

Legal Protection of Environment in Conditions of War: Theoretical and Practical Analysis

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Abstract

The paper investigates the issues of international legal regulation of environmental protection and ensuring environmental security during armed conflict. It is substantiated that environmental protection during armed conflict should be based not only on the application to the environment of the rules for the protection of civilian objects but also on the recognition of the need to ensure special protection of the environment as such. An important point of the research is the search for a legal mechanism for the proper provision of compensation for damage caused to the environment, the calculation of the amount of damage and an effective procedure for such compensation. The article outlines the main problems, results, and prospects of the newest legal mechanism being formed in Ukraine to ensure compensation for the damage caused to the environment by Russia's military actions. In this article, attention is paid to the following key issues: types and features of the activities of subjects (state authorities and civil society organisations) in ensuring compensation for damage to the environment; problems of collecting, analysing, recording, and verifying evidence of damage caused; regulatory mechanisms for determining the amount of compensation for damage; problems of achieving real compensation for damage. The study also defines the prospects of Ukraine's post-war environmental policy from the perspective of ensuring environmental security. For this purpose, the provisions of the Law of Ukraine "On Environmental Protection" were analysed on the matter of guaranteeing environmental security in wartime. It is concluded that the post-war restoration of the Ukrainian environment should be multifunctional because, in addition to eliminating the consequences of military actions, it should also meet the new standards of the European community.

Keywords

Armed conflict; Right to the natural environment; Damage to the environment; Compensation for damage; Environmental security

Introduction

History has many examples of armed aggression, the consequences of which are catastrophic for the environment. Modern military technologies (use of chemical, biological, and other weapons of mass destruction) make this threat even more serious than ever before, leading to long-term recovery and in some cases irreversible environmental consequences. The scale of environmental damage (usually, it results in transboundary pollution) and hidden environmental threats (pollution of water bodies, degradation of forests, extinction of certain species of flora and fauna in the future) emphasises the need to study national and international problems of legal regulation of environmental protection and ensuring environmental security during armed conflict. It is especially important during the full-scale war between Russia and Ukraine.

The environment is the biggest casualty as a consequence of the Russian war imposed on Ukraine. Mass destruction of the industrial and civil infrastructure, chemical and air pollution, radioactive pollution, ammunition, and missiles caused fires, forest and agriculture damage, wildlife and biodiversity loss, and contamination of waters and soil will make Ukrainian lands uninhabitable during and after the war (Khrushch *et al.*, 2023).

The purpose of this publication is an integrated analysis of issues related to environmental protection in wartime, starting with the study of the fundamental principles of international law, which regulates the issue of environmental protection during armed conflicts, exploring the problems of adequate compensation for damage caused to the environment during the war, calculating the number of losses and finding an effective procedure for such compensation. As a result, we propose further main priorities of post-war environmental restoration of Ukraine and directions of key environmental reforms.

Such a multi-faceted analysis will contribute to a comprehensive understanding of environmental problems and the scale of the consequences of the war not only for Ukraine and will serve to determine further steps in establishing an effective mechanism for preventive environmental protection and compensation for damage caused by the formation of a coherent state policy, cooperation at the international level, and the creation of an effective system of environmental monitoring and means of environmental restoration.

The following methods are the methodological basis of the research: *historical legal* – was used in the study of the environment as an object of legal protection in wartime; *comparative law* – helped in the search for effective mechanisms to hold Russia accountable for environmental damage; *systemic structural* – was used in the study of problems of compensation for environmental damage caused by Russia to Ukraine as a result of the war; *formal legal* – helped to determine the priorities of post-war environmental policy of Ukraine. The application of these methods made it possible to reach the aim of the study.

The Environment as an Object of Legal Protection in Wartime

Environmental protection during armed aggression is a rather complex issue caused primarily by a lack of specific legal regulation of this issue in wartime.

First of all, this issue is regulated by at least two branches of international law – international environmental law and international humanitarian law (the law of armed conflict). International environmental law is a relatively young branch of law. Nevertheless, given the urgency of the protection of the environment as a possibility for the further existence of humanity, environmental law quickly gained its significance, and its principle of sustainable development became universal law, fundamental for the harmonious and balanced development of all spheres of social life. The World Charter for Nature, approved by the UN General Assembly on 28 October 1982, proclaims the general principles of nature conservation, according to which any human activity related to nature should be guided and judged, and cl. 5 defines the principle of protecting nature from degradation caused by warfare or other hostile activities.¹ The Stockholm Declaration of 1972 contains the provision that humanity and the environment should be freed from the use of nuclear and other types of weapons of mass destruction (principle 26).² The Rio Declaration of 1992, in principle 24, declares that war inevitably has a destructive effect on the process of sustainable development, and therefore states must respect international law by ensuring environmental protection in the event of armed conflict. Principle 25 of the Rio Declaration emphasises that peace, development, and environmental protection are interdependent and inseparable.³ Agenda 21 stresses the need to consider the issue of compliance with the norms of international law of measures to prevent large-scale destruction of the environment during armed conflict.⁴

The norms of international environmental law are predominantly preventive in nature and provide for the protection and preservation of the natural environment, but they do not define a mechanism for environmental protection during armed conflict. The only two exceptions that directly define the principles of environmental protection in wartime are, firstly, the UN Convention on the Law of the Non-navigational Uses of International Watercourses of 1997, which in Art. 29 establishes that ‘international watercourses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict’;⁵ secondly, the UNESCO

¹ World Charter for Nature. (1982). Available online at:

<https://digitallibrary.un.org/record/39295?ln=en&v=pdf> (accessed on 14 August 2024).

² Declaration on the Human Environment (1972). Available online at:

<https://wedocs.unep.org/bitstream/handle/20.500.11822/29567/ELGP1StockD.pdf> (accessed on 14 August 2024).

³ The Rio Declaration on Environment and Development (1992). Available online at:

https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf (accessed on 14 August 2024).

⁴ Agenda 21. United Nations Conference on Environment and Development Rio de Janeiro (1992).

Available online at: <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf> (accessed on 14 August 2024).

⁵ Convention on the Law of the Non-navigational Uses of International Watercourses (1997). Available online at: https://legal.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf (accessed on 14 August 2024).

Convention on the Protection of the World Cultural and Natural Heritage of 1972, which in Art. 11(4) provides for the creation of a List of World Heritage in Danger while identifying among the threats the danger of armed conflict.⁶

It can thus be concluded that international environmental law is not adapted to wartime, and it is understandable and quite logical because military goals and the goals of environmental protection are mutually exclusive. International environmental law is peacetime law and does not provide for environmental protection mechanisms during armed conflict.

Therefore, international humanitarian law (IHL) is applicable – the branch of law that is applied during armed conflict. Furthermore, during armed conflict, in the event of contradictions between the norms of IHL and the norms of other branches of international law, the norms of IHL will prevail (Medvedeva *et al.*, 2016).

The environment under IHL includes the natural environment, civilian objects and objects indispensable to the survival of the civilian population. The core principles of IHL that may be considered to have a bearing on environmental protection include – distinction, proportionality, precaution, military necessity and humanity (Akpoghome and Worluh-Okolie, 2024).

International humanitarian law aims primarily to protect victims of armed conflict and to regulate the conduct of hostilities. This reflects the need to establish a regulatory framework to mitigate the inevitable consequences inflicted on people, property and the environment during times of war (Kovalenko *et al.*, 2024).

