohibited to build small hydroelectric plants because they harm rivers and biodiversity. Compared to other countries, Bosnia and Herzegovina has a particularly rich biodiversity. This makes the country one of the most attractive for the development of ecotourism in Europe, which is the driving force of sustainable development in Bosnia and Herzegovina. National parks were created in order to develop this sector. In September 2022, UND presented a new project Sustainability of Protected Areas (SPA) in Bosnia and Herzegovina, [20].

The goal is to achieve sustainable management of protected areas and the conservation of biodiversity. The popularization of ecotourism is one of the project activities. Bosnia and Herzegovina still faces several serious environmental challenges, [21], as presented in Figure 2.

Fig. 2: The main environmental problems of post-war restoration in Bosnia and Herzegovina

As of 2022, Bosnia and Herzegovina is in the early stages of preparation for EU accession in an area related to the Green Agenda and sustainable development. Bosnia and Herzegovina should focus efforts on the development of the legislative framework, administrative capacity, and monitoring system. Particular attention should be paid to the development of interagency coordination. In 2019, Bosnia and Herzegovina started preparing the Bosnia and Herzegovina Environmental Strategy and Action Plan 2030+ with the support of the Stockholm Environment Institute, [22]. The objectives include providing the country's environmental protection agencies with strategic goals and thematic tasks. The content of the BiH ESAP 2030+ will cover seven important areas of EU environmental policy in accordance with the sustainable development goals (Figure 3).

The above-mentioned document will clearly define actions to achieve environmental sustainability and improve the health of citizens, unification of the country's administrative units for environmental protection. The adoption of the Federal Environmental Strategy by the government of the Federation of Bosnia and Herzegovina on August 25, 2022, was a positive point. The Environmental Strategy of the Brčko District for 2022-2032 was adopted on November 2, 2022, and the Environmental Strategy of the Republic of Srpska was adopted on November 17, 2022. The film BiH ESAP 2030+ was created to popularize this environmental initiative in Bosnia and Herzegovina. This film is shown to students, followed by a productive discussion with environmental experts. To move to the next stage of formal EU accession negotiations, Bosnia and Herzegovina must make progress on many of the reform priorities set out by the European Commission.

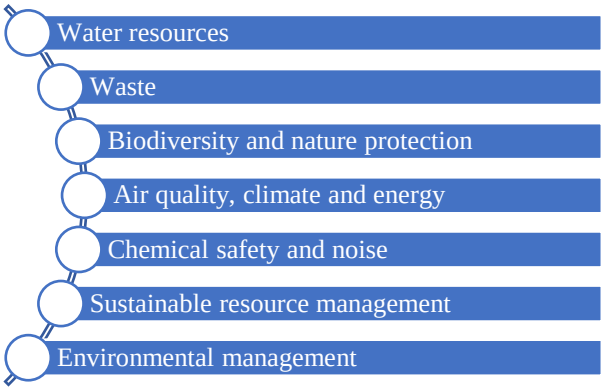

Fig. 3: The main areas of EU environmental policy in accordance with the sustainable development goals

Before the start of hostilities in 2022, according to the SDG Index, Ukraine ranked 37th out of 163 countries with a score of 75.7 points out of 100 possible, [16]. Public administration in the field of environmental protection required reform, especially in the area of law enforcement and control. Implementation was to be based on the best practices of the European Union and OECD countries, [23]. It was also necessary to improve the technical regulations based on implemented market "polluter pays" principles, [24]. It is worth noting that the information on many trends of the Central Bank in 2022 is unavailable because of the military operations on the territory of Ukraine. New significant risks for the environment and public health have appeared since the beginning of the military aggression of the Russian Federation in Ukraine in 2022. As of May 23, 2022, more than 6 million people from Ukraine have moved to other countries to escape the conflict. At the same time, at least 8 million people were displaced inside the country, [16]. Russia's full-scale invasion of Ukraine is characterized by the seizure of the Zaporizhzhia NPP, strikes on cities, TPPs, and industrial enterprises with dangerous facilities. This

damage has affected the provision and access to energy, water, food, sanitation, and hygiene.

Damage to the water supply infrastructure has left about 1.4 million people in Ukraine unable to use safe water, [24]. Russia's military operations have caused damage to 900 protected natural territories of Ukraine. Their area is about 1.2 million hectares, [25]. Almost 3 million hectares of forest in Ukraine became the site of hostilities. Bombing, trenching, and tunneling have a negative impact on chernozem. In July 2022, in Ukraine, the National Council for the Recovery of Ukraine from the Consequences of War developed the Draft Plan for the Recovery of Ukraine, [26]. Accordingly, five priority directions were determined (Figure 4).