Despite the long history of the formation of this field, the norms related to environmental protection during armed conflict began to be formed not so long ago, and today they cannot adequately respond to environmental threats. In international humanitarian law, there are several international treaties whose provisions are directly or indirectly aimed at protecting the environment during armed conflict. A certain degree of environmental protection during armed conflict is provided by the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction (Art. 2);⁷ the 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction (Art. 4, 5 and 7);⁸ the 1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of

⁶ Convention concerning the Protection of the World Cultural and Natural Heritage (1972). Available online at: <https://whc.unesco.org/archive/convention-en.pdf> (accessed on 14 August 2024).

⁷ Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxic Weapons and on their Destruction (1972). Available online at: https://www.un.org/en/genocideprevention/documents/atrocities-crimes/Doc.37_conv%20biological%20weapons.pdf (accessed on 14 August 2024).

⁸ Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (1993). Available online at: https://www.un.org/en/genocideprevention/documents/atrocities-crimes/Doc.42_Conv%20Chemical%20weapons.pdf (accessed on 14 August 2024).

Anti-Personnel Mines and their Destruction (Art. 5(4)(c) and 7(1)(f));⁹ the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects;¹⁰ etc.

A special act in the field of environmental protection in the event of armed conflict is the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques of 1977 (ENMOD), according to which the participating states undertake not to resort to military or any other hostile use of environmental modification techniques having wide-ranging, long-lasting or severe effects as means of destroying, damaging or harming any other State Party (Art. 1).¹¹

Additional Protocol I to the Geneva Conventions (AP I) relating to the Protection of Victims of International Armed Conflicts of 8 June 1977 contains norms directly aimed at environmental protection during armed conflict (Art. 35 and 55). Accordingly, cl. 3 of Art. 35 prohibits the use of ‘methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment’. Art. 55 indicates:

1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby prejudice the health or survival of the population.
2. Attacks against the natural environment by way of reprisals are prohibited.¹²

As can be seen from the above, the provisions of international treaties operate with the evaluation categories such as “widespread, long-lasting, severe damage” and do not regulate in sufficient detail the issue of how the achievement of military goals correlates with damage to the natural environment that will have long-lasting serious consequences of destruction. For understanding and implementing norms, customary international law is useful, which, according to the Statute of the International Court of Justice of the United Nations, is defined as “general practice accepted as law”.¹³

It is generally accepted that a norm in customary international law requires two elements: state practice (*usus*) and the conviction that such practice is mandatory,

⁹ Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (1997). Available online at: https://www.un.org/en/genocideprevention/documents/atrocity-crimes/Doc.44_convention%20antipersonnel%20mines.pdf (accessed on 14 August 2024).

¹⁰ Convention on Certain Conventional Weapons and its Protocols (1980). Available online at: https://www.icrc.org/en/download/file/166960/dp_consult_8_1980_convention_on_ccw.pdf (accessed on 14 August 2024).

¹¹ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (1977). Available online at: https://treaties.un.org/doc/Treaties/1978/10/19781005%2000-39%20AM/Ch_XXVI_01p.pdf (accessed on 14 August 2024).

¹² Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) (1977). Available online at: https://www.un.org/en/genocideprevention/documents/atrocity-crimes/Doc.34_AP-I-EN.pdf (accessed on 14 August 2024).

¹³ Statute of the International Court of Justice. (1945). Available online at: https://legal.un.org/avl/pdf/ha/sicj/icj_statute_e.pdf (accessed on 14 August 2024).

prohibited or permitted, based on the nature of the norm as a matter of law (*opinio juris sive necessitatis*). In the meantime, the norms of international treaties quite often acquire the meaning of customary law, which makes it possible to extend their effect to armed conflict whose parties are not parties to the treaties, e.g., attacking any part of the natural environment if it is not a military objective is based on the general requirement to distinguish between military and civilian objects (the so-called principle of distinction). This principle is directly reflected in Protocol III to the UN Convention on Certain Conventional Weapons stipulating that ‘it is prohibited to make forests or other kinds of plants cover the object of attack by incendiary weapons except when such natural elements are used to cover, conceal or camouflage combatants or other military objectives, or are themselves military objectives’.¹⁴

The UN General Assembly suggested that all states apply this principle, and the practice of states (reflected in official statements, military manuals and court decisions – *authors’ note*) established this rule as a norm of customary international law expanding the boundaries of international treaty law.

This universality of customary international law is also confirmed by the practice of international judicial and quasi-judicial institutions, which are often required to apply customary norms. Therefore, regarding nuclear weapons in 1996, the International Court of Justice of the United Nations recognised that the obligation of states to ensure that activities under their jurisdiction and control respect the environment of other states or territories outside national control is part of customary international law.¹⁵

In a generalised form, customary norms in international humanitarian law were consolidated in the Report of the International Committee of the Red Cross on customary norms of IHL applicable to armed conflicts of an international and non-international nature. Chapter 14 – “The Natural Environment”, which contains three norms, is devoted to direct environmental protection. Rule 43 defines the application of general principles of conducting military operations to the natural environment, including: ‘(a) no part of the natural environment may be attacked unless it is a military objective; (b) destruction of any part of the natural environment is prohibited unless required by imperative military necessity; (c) launching an attack against a military objective which may be expected to cause incidental damage to the environment which would be excessive about the concrete and direct military advantage anticipated is prohibited’.¹⁶

Rule 44 imposes restrictions on the methods and means of warfare and requires the adoption of all feasible precautions during military operations to avoid and, in any event, to minimise incidental damage to the environment. Rule 45 prohibits the use of methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.

¹⁴ Ibid, n.10.

¹⁵ Summaries of Judgments, Advisory Opinions and Orders in Legality of the threat or use of nuclear weapons. Available online at: <https://www.icj-cij.org/public/files/case-related/95/7497.pdf> (accessed on 14 August 2024).

¹⁶ International humanitarian law databases. Available online at: <https://ihl-databases.icrc.org/en/customary-ihl/v1> (accessed on 14 August 2024).

Analysis of these norms demonstrates the application of such general principles of customary international law as the principles of: (a) distinction (the natural environment cannot be the direct target in a military objective), (b) necessity (prohibition of actions that cause harm not justified by military necessity and the obligation, whenever possible, to choose the least harmful means of achieving the military objective) and (c) proportionality (the obligation to observe proportionality between the expected military advantage and the incidental damage to the environment). It is these principles of customary law that make it possible to correctly qualify and establish whether the parties in armed conflict violate the contractual norms of IHL. In practice, the application of these international acts indicates the fact that environmental protection is subordinate to the existing laws of war. The Guidelines on the Protection of the Environment in Armed Conflict specify that international environmental law may continue to apply during armed conflicts insofar as it does not conflict with the applicable law of armed conflict.¹⁷ The UN International Court of Justice, in its Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, ruled that environmental obligations – in particular, the obligation of states to ensure that activities within their jurisdiction or control do not adversely affect the environment of other states – apply in the context of armed conflict, at least if they do not conflict with military law. The Resolution of the General Assembly emphasised that ‘the destruction of the environment, not justified by military necessity and carried out wantonly, is contrary to the existing international norms’.¹⁸

The study, specially prepared by the United Nations Environment Program (UNEP) on the topic of environmental protection during armed conflict, presents the main errors and gaps in the application of the relevant norms of IHL, e.g.:

- Art. 35 and 55 of Additional Protocol I to the Geneva Conventions do not provide effective protection to the environment during an armed conflict due to the narrow and imprecise threshold level required to prove damage;
- the provisions of IHL, which regulate the means and methods of warfare or provide for the protection of civilian property or objects, provide only indirect protection of the environment; furthermore, these provisions have rarely been applied with the stated purpose;
- most provisions of IHL are designed to protect the environment in the context of international armed conflict and are not necessarily applied in the context of armed conflicts of a non-international nature;
- due to the lack of judicial practice regarding this issue, there is a lack of law enforcement activity in this area;
- there is no permanent international mechanism for monitoring violations and ensuring adequate compensation for environmental damage caused during armed conflict;
- customary principles of distinction, necessity and proportionality are insufficiently effective means of ensuring environmental protection in conditions of armed conflict (Blaha *et al.*, 2016).

¹⁷ Guidelines on protection of natural environment in armed conflict. Available online at: <https://www.icrc.org/en/document/guidelines-protection-natural-environment-armed-conflict-rules-and-recommendations-relating> (accessed on 14 August 2024).

¹⁸ *Ibid*, n.15.

One example is the recent situation with Russia's blowing up of the Kakhovska Dam (Nazarchuk, 2023). This is the most serious international crime that has caused man-made, ecological, and humanitarian catastrophes of an unprecedented scale since the Second World War. The environmental situation resulting from the destruction of the Kakhovka hydroelectric power station by the occupying forces falls squarely within the concept of the crime of ecocide. This concept exists in the legal framework of Ukraine, Russia, and a dozen other countries. However, international law does not yet recognise the concept of ecocide, does not provide a legal definition of it, and does not provide for the criminal responsibility of subjects of international law for this crime (Malysheva and Hurova, 2024). At the same time analysis of the norms of international humanitarian law demonstrates that dams and power plants have the highest levels of legal protection. Additional Protocol I to the Geneva Conventions (Art. 35) expressly prohibits the use of methods of warfare that cause serious damage to the natural environment. Although the Geneva Conventions stipulate prohibitions, they do not contain a mechanism for the prosecution. The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques contains a specific response plan. According to Art. 5 Ukraine can appeal to the UN Security Council with a complaint against Russia for an investigation. Each State Party can send a request to the UN Secretary General to convene a Consultative Committee of Experts to clarify and assess the situation. Nevertheless, the participation of the UN Security Council is ineffective as long as the Russian Federation has the right to veto.

To summarise, the current international mechanisms for resolving armed conflicts and managing their consequences are insufficient to protect the environment. Even a superficial analysis of the norms of international law demonstrates what principles are used to balance the interests of society in an environment safe for life and health and the military goals of the participants in an armed conflict – military necessity justifies the damage caused to the environment. It should be the other way around: what limitations of military necessity should be applied to achieve an acceptable degree of environmental protection? In other words, environmental damage must be minimised by establishing strict sanctions so that belligerents avoid any use of force that may cause excessive environmental damage. The path to harmonisation will lie in the cooperation between the norms of international environmental law and international humanitarian law and the search for a balance between the environmental policy of society, and the policy of the participants in an armed conflict to achieve the goals of the war. The norms of international humanitarian law should be strengthened by the norms of environmental or eco-humanitarian law.

Environmental protection during armed conflict should be based not only on the application to the environment of the rules for the protection of civilian objects but also on the recognition of the need to ensure special protection of the environment as such. The environment as a silent victim of war needs more effective protection during armed conflict. As noted by W. Verwey, a new approach to regulating legal issues of environmental protection in wartime is needed. The priority should be to make the environment an independent object of legal protection and not to differentiate between issues of environmental protection during martial law and peacetime. This approach will contribute to sustainable development and environmental protection in the face of modern challenges and to the creation of effective norms of international

environmental law that would be effective regardless of political, economic or social circumstances (Verwey, 1995).

The first manifestations of such an approach already exist. In particular, in the already mentioned Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons, the International Court of Justice of the United Nations stated that environmental law indicates important factors that are to be properly taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict.¹⁹ In addition, the UN General Assembly Resolution ES-11/5 “Promoting legal protection and providing reparations for aggression against Ukraine” of 14 November 2022 directly provides for compensation for the damage caused to the natural environment of Ukraine.²⁰ Therefore, stipulating the principle of respect for the natural environment during armed conflict in the norms of customary and contractual IHL would contribute to the fact that the environment would be defined not only as an object of the protection of human habitat but also as an independent object of protection during armed conflict.

Problems of Compensation for Environmental Damage Caused by Russia to Ukraine as a Result of the War

As a result of insufficient legal regulation of environmental protection during armed conflict, there is a problem regarding the proper provision of compensation for damage caused to the environment, the calculation of the amount of damage and an effective procedure for such compensation.

Russia’s military aggression against Ukraine causes huge losses every day, associated with both the death of people and the destruction of industrial and social infrastructure. Ongoing hostilities, rocket launches, and thousands of artillery shells lead to irreparable damage not only to the humanitarian and economic spheres but also to the natural environment, the safe condition of which is a necessary condition for normal human activity. Today, it is too early to talk about the real extent of the damage. The current estimates do not objectively cover all cases; they change daily. According to the estimates of the State Environmental Inspectorate of Ukraine, the armed aggression of the Russian Federation led to the following serious environmental consequences: air pollution (explosions and fires in the conflict zone caused emissions of harmful substances, such as nitrogen and sulfur oxides, hurting air quality and public health); water pollution (destruction of infrastructure and pollution by oil and chemicals led to serious pollution of rivers and reservoirs, threatening aquatic ecosystems and provision of drinking water for the local population); soil pollution.²¹

In general, the estimated losses calculated by the State Environmental Inspectorate by the approved methods amount to UAH 2,183 billion; 2,636 cases of damage and losses

¹⁹ Ibid, n.15.

²⁰ Furtherance of remedy and reparation for aggression against Ukraine: resolution adopted by the General Assembly (2022). Available online at: <https://digitallibrary.un.org/record/3994481?ln=en&v=pdf> (accessed on 14 August 2024).

²¹ The latest estimates show new data on the scale of damage caused to the environment. Available online at: <https://www.dei.gov.ua/post/2734> (accessed on 14 August 2024).

as a result of Russian armed aggression were recorded, and 1,478 cases were documented by the employees of the State Environmental Inspectorate of Ukraine.²² As a general rule, damage caused to natural objects and natural systems must be compensated. Under Art. 68 of the Law of Ukraine “On Environmental Protection”, damage caused as a result of violation of the legislation on environmental protection is subject to compensation in full.²³ This definition demonstrates the shortcomings of the national legislation: the definition of damage as a violation of the law does not provide an understanding of the concept of “environmental damage”.

Legal responsibility, which is provided for in the corresponding legislative acts on natural resources, is an important factor for compensation for damage caused to the environment as well as achieving the conditions for ensuring rational nature use, environmental protection and environmental security (Hetman, 2019). In the meantime, the Ukrainian environmental legislation did not stipulate the grounds, procedures and mechanisms for compensation for damage to the environment in a situation of full-scale military operations. Requirements and procedures valid until 24 February 2022, concerned environmental offences related, in particular, to exceeding emission or discharge standards by industrial enterprises; non-compliance by individuals and legal entities with requirements, obligations, prohibitions regarding the protection and use of natural resources, etc. Damage to the environment as a result of hostilities made it necessary to change both the legislation and the legal forms of the economic activity of entities in this area.