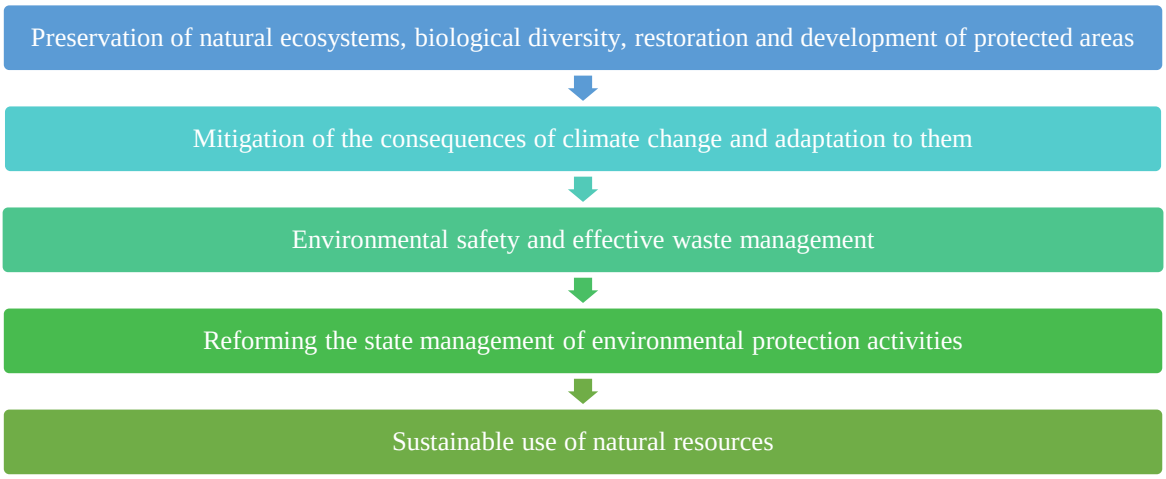

Fig. 4: Priority areas of post-war environmental restoration of Ukraine

The first direction is aimed at the policy of mitigating the consequences of climate change and adapting to them. The second direction includes environmental safety and effective waste management. The next direction is focused on the sustainable use of natural resources. The fourth priority direction is the preservation of natural ecosystems, biological diversity, restoration, and development of protected areas. The fifth direction is aimed at reforming state management of environmental protection activities, [26].

5 Discussion

It can be concluded that sustainable development has been an important political goal in different countries for more than thirty years. Policy in this area should be aimed at reducing or eliminating gaps in space, time, functions, and relationships, [27]. It is necessary to be careful regarding current attempts to better define what is sustainable and how to measure it, [12]. According to researchers, the stability of the term "sustainability" is not always ambiguous, but may even be appropriate in some circumstances.

It can be stated that the SDGs have important ecological content, and many environmental targets are very progressive. As a result of this approach, the environment has been considered the main component of development, [3]. It can be concluded that the environmental components of military conflicts are attracting more and more attention from governments, academic circles, and politicians. Efforts are directed at addressing the environmental issues throughout the conflict cycle, with a particular focus on environmental components as a tool for post-conflict recovery, [28].

It was found that post-war recovery can have many negative consequences for the environment. These effects must be addressed and mitigated where possible, especially as war itself causes enormous environmental damage, [11]. It is necessary to create a sustainable environment in view of the ecological aspect, [8]. The environmental sustainability aspect should be included in the post-conflict policy to the maximum possible extent. Moreover, the responsibility for ensuring environmental sustainability should be a national consensus and a requirement of the international community, [5].

It can be concluded that it is necessary to ensure adequate funding for environmental protection, a thorough study of climate change, and the implementation of sustainable development. Seven sectors of the environmental policy of Bosnia and Herzegovina received environmental funding. Biodiversity, nature conservation, and resource management received scant funding compared to the water supply and waste disposal sectors, [13]. According to researchers, decision-making bodies

should reorient to obtaining more funding in the future for sectors that lack financial support.

It can be stated that sustainable development initiatives can best be implemented by the joint efforts of the local community. They are based on social, political, structural, institutional, and economic dimensions, [9]. Improving shared governance and strengthening local institutions are key approaches to developing a variety of environmental projects during the conflicts and in the post-war recovery period.

It was established that the war in Ukraine will lead to inevitable humanitarian and economic consequences. However, the negative environmental transformations during the war are dominant, permanent, and often inevitable for the planet, [10]. All stakeholders, both public and private, have to undertake the largest reconstruction plan in Europe since World War II, [14]. If sustainability underpins recovery and reforms are implemented properly, these efforts could become a unique opportunity for Ukraine. Sustainable development in the context of European integration is a strategic task for the government of Ukraine, [29]. In the process of post-war recovery, it is necessary to develop and implement a new model of eco-social economy aimed at comprehensively improving the quality of human life. This will be the foundation for the European integration process of Ukraine, as the criteria for sustainable development and environmental safety will be a top priority.