Analysis of the amount of damage to the environment, and individual natural objects and, on this basis, holding Russia accountable for the damage caused have become the primary tasks for competent state bodies and civil society as a whole. It is worth quoting the conclusion regarding the understanding of environmental damage, substantiated by M. V. Krasnova in her dissertation study devoted to the problems of compensation for damage under the environmental legislation of Ukraine. Environmental damage is the deterioration of the state of the environment, natural resources and complexes, and other natural objects that do not affect the private interests of individuals in a generally accepted sense. Therefore, in the event of such damage, no person can have a proprietary interest, on which a claim against the offender for compensation of damage would be based since the damage is caused to objects that do not belong to anyone, or to objects that belong to the whole society (Krasnova, 2010). Therefore, the main burden of work related to the collection, recording, and verification of evidence of the damage caused, development of methods, and calculation of compensation amounts is assigned to the Ministry of Environmental Protection and Natural Resources of Ukraine and the State Environmental Inspectorate of Ukraine. No less important is the activity of the Specialised Environmental Prosecutor’s Office and its units on the ground. According to the Regulation on the Specialised Environmental Prosecutor’s Office (under the authority of the Department) of the Prosecutor General’s Office one of the main tasks of this unit is: the administration and procedural oversight of pre-trial investigations, the resolution of

²² Consequences of military actions and impact on the environment. Available online at: <https://ecozagroza.gov.ua/> (accessed on 14 August 2024).

²³ On environmental protection. Law of Ukraine (1991). No. 1264-XII. Available online at: <https://zakon.rada.gov.ua/laws/show/1264-12#Text> (accessed on 14 August 2024).

various legal issues during criminal proceedings, and the maintenance of public accusations in criminal cases related to offences in environmental protection.²⁴

Civil society organisations also do a lot of work – environmental public organisations, international organisations, joint public initiatives that express and defend public ecological interest in a safe natural environment. For instance, the charity organisation “Environment-People-Law” began recording environmental crimes from the first weeks of the war and in July launched a regranting program, as part of which seven organisations were selected on a competitive basis: NGO “Ekosphere”, NGO “Ekosotsium”, NGO “Ukrainian Nature Conservation Group”, NGO “Kherson Regional Department of Sociological Association of Ukraine”, NGO “Merry Dolphin”, NGO “Black Sea/Odesa/Regional Branch of the Ukrainian Environmental Academy of Sciences”, NGO “Institute of Econology”, whose work involves documenting environmental crimes of war, improving methods of assessment of environmental damage, assessment of ecosystem services not received as a result of the war and recording data for the further formation of lawsuits in the international courts demanding compensation for damage to the environment of Ukraine.²⁵

It is valuable and effective to combine the efforts of various entities to develop an evidence base, because the available technical, organisational, and personnel resources of specialised state bodies are clearly insufficient. In March 2022, the Ministry of Environment of Ukraine created a working group on documenting crimes against the environment. It included representatives of public organisations and public environmental initiatives, such as “Ekoaction”, “SaveDnipro” and others (Oberenko, 2022). In the beginning of March 2022, the Operational Headquarters were established at the State Environmental Inspectorate to create a single register of the damage caused to the environment as a result of the invasion of the Russian Federation into the territory of Ukraine.²⁶ The general tasks of the Headquarters are to compile a list of all violations in the field of environmental protection and to hold Russia accountable. It includes experts from the State Environmental Inspectorate, representatives of the Committee of the Verkhovna Rada of Ukraine on Environmental Policy and Nature Management, the Ministry of Environmental Protection and Natural Resources of Ukraine as well as experts – representatives of public environmental organisations and scientific institutions.

What damage caused to the natural environment and its elements is subject to compensation? There are various types of legal responsibility in the field of environmental protection, namely: first, responsibility for violations of legislation in the field of environmental protection and the protection of the environmental rights and interests of individuals; secondly, responsibility for damage caused to the environment and environmental rights and interests by activities not prohibited by international or

²⁴ On the approval of the Regulation on the Specialized environmental prosecutor’s office (under the authority of the Department) of the Prosecutor General’s Office. Order of the Prosecutor General. (2023). No. 185. Available online at: <https://zakon.rada.gov.ua/laws/show/v0185905-23#Text> (accessed on 14 August 2024).

²⁵ The environment as a silent victim of war. Available online at: <http://epl.org.ua/announces/dovkillya-movchazna-zhertva-vijny/> (accessed on 14 August 2024).

²⁶ Operational headquarters at the State Environmental Inspectorate of Ukraine. Available online at: <https://shtab.gov.ua/> (accessed on 14 August 2024).

national law. These types of responsibility in international law are considered as different international legal categories. They are recognised by the UN International Law Commission which developed separate provisions for each type of responsibility. They are also defined differently in international law. In the meantime, international responsibility for breach of duty under the norms of international law is defined by the term “responsibility”, and responsibility for the harmful consequences of illegal actions that caused damage is defined by the term “liability” (Bazov, 2019).

As regards the prospects of consideration of relevant claims in international institutions, it is worth referring to the concept officially defined at the level of the European Union. A comprehensive normative understanding of “environmental damage” is contained in cl. 1, Art. 2 of Directive 2004/35/EU of the European Parliament and the European Council “On environmental liability with regard to the prevention and remedying of environmental damage” of 21 April 2004.²⁷

The concept of “damage” in the same Directive is interpreted as a measurable adverse change in a natural resource or measurable impairment of a natural resource service, which may occur directly or indirectly (cl. 2, Art. 2).

Undoubtedly, the ongoing war significantly complicates the collection and recording of evidence, documenting the cases of the damage caused. The main difficulties of data collection are related to the intensity and large-scale impact of the war, the destruction of monitoring observation points, the lack of a sufficient number of specialists, etc. Since the first days of the war, the Government of Ukraine and non-governmental organisations (NGOs) have introduced several tools for documenting environmental damage. For example, today the “EkoZagroza” monitoring panel works online with daily updated data on the impact of the war on the environment.²⁸ Such information must be properly documented and verified. The collection and recording of evidence must be based on recognised international practices to be considered by international institutions. It is of particular importance to observe the principles of objectivity and independence when forming the evidence base. Experts say that Kuwait (after Iraq’s military aggression) filed 168 environmental lawsuits for a total amount of \$85 billion but received only \$5.26 billion, i.e., 6.19% of the desired amount (Metyk, 2022).

Therefore, of considerable importance is the Resolution of the Verkhovna Rada of Ukraine of 20 September 2022 on the Address of the Verkhovna Rada of Ukraine to the General Assembly of the United Nations, the United Nations Environment Program, the European Parliament, the European Commission, the parliaments and governments of states that are members of the United Nations General Assembly regarding the formation of a special environmental monitoring mission to record environmental damage on the territory of Ukraine.²⁹ A working group was created to

²⁷ Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage // Official Journal of the European Union, 2004, L 143. pp. 56–75. Available online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02004L0035-20190626> (accessed on 14 August, 2024).

²⁸ Ibid, n.22.

²⁹ On the address of the Verkhovna Rada of Ukraine to the General Assembly of the United Nations, the United Nations Environment Program, the European Parliament, the European Commission, the

develop legal instruments for compensation for damage and losses caused to Ukraine as a result of the military aggression of the Russian Federation, including reparations, confiscation, contributions as well as steps for their implementation with regard to international legal mechanisms, international experience and judicial practice.³⁰

Specific forms, methods, and sources of a destructive impact on the environment in a situation of military operations necessitate a revision of the existing methods of determining the amount of damage caused to natural objects. Current methods do not establish a procedure for calculating damages in emergencies. For instance, by cl. 3 of the Methodology for calculating the amount of compensation for damage caused to the state as a result of above-standard emissions of pollutants into atmospheric air, it is not applied when violations of the legislation on the protection of atmospheric air are committed by business entities as a result of emissions of pollutants from unorganised stationary and mobile sources or related to the influence of physical and biological factors or caused by the irresistible forces of nature or military actions.³¹ In the meantime, from a doctrinal point of view, the general criteria that determine the legal characteristics of liability (compensation for damage), deserve attention: a) changes in the state of the natural environment that can be considered adverse only if they are caused by physical, biological or chemical factors, to which it is possible to apply regulations; b) the severity of the consequences that must be determined against the environmental quality standards defined in the law or technical regulations; c) scope of liability (Krasnova, 2010).

On 29 April 2022, the Cabinet of Ministers of Ukraine amended cl. 2 of the Procedure for determining damage and losses caused to Ukraine as a result of the military aggression of the Russian Federation and supplemented the directions for determining damage and losses with those related to the natural environment.³² Today, a calculation of damage should be made on the basis of the following environmental indicators: losses of the forest fund; subsoil losses; losses of the water area, losses of the natural reserve fund; damage caused to land resources; damage caused to atmospheric air; damage caused to water resources. For each of these indicators, as specified in the Resolution, the corresponding Methodologies have been approved.³³

parliaments and governments of states that are members of the United Nations General Assembly regarding the formation of a special environmental monitoring mission to record environmental damage, caused by the armed aggression of the Russian Federation on the territory of Ukraine. Resolution of the Verkhovna Rada of Ukraine. (2022). No. 2594-IX. Available online at: <https://zakon.rada.gov.ua/laws/show/2594-IX#Text> (accessed on 14 August 2024).

³⁰ On the working group on the development and implementation of international legal mechanisms for compensation for damage caused to Ukraine as a result of the military aggression of the Russian Federation. Decree of the President of Ukraine (2022). No. 346/2022. Available online at: <https://zakon.rada.gov.ua/laws/show/346/2022#Text> (accessed on 14 August 2024).

³¹ On the adoption of the Methodology for calculating the amount of compensation for damage caused to the state as a result of above-standard emissions of pollutants into atmospheric air. Order of the Ministry of Energy (2020). No. 227. Available online at: <https://zakon.rada.gov.ua/laws/show/z0414-20#Text> (accessed on 14 August 2024).

³² On Amendments to clause 2 the Procedure for determining damage and losses caused to Ukraine as a result of the military aggression of the Russian Federation. Resolution of the Cabinet of Ministers of Ukraine (2022). No. 551. Available online at: <https://zakon.rada.gov.ua/laws/show/551-2022-%D0%BF#Text> (accessed on 14 August 2024).

³³ On the adoption of the Methodology for determining the amount of damage caused to land and soil as a result of emergency situations and/or armed aggression and hostilities during martial law. Order of

These Methodologies introduce new concepts, methods and calculations of losses arising as a result of emergencies and/or military aggression and hostilities during martial law. The Methodology for calculating unorganised emissions of polluting substances or a mixture of such substances into atmospheric air as a result of emergencies and/or during the operation of martial law and determining the amount of the damage caused defines a new concept of “unorganised emissions” – emissions that enter atmospheric air in the form of undirected flows of a gas-dust mixture from pollution sources not equipped with special facilities for the removal of gases through gas ducts, pipes, and other facilities.

Nevertheless, to receive reparations, the national methods of calculating damages must correspond to international ones since the process of bringing the aggressor country to justice will be carried out at the international level. Analysts are noticing the fact that the introduced methods do not fully meet international standards. This opinion was expressed by A. Demydenko, a member of the Working Group at the Operational Headquarters of the State Environmental Inspectorate of Ukraine. The basis of the current methodology for atmospheric air is a calculation of the unpaid environmental tax on these emissions. This approach is wrong since this is damage to the budget, not to a natural resource, and compensation is given for damage to the resource (Lystopad, 2023).

the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 167. Available online at: <https://zakon.rada.gov.ua/laws/show/z0406-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for calculating unorganised emissions of polluting substances or mixtures of such substances into atmospheric air as a result of emergency situations and/or during martial law and determining the amount of damage caused. Order of the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 175. Available online at: <https://zakon.rada.gov.ua/laws/show/z0433-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for determining damage and losses caused to the land fund of Ukraine as a result of the military aggression of the Russian Federation. Order of the Ministry of Agrarian Policy and Food of Ukraine (2022). No. 295. Available online at: <https://zakon.rada.gov.ua/laws/show/z0586-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for determining the damage caused as a result of water pollution and/or clogging, arbitrary use of water resources. Order of the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 252. Available online at: <https://zakon.rada.gov.ua/laws/show/z0900-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for determining damage caused to the natural environment within the territorial sea, exclusive maritime (economic) zone and internal sea waters of Ukraine, in the Azov and Black Seas. Order of the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 309. Available online at: <https://zakon.rada.gov.ua/laws/show/z1253-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for determining the damage and losses caused to the natural environment due to arbitrary use of the subsoil as a result of the military aggression of the Russian Federation. Order of the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 366. Available online at: <https://zakon.rada.gov.ua/laws/show/z1337-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for determining the damage and losses caused to the forest fund as a result of the military aggression of the Russian Federation. Order of the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 414. Available online at: <https://zakon.rada.gov.ua/laws/show/z1308-22#Text> (accessed on 14 August 2024); On the adoption of the Methodology for determining damage and losses caused to the territories and objects of the nature reserve fund as a result of the military aggression of the Russian Federation. Order of the Ministry of Environmental Protection and Natural Resources of Ukraine (2022). No. 424. Available online at: <https://zakon.rada.gov.ua/laws/show/z1416-22#Text> (accessed on 14 August 2024).

The Search for Effective Mechanisms to Hold Russia Accountable for Environmental Damage

The next step in reparations for environmental damage caused by the war is to find effective institutions to decide and implement future reparations.

There is no real possibility of bringing the culprits to justice and receiving compensation for the damage caused to natural objects within the national judicial system. According to experts: the most progressive domestic legislation on the assessment of environmental losses as a result of Russian aggression will not work without implementing appropriate procedures for the seizure of Russian assets, resolving the issue of the removal of immunity from Russian property and the actual recovery of the assets of the Russian Federation and persons directly involved in starting the war against Ukraine (Ripenko, 2022).

International law allows for different forms of paying compensation for damage caused by the military aggression of another state through judicial or quasi-judicial mechanisms, which are usually not mutually exclusive or mutually dependent. The main indicator for choosing one or another compensation mechanism is its effectiveness, i.e., the decision of the court or other competent authority must be implemented and fair compensation received. Currently, there is no universal effective mechanism for real compensation for environmental damage caused by the military aggression against Ukraine.