6 Conclusion

The environment was widely included in the SDGs. The environmental SDGs include means to improve the state of the environment. True sustainability and a truly closed-loop economy can be achieved by balancing the economic, social, and environmental components.

Russia's military aggression in Ukraine with the use of heavy ground weapons caused casualties among the population and negative changes in the natural environment of Ukraine. The Environmental Security section of the draft Plan for the Recovery of Ukraine from the War provides an initial background for sustainable post-war ecological restoration. In the long run, the completion of the process of post-war environmental development should lead to a clean and safe environment. The sustainable development of Ukraine during the post-war ecological restoration will contribute to the acceleration of Ukraine's accession to the EU and coordination with key European politicians.

This study has its limitations. For example, the Bosnian War (1992-1995) used as an example is significantly distant in time from the Russian-Ukrainian War that started in 2022. During this period, significant geopolitical changes have occurred, complicating comparisons between the two conflicts. Moreover, the Russian-Ukrainian war is characterized by threats of a different level, including environmental threats. To improve the work and conduct a deeper comparison between the two countries (Ukraine and Bosnia and Herzegovina), it was also reasonable to compare corruption indicators in these countries. High corruption rates were identified as one of the main factors in the slowed environmental recovery in Bosnia and Herzegovina, so this risk needs to be anticipated and taken into account in the Ukrainian post-war recovery plans. Further research should focus on the dynamics of achieving sustainable development goals by Ukraine before and during the conflict in order to determine the main direction of the post-war environmental recovery.

References:

[1] Priyadarshini, P., Dubey, P. K., Singh, A., Chaurasia, R., Abhilash, P. C. The Dasgupta Review: resetting the stage for a new paradigm, *Frontiers in Ecology and the Environment*, Vol. 20, 2021, pp. 240–246, https://doi.org/10.1002/fee.2451

[2] Aven, T. Climate change risk – what is it and how should it be expressed? *Journal of Risk Research*, Vol. 23, No. 11, 2020, pp. 1387-1404, https://doi.org/10.1080/13669877.2019.1687578

[3] Elder, M., Olsen, S. H. The design of environmental priorities in the SDGs, *Global Policy*, Vol. 10, No. S1, 2019, pp. 70–82, https://doi.org/10.1111/1758-5899.12596

[4] Mualla, W. Academic Research in Support of Post-Conflict Recovery in Syria, In A. Badran, E. Baydoun, J. R. Hillman (Eds.), *Higher Education in the Arab World: Research and Development* (pp. 297–309), Springer, 2022, https://doi.org/10.1007/978-3-030-80122-9_17

[5] Suarez, A., Árias-Arévalo, P. A., Martínez-Mera, E. Environmental sustainability in post-conflict countries: insights for rural Colombia, *Environment, Development and Sustainability*, Vol. 20, No. 3, 2018, pp. 997-1015, https://doi.org/10.1007/s10668-017-9925-9

[6] Pereira, P., Bašić, F., Bogunovic, I., Barcelo, D. Russian-Ukrainian war impacts the total environment, *Science of the Total*

Environment, Vol. 837, 2022, https://doi.org/10.1016/j.scitotenv.2022.155865

[7] Fu, B. Several Key Points in Territorial Ecological Restoration, *Bulletin of Chinese Academy of Sciences*, Vol. 36, No. 1, 2021, Article 9, https://doi.org/10.16418/j.issn.1000-3045.20201222001

[8] Al-Samurai, A. A. R. M., Al-Qaraghuli, A. S. R. Adopting sustainable development in reconstruction Post War City of Mosul Architecture-Case Study, *IOP Conf. Series: Earth and Environmental Science*, Vol. 754, 2021, pp. 012001, https://doi.org/10.1088/1755-1315/754/1/012001

[9] Ozili, P. K. Sustainability and Sustainable Development Research around the World, *Managing Global Transitions*, Vol. 20, No. 3, 2022, pp. 259–293, https://doi.org/10.26493/1854-6935.20.259-293

[10] Khan, M. *The environmental impacts of war and conflict*, K4D Helpdesk Report, Institute of Development Studies, 2022, https://doi.org/10.19088/K4D.2022.060

[11] O'Driscoll, D. *Good Practice in Post-Conflict Reconstruction.* K4D Helpdesk. Institute of Development Studies, 2018, Online available from https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/14263

[12] Dogmus, Ö. C., Nielsen, J. Ø. Defining sustainability? Insights from a small village in Bosnia and Herzegovina, *GeoJournal*, Vol. 86, 2020, pp. 2165–2181, https://doi.org/10.1007/s10708-020-10181-9

[13] Causevic, A., Avdic, S., Padegimas, B., Macura, B. Analysis of international public funding flows for the environment, climate change, and sustainability: the case of Bosnia and Herzegovina, *Energy, Sustainability and Society*, Vol. 12, 2022, article number: 34, https://doi.org/10.1186/s13705-022-00359-z

[14] Beckmann, A., Lucius, I., Nantsou, T., Riabokin, T., Vykhor, B., Abbara, M., Aixala, A., Corak, T., Hassan, F., Kachaner, N. *Ukraine - A Sustainable Economic Recovery for People and Nature*, WWF, CEE, BCG, 2022, Online available from https://wwfeu.awsassets.panda.org/downloads/ukraine___a_sustainable_economic_recovery_for_people_and_nature___wwf_bcg___sept_2022_light.pdf

[15] UN Sustainable Development Summit. *Transforming our world: the 2030 Agenda for Sustainable Development*, 2015, Online available from https://sdgs.un.org/2030agenda

[16] UN SDGs Report. *The Sustainable Development Goals Report 2022*, 2022, Online available from https://unstats.un.org/sdgs/report/2022/

[17] ECE. *Environmental Performance Reviews. Bosnia and Herzegovina*, New York and Geneva: United Nations, 2004, Online available from https://unece.org/DAM/env/epr/epr_studies/bosnia_and_herzegovina.pdf

[18] IATI. *Country development finance data. Bosnia and Herzegovina*, 2022, Online available from https://countrydata.iatistandard.org/

[19] Transparency International. *Corruption Perceptions Index, Bosnia and Herzegovina*, 2022, Online available from https://www.transparency.org/en/cpi/2018/index/bih

[20] UNDP. *On the occasion of World Tourism Day, UNDP officially presented the new project "Sustainability of Protected Areas in BiH – SPA"*, 2022, Online available from https://www.undp.org/bosnia-herzegovina/news/occasion-world-tourism-day-undp-officially-presented-new-project-sustainability-protected-areas-bih-spa

[21] UNECE. *3rd Environmental Performance Review of Bosnia and Herzegovina*, 2018, Online available from https://unece.org/environment-policy/publications/3rd-environmental-performance-review-bosnia-and-herzegovina

[22] BiH ESAP 2030+. *Development of the Environmental Strategy and Action Plan of Bosnia and Herzegovina*, Fact sheet, SEI, 2021, Online available from https://www.sei.org/wp-content/uploads/2019/11/bih-esap-2030-fact-sheet.pdf

[23] European Commission. *Ukraine: Commission presents plans for the Union's immediate response to address Ukraine's financing gap and the longer-term reconstruction*, 2022, Online available from https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3121

[24] OECD. *Environmental impacts of the war in Ukraine and prospects for a green reconstruction*, 2022, Online available from https://www.oecd.org/ukraine-hub/policy-responses/environmental-impacts-of-the-war-

in-ukraine-and-prospects-for-a-green-reconstruction-9e86d691/

[25] Ministry of Environmental Protection and Natural Resources of Ukraine. *Briefing on the environmental damage caused by the Russian invasion of Ukraine*, 2022, Online available from https://mepr.gov.ua/en/news/39144.html

[26] National Council for the Recovery of Ukraine from the War. *Project of the Recovery Plan of Ukraine. Materials of the working group "Environmental safety"*, 2022, Online available from https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/environmental-safety-assembly.pdf

[27] Bonnedahl, K. J., Heikkurinen, P., Paavola, J. Strongly sustainable development goals: Overcoming distances constraining responsible action, *Environmental Science & Policy*, Vol. 129, 2022, pp. 150-158, https://doi.org/10.1016/j.envsci.2022.01.004

[28] Buryak, E. V., Redko, K. Yu., Chornovol, A. O., & Orlenko, O. V. (2022). Socio-economic aspects of sustainable development of Ukraine in the conditions of war (European integration aspects). *Scientific Notes of the Lviv University of Business and Law. Economic series. Legal Series*, 34, 135–143. https://doi.org/10.5281/zenodo.7221052

[29] Bliznjuk, O., Masalitina, N., Myronenko, L., Zhulinska, O., Denisenko, T., Nekrasov, S., Stankevych, S., Bragin, O., Romanov, O., Romanova, T. Determination of Rational Conditions for Oil Extraction From Oil Hydration Waste, *Eastern-European Journal of Enterprise Technologies*, Vol. 1 (6 (115)), 2022, pp. 17–23, Online available from https://ssrn.com/abstract=4069061

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