Let us consider the UN International Court of Justice. According to Art. 92 of the Charter of the United Nations: ‘The International Court of Justice shall be the principal judicial organ of the United Nations. It shall function by the annexed Statute, which is based upon the Statute of the Permanent Court of International Justice and forms an integral part of the present Charter.’³⁴

Scholars confirm the jurisdiction of the UN International Court regarding acts of aggression, in particular, in terms of violating the principle of the non-use of force in interstate relations (Kasyaniuk, 2018). It should also be noted that on 16 March 2022, this Court issued a decision on the request for interim relief in the genocide case *Ukraine v. Russia*, requiring Russia to immediately cease all hostilities in Ukraine and withdraw all military and irregular military forces under its control or influence. However, according to Art. 94 of the UN Charter, the main problem is the lack of enforcement mechanisms.³⁵

As noted by international experts, the Court’s order: Will not have much practical significance for current efforts to gather evidence for use in future prosecutions of war crimes. The Security Council will remain paralysed when it comes to adopting resolutions under Chapter VII of the UN Charter for the foreseeable future (Keitner *et al.*, 2022).

³⁴ Charter of the United Nations (1945). Available online at: <https://www.un.org/en/about-us/un-charter> (accessed on 14 August, 2024).

³⁵ *Ibid*, n.34.

The next body is the International Criminal Court, guided in its activities by an international multilateral treaty – the Rome Statute. Having jurisdiction over the most serious crimes of concern to the entire international community – crimes of genocide, crimes against humanity, war crimes and a crime of aggression, the International Criminal Court can exercise its functions and powers on the territory of any participating state, and, by a special agreement, on the territory of any other state that is not a party to the Rome Statute (Bazov, 2019). Nevertheless, the Rome Statute does not provide for such a crime as ecocide, despite the fact that corresponding proposals have been extensively developed by international experts in recent years.³⁶ Even if the International Criminal Court recognises the damage to the environment as large-scale, long-lasting and severe, ie a war crime within the meaning of Art. 5 of the Rome Statute, will it be possible to award compensation to Ukraine for environmental damage if the ICC considers such a case? According to the practice of the court, compensation for damage is not its main task; however, it is noted that compensation for material and moral damage can be received by victims.

The European Court of Human Rights can be considered ineffective today, because the implementation of the decisions of the European Court of Human Rights against Russia is currently unlikely or almost impossible since the Russian parliament adopted a law on non-implementation of the decisions of the European Court of Human Rights issued after 15 March 2022. In addition, on 16 March 2022, Russia left the Council of Europe, and the possibility of filing a complaint against Russia to the European Court of Human Rights was available until 16 September 2022. Another international quasi-judicial, or rather a political body, is the UN Compensation Commission, whose creation is known regarding compensation by Iraq for the damage caused to Kuwait. It was established under Security Council Resolution 692 (1991) to compensate successful claimants. The commission received a percentage of the revenues from the export sales of Iraqi oil and petroleum products. The United Nations Compensation Commission has awarded \$52.4 billion in compensation to more than 1.5 million successful claimants. The mandate of the Compensation Commission included consideration of claims for direct environmental damage and depletion of natural resources, including damage or expenses for: mitigation and prevention of environmental damage, including expenses for fighting oil fires and cleaning coastal and international waters from oil; adequate measures have already been taken for cleaning and restoration of the environment or future measures that have documentary evidence of their necessity for cleaning and restoration of the environment; adequate monitoring and assessment of damage to the environment to assess and mitigate damage and restoring the environment and others.³⁷ However, the creation of such a body in Ukraine's situation is hardly realistic, considering that the decision is made at the level of the UN Security Council, of which Russia is a member with the right of veto. Therefore, the most important task of the Ukrainian state today is, using the experience of relevant international institutions, to establish a separate specialised

³⁶ Is it time for “ecocide” to become an international crime? Available online at: <https://www.economist.com/international/2021/02/28/is-it-time-for-ecocide-to-become-an-international-crime> (accessed on 14 August, 2024).

³⁷ The UN Compensation Commission – the prospect of financing environmental restoration in Ukraine after the war with the Russian Federation. Available online at: <http://epl.org.ua/wp-content/uploads/2022/05/Kompensatsijna-komisiya-OON.pdf> (accessed on 14 August, 2024).

court based on the Ad Hoc principle as well as a fund to guarantee payments at the expense of, among other things, the confiscated assets of the aggressor state. In our opinion, the only effective mechanism is establishing a special compensation commission that should become the platform for consideration of a wide range of possible claims under international law filed by various groups of injured parties, including states, international organisations, individuals and legal entities.

The working group of Ukraine proposed concluding an international agreement on establishing a compensation mechanism for the damage caused by Russian aggression. It is assumed that strategic partners will be involved in the agreement, on whose territory most of the frozen assets of the Russian Federation are located. Based on the agreement, a permanent commission will be created to consider lawsuits or applications for compensation of losses. In addition, the agreement will stipulate the obligations of the states that are parties to such an agreement regarding the blocking, confiscation and transfer of Russian assets under their jurisdiction to the compensation fund (Mudra, 2022). To withdraw the sovereign assets of the Russian Federation in favour of Ukraine, the partner countries must have legal opportunities. This model of the compensation mechanism raises questions without answers.

A completely different approach was proposed by the Minister of Justice of Ukraine, D. Maliuska. In his opinion, the process of concluding an international agreement with many states can be long and unpredictable. Signing bilateral agreements with countries where Russian assets are located is thought to accelerate this process. Such a preliminary agreement exists with Latvia (Maliuska, 2022). It provides for the seizure of Russian assets in favour of Ukraine based on national legislation, not the creation of a multilateral international mechanism for compensation or an International Claims Commission. Therefore, finding mechanisms and gaining experience in compensating for damage to the environment of our state is a difficult and long-term task (Churylova and Strelnyk, 2022).

There are three problems accompanying any compensation commission that will be created to compensate for the damage to Ukraine, which are common to many reparations programs and which require an urgent solution to effectively compensate for the damage to the environment: institutional capacity (properly defining the jurisdiction of this commission, prescribing a clear procedure for consideration of claims and decision-making), funding (the provision of the commission's activities by a special fund that will be financed from Russian assets and its related legal entities and individuals, which are frozen/removed by states; direct contributions from Russia and other organisations) and timeliness (absence of a lengthy procedure for considering the case, the possibility of implementing decisions at the expense of the special fund).

Ensuring Environmental Security as the Goal of the Post-War Environmental Policy of Ukraine

Even in the conditions of the war, the future main priorities of a comprehensive policy of response to the environmental consequences of the war should be considered. In particular, following the results of the meeting of the International Working Group on

the Environmental Consequences of War,³⁸ the framework document of the International Working Group on the Environmental Consequences of War was adopted (15 September 2023) that stipulates that the main directions of work in overcoming the adverse environmental consequences of war are:

- 1) damage assessment: the government of Ukraine should continue to collect information about the damage on an ongoing basis, involving the Ukrainian society;
- 2) criminal prosecution for committing crimes against the environment: attacks during armed conflict that intentionally cause serious damage to the environment are a clear violation of international humanitarian law and constitute a war crime under the Rome Statute of the International Criminal Court. In Ukrainian legislation actions causing an ecological disaster are specifically defined as ecocide;
- 3) green recovery: while recovering from the devastation caused by the war, Ukraine also has the very difficult task of fully transitioning to a green economy. To date, the independent assessment has identified guiding principles for recovery, but more specificity is needed to implement the best policies and priorities across all environmental and economic sectors.³⁹

A safe state of the environment means that it does not adversely affect human health and the functioning of living organisms and has chemical, physical, biological, and other elements that do not disturb a natural balance between humans and the environment and do not exceed the safety standards established by legislation. In practice, to ensure the right to an environment safe for life and health, it is important to develop clear criteria on the basis of which it would be possible to determine the safety or danger to the environment. The main requirements for the quality of the environment are contained in environmental standards and regulations. Today, such basic criteria in Ukraine are environmental security standards (standards of maximum permissible concentrations of pollutants in the natural environment, maximum permissible levels of harmful physical and biological effects on it). Exceeding these standards will be a violation of the right to a safe environment (Kobetska, 2008).

However, the understanding and meaning of environmental security is much broader and is not limited to interpreting it as the right to the natural environment that is safe for life and health.

The concept of environmental security is multifaceted, and even within the framework of the Law of Ukraine “On Environmental Protection” scholars interpret it in several ways: 1) as the intention to ensure the environmental security of human activities (Part 1 of the Preamble to the Law); 2) as a component of the state’s environmental policy aimed at preserving the environment safe for the existence of living and non-living

³⁸ Ruslan Strilets took part in the second meeting of the International working group on the environmental consequences of the war. Available online at: <https://mepr.gov.ua/ruslan-strilets-vzyav-uchast-u-drugomu-zasidanni-mizhnarodnoyi-robochoyi-grupy-shhodo-ekologichnyh-naslidkiv-vijny/> (accessed on 14 August, 2024).

³⁹ Framework document: High-level working group on environmental consequences of war. Available online at: https://www.president.gov.ua/storage/j-files-storage/01/20/45/e763357d648c04ac25db118120df330d_1694848461.pdf (accessed on 14 August, 2024).

nature, protecting the life and health of the population from the adverse impact caused by environmental pollution (Part 2 of the Preamble to the Law); 3) as one of the tasks of the legislation on environmental protection (Art. 1 of the Law); 4) as the main principle of environmental protection (cl. a and b of Art. 3 of the Law); 5) as a subjective environmental right of citizens (cl. a, Art. 9 of the Law); 6) as a duty of citizens in the field of environmental protection (cl. b of Art. 12 of the Law); 7) as the goal of management in the field of environmental protection (part 5, p. 16 of the Law); 8) as a separate area of environmental protection activity (Chapter XI of the Law) (Krasnova, 2019).

By Part 1 of Art. 50 of the Law, environmental security should be understood as a state of the natural environment that prevents the deterioration of the ecological situation and the occurrence of danger to people's health. Environmental security is guaranteed to the citizens of Ukraine by implementing a wide range of interconnected political, economic, technical, organisational, and other measures (Part 2, Art. 50 of the Law). Analysis of Chapter XI "Measures to ensure environmental security" of the Law demonstrates that this system of measures also includes compliance with environmental security requirements for military and defence facilities, and military activities, as stated in Art. 58 of the Law. Under Part 2 of Art. 58 of the Law, environmental security requirements must also be observed during the deployment of military units, military exercises, manoeuvres, movement of troops and military equipment, except for special situations declared in accordance with the legislation of Ukraine. This exception constitutes the conditions for waging a full-scale war on the territory of the state. After all, in the realities of martial law, when the priority goals are the defence of the country, and the preservation of the lives of citizens and their property, compliance with the requirements of environmental security becomes an extremely difficult task. In this case, the environment turns into a silent victim of military operations, as the state of natural objects and their resources deteriorates significantly. This, in turn, not only adversely affects the ecosystem but can also cause danger to the health and lives of people.

In 2014, with the signing of the Association Agreement, Ukraine announced its European integration intentions, and in June 2022, received the status of a candidate for EU membership.⁴⁰ In 2019, the European Union adopted the so-called "green" approach in its policy and activities, which, as stipulated by the European Green Deal, aims to achieve climate neutrality on the European continent by 2050. Several new EU strategies were revised and developed to fulfil the tasks of the European Green Deal.⁴¹ Accordingly, Ukraine's gradual implementation of the goals of the European Green Agreement and all derivative documents is an inevitable task. Therefore, the post-war restoration of the Ukrainian environment should be multifunctional, because, in

⁴⁰ Association Agreement between the European Union and the European Atomic Energy Community and their Member States, of the one part, and Ukraine, of the other part // Official Journal of the European Union, 2014, L 161. pp. 3–2137. Available online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02014A0529%2801%29-20231201> (accessed on 14 August, 2024).

⁴¹ The European Green Deal. Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions. (2019). COM/2019/640 final. Available online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2019%3A640%3AFIN> (accessed on 14 August, 2024).

addition to eliminating the consequences of military actions, it should also meet the new standards of the European community. In July 2022, on the website of the Cabinet of Ministers of Ukraine, the National Council for the Recovery of Ukraine from the Consequences of the War published the Draft Plan for the Recovery of Ukraine.⁴² According to the Project, the strategic goal of the post-war reconstruction is a clean and safe environment: the integration of climate goals into all sectors of the economy and social life; minimisation of environmental security risks (chemical and radiation security); reduction and prevention of industrial pollution and introduction of the “polluter pays” principle; effective waste management; balanced use of natural resources and ensuring their proper quality; restoration and development of nature conservation areas, preservation of biodiversity, expanding the area of natural ecosystems and balancing of landscapes; achieving European standards of public administration in the field of environmental protection.

To achieve these goals, it is necessary to implement key reforms: an integrated climate policy; environmental security (chemical and radiation); reform of industrial pollution regulation; effective waste management; balanced use of natural resources; management of nature conservation areas to preserve landscape and biological diversity; effective state management in the field of environmental protection; environmental control and legal responsibility; comprehensive environmental monitoring.

Conclusion

The environment, as a silent victim of war, needs more effective protection during armed conflict, as well as the development of powerful international mechanisms for determining and compensating for damage caused by the consequences of war. Environmental protection should not only apply the rules for civilian objects but also recognize the need for special protection of the environment as such. Introducing the principle of respect for the natural environment into the norms of customary and contractual IHL would redefine the environment as not only part of human habitat protection but as an independent object requiring protection during armed conflict. The path to harmonisation will lie in rapprochement and cooperation between the norms of international environmental law and international humanitarian law, and the search for a balance between the environmental policy of society and the policy of the participants in armed conflict in achieving the goals of the war.

An important issue of the research is the search for a legal mechanism for the proper provision of compensation for damage caused to the environment, a calculation of the amount of damage, and an effective procedure for such compensation. The article outlines the main problems, results and prospects of the newest mechanism being formed in Ukraine to ensure compensation for the damage caused to the environment by Russia’s military actions.

In the process of the research attention is focused on the following key issues:

⁴² Project of the recovery plan of Ukraine. Materials of the working group “Environmental security”. Available online at: <https://www.kmu.gov.ua/storage/app/sites/1/recoveryrada/ua/environmental-safety-assembly.pdf> (accessed on 14 August, 2024).

- Types and features of the activity of subjects (state authorities and civil society organisations) in ensuring compensation for the damage to the environment caused by military actions.
- Problems of collection, analysis, recording and verification of evidence of the damage caused. The importance of ensuring objective and independent formation of the evidence base and the involvement of representatives of foreign states and international organisations in this process is emphasised.
- Normative mechanisms for determining the amount of compensation for damage. The latest legal prescriptions regulating directions and types of compensation are indicated.
- Prospects and problems of achieving real compensation for damage. A list of international judicial and quasi-judicial bodies that can extend their competence to consider such categories of cases and problematic aspects of the involvement of each of them are identified. The need to create a separate specialised court based on the Ad Hoc principle.

This study also defines the prospects of Ukraine's post-war environmental policy from the perspective of ensuring environmental security. For this purpose, the definition of a safe environment and the concept of environmental security are analysed as well as the provisions of the Law of Ukraine "On Environmental Protection" on the subject of guaranteeing environmental security in wartime. It is concluded that Ukraine's gradual implementation of the goals of the European Green Agreement and all derivative documents is an inevitable task. Therefore, the post-war restoration of the Ukrainian environment should address both the consequences of military actions and the new European standards. The goals of the post-war restoration of Ukraine's environment and the directions of key environmental reforms are determined.

References

- Akpoghome, T.U. and Worluh-Okolie, N.H. (2024). Protection of the Environment under International Humanitarian Law Regime: Challenges and Way Forward. *Journal of Environmental Law and Policy*, 04(02): 47–70. DOI: <https://doi.org/10.33002/jelp040202>.
- Bazov, O. (2019). Some issues of international legal responsibility in the sphere of the natural environment. *Judicial Protection of the Natural Environment and Environmental Rights*, pp. 164–172.
- Bazov, O. (2019). The issue of the international legal status of the International Criminal Court. *Public Law*, 3(35): 46–52.
- Blaha, A.B., Zahorodniuk, I.V., Korotkyi, T.R., Martynenko, O.A., Medvedeva, M.O. and Parkhomenko V.V. (2017). *On the edge of survival: destruction of the environment during the armed conflict in eastern Ukraine*. Kyiv: KYT.
- Churylova, T.M. and Strelnyk, V.V. (2022). Problems of compensation for damage to the environment of Ukraine caused by the military aggression of the Russian Federation. *Environmental Law*, 3–4: 91–95.
- Hetman, A.P. (2019). *Doctrine of environmental law and legislation of Ukraine*. Kharkiv: Oberih LLC.

- Kasyniuk, I.V. (2018). Jurisdiction of the International Court of Justice of the United Nations regarding acts of aggression. *Scientific Bulletin of Uzhhorod National University*, 47(2): 169–179.
- Keitner, C., Tatarsky, Z. and Just Security (2022). Questions and answers: Order of the UN International Court of Justice on temporary measures in the case of Ukraine against the Russian Federation, Just Security, 16 March 2022. Available online at: <https://www.justsecurity.org/80814/qa-icj-order-on-provisional-measures-ukraine-russia-ua/> (accessed on 14 August 2024).
- Khrushch, O., Moskalets, V., Fedyk, O., Karpiuk, Y., Hasiuk, M., Ivantsev, N., Ivantsev, L. and Arjjumend, H. (2023). Environmental and Psychological Effects of Russian War in Ukraine. *Grassroots Journal of Natural Resources*, 6(1): 37–84. DOI: <https://doi.org/10.33002/nr2581.6853.060103>.
- Kobetska, N.R. (2008). *Environmental law of Ukraine: academic manual*. Kyiv: Yurinkom Inter.
- Kovalenko, V., Komarynska, Y., Klymchuk, M., Pavluk, O. and Korshykova, T. (2024). International and National Mechanisms Combating Ecosystems' Damage and Environmental Crimes to Foster Sustainable Development. *Grassroots Journal of Natural Resources*, 7(2): 63–82. DOI: <https://doi.org/10.33002/nr2581.6853.070203>.
- Krasnova, M.V. (2010). Problems of compensation for damage under the ecological legislation of Ukraine. Dissertation Abstract, Taras Shevchenko National University of Kyiv, Kyiv, Ukraine, 36 p.
- Krasnova, Y.A., (2019). *Environmental security law: a study guide*. Kyiv: Comprint.
- Lystopad, O. (2023). Will Russia be responsible for the destroyed environment?, Svit, 8 June 2023. Available online at: <https://svit.kpi.ua/2023/06/08/чi-вiдповiсть-росiя-за-зруйноване-дов/> (accessed on 14 August 2024).
- Maliuska, D. (2022). The Russians are not ready for negotiations. They want us to give up, RBC-Ukraine, 26 July 2022. Available online at: <https://shorturl.at/cQXTM> (accessed on 14 August 2024).
- Malysheva, N. and Hurova, A. (2024). Environmental Consequences of the Kakhovka H.P.P. Destruction in Ukraine: Challenge and Opportunity for International Justice. *Journal of Environmental Law and Policy*, 04(01): 84–104. DOI: <https://doi.org/10.33002/jelp040104>.
- Mudra, I. (2022). How to compensate for the damage from the invasion of the Russian Federation, Korespondent.net, 27 June 2022. Available online at: <https://shorturl.at/gvglx> (accessed on 14 August 2024).
- Medvedeva, M.O., Hnatovskiy, M. M. and Korotkiy T.R. (2016). *International humanitarian law. Handbook on international legal protection of the environment during armed conflict*. Odesa: Feniks.
- Metyk, T. (2022). Who will hold Russia accountable for crimes against the environment, Vysokyi Zamok, 2 August 2022. Available online at: <https://wz.lviv.ua/ukraine/468407-khto-pryiahne-rosiiu-do-vidpovidalnosti-za-zlochyny-proty-dovkillia> (accessed on 14 August 2024).
- Nazarchuk, I. (2023). Blowing up of the Kakhovska Dam in a series of systemic violations of international law by the Russian Federation, Yurydychna Hazeta online, 6 July 2023. Available online at: <https://shorturl.at/B4Tc6> (accessed on 14 August 2024).

- Oberenko, O. (2022). Crimes against the environment: how environmentalists plan to hold Russia accountable, The International Renaissance Foundation, 14 April 2022. Available online at: <https://www.irf.ua/zlochyny-proty-dovkillya-yak-ekology-planuyut-prytyagnuty-rosiyu-do-vidpovidalnosti/> (accessed on 14 August 2024).
- Ripenko, A. (2022). Will the damage to the environment as a result of the war be compensated?, Liha.net, 7 September 2022. Available online at: <https://blog.liga.net/user/aripenko/article/46830> (accessed on 14 August 2024).
- Verwey, W. (1995). Protection of the environment in times of armed conflict: in search of a new legal perspective. *Leiden Journal of International Law*, 8(1): 7–40.

Authors' Declarations and Essential Ethical Compliances

Authors' Contributions (in accordance with ICMJE criteria for authorship)

<i>Contribution</i>	<i>Author 1</i>	<i>Author 2</i>	<i>Author 3</i>
Conceived and designed the research or analysis	No	No	Yes
Collected the data	Yes	Yes	Yes
Contributed to data analysis & interpretation	Yes	Yes	Yes
Wrote the article/paper	Yes	Yes	Yes
Critical revision of the article/paper	No	No	Yes
Editing of the article/paper	No	Yes	No
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The author(s) solemnly declare(s) that this research has not involved any human subject (body or organs) for experimentation. It was not a clinical research. The contexts of human population/participation were only indirectly covered through literature review. Therefore, an Ethical Clearance (from a Committee or Authority) or ethical obligation of Helsinki Declaration does not apply in cases of this study or written work.

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The author(s) solemnly declare(s) that this research has not involved any animal subject (body or organs) for experimentation. The research was not based on laboratory experiment involving any kind animal. The contexts of animals were only indirectly covered through literature review. Therefore, an Ethical Clearance (from a Committee or Authority) or ethical obligation of ARRIVE does not apply in cases of this study or written work.

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