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War in Ukraine: the case for environmental peacebuilding and reparations

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Abstract

Russia's current large-scale unprovoked invasion of Ukraine demonstrates that the environment matters, even though it is considered a secondary issue during conflicts. The war has dire consequences for people and nature, in both Ukraine and other European states. The Ukrainian case is viewed as a global system transformation factor: it has seen transboundary effects throughout the regions and the world. Of growing importance is the need to investigate the main principles and approaches in respect of environmental peacebuilding. We argue that this current war against Ukraine has proved that the world needs new approaches to sustainable peacebuilding, including environmental reparation and justice, and we propose a possible reparation mechanism through the world's first Carbon Border Adjustment Mechanism (CBAM).

Keywords

War against Ukraine, environmental damage, human cost, environmental peacebuilding, sustainable peace, environmental reparation, Carbon Border Adjustment Mechanism (CBAM).

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Introduction

Armed conflict in eastern Ukraine erupted in early 2014 after Russia's annexation of Crimea, followed by Russia's full-scale war on Ukraine on 24 February 2022. This unprovoked war has had significant humanitarian consequences, primarily in the areas of food and energy security, as well as a devastating impact on the environment. The Ukrainian government estimates that measurable environmental damage has so far reached $46 billion, and is still rising as the war continues.[1] This includes direct war damage to forests, soil, water and air, and pollution from the shelling of thousands of facilities holding toxic and hazardous materials. The long-term costs to Ukraine's lost ecosystems are much more difficult to quantify. How can this massive environmental damage be repaired? Ukraine has a clear goal of forcing Russia to pay reparations, including for environmental damage caused by the war. This commentary explains the context and proposes a possible reparation mechanism through tax legislation.

Research and institutional approaches to environmental peacebuilding

Increasingly, the connections between the environment, climate and security are studied in academic research and have also gained political attention.[2] Traditionally, the environmental impact of armed conflicts is concentrated on the use of natural resources to finance armed conflict, the ecological disasters after hostilities, and the links between post-conflict peacebuilding, climate resilience and natural resource management. Concepts such as peacebuilding, peacemaking and peacekeeping are a growing area of concern in contemporary research. In December 2021, the UN Department of Peace Operations (DPO) joined the Climate Security Mechanism – which brings it together with the UN Department of Political and Peacebuilding Affairs (DPPA), UN Environment Programme (UNEP), and UN Development Programme (UNDP) to jointly address climate-related security risks. Within this framework, DPO intends to develop its mission capacity to incorporate environmental and climate-related factors into their mandates. This constitutes an important signal that environmental peacebuilding procedures will be integrated into the institutional capacity of UN bodies.

One notable trend in numerous research projects on environmental peacebuilding and peacekeeping focuses, first and foremost, on the prevention of conflicts resulting from the lack of resources and the struggle for access to them. Simultaneously, there is the important issue of post-conflict recovery that covers inclusive and sustainable management of natural resources and equal access to them, as well as the renewal of environmental infrastructure aiming to build secure livelihoods and to develop institutional capacity for co-operation between different actors even if their relations are hostile or characterised by mistrust.

Increasingly, the issues of justice and punishment of the aggressor, including reparations for the restoration of infrastructure and moral compensations, are incorporated into peace negotiation processes.[3] Unfortunately, the environment and climate as the silent victims of violent conflict are often directly harmed by hostilities through use of special weapons targeting industrial facilities

[1] Ivano-Frankivsk Regional State Administration (2023).
[2] Ide *et al.* (2021a); Bruch *et al.* (2016); Ide *et al.* (2021b).
[3] Dixon (2017); Stahn & Iverson (2020); Ohlsson (2018); Firchow & Mac Ginty (2013).

and infrastructure, or the use of so-called 'scorched earth tactics'. Nevertheless, environmental and climate damage is for the most part not on the table in the post-war negotiations.

Environmental damage and human cost of the Russian aggression against Ukraine

Ukraine has suffered unprecedented environmental damage during the unprovoked war with Russia. The environmental impact of a war with Russia over a year long is increasing in much of the country, and it has long-term consequences globally as well. Moscow's attacks on fuel depots, energy and industry facilities have led to the release of toxins into the air and groundwater, threatening biodiversity, climate stability and public health. Missile attacks not only cause physical damage but also lead to toxic pollution. After each shelling, particles of toxic substances[4] such as lead, mercury, depleted uranium and many others are released into the air, water and soil. Ruined buildings emit cancerogenic dust for decades. Heavy metals and chemicals seep into underground waters and poison water sources, killing all aquatic life. Subsequently, the soil in areas of military conflict is no longer suitable for agriculture, as plants absorb and accumulate the pollutants. More than 3 million acres of protected nature reserves in Ukraine (more than 30 per cent) have become a war-zone. Populations of rare and migratory species have suffered significant losses; birds were forced to leave their nests and change their usual migration routes. Up to 600 animals and 750 plants and fungi, including endangered species, are under threat. The efforts of decade-long conservation projects have been destroyed.[5]

The war directly resulted in the emission of 97 million tons of greenhouse gases between February and September 2022. This amount is equivalent to adding almost 16 million cars on roads over two years in Britain. Moreover, rebuilding Ukraine will cause significantly more emissions, creating up to 49 million tons of carbon dioxide per year according to the Ministry of Environment of Ukraine.[6]

There is currently no international standard for measuring ecological damage from conflict.[7] However, since the February 2022 invasion, the Ukrainian environment ministry has developed methodologies for determining damage and losses in the areas of water, air, subsoil resources and nature reserves, and continues to refine them. All the work to develop these assessment methodologies that has been prompted by the war may eventually have much international applicability, or at least help to unify current approaches.

As a consequence of war, according to the World Wildlife Fund,[8] more than 6 million Ukrainians have limited or no access to clean water, and more than 280,000 hectares (nearly 692,000 acres) of forests have been destroyed or felled. Significant damage was caused to water infrastructure, including pumping stations, treatment plants, and sewage facilities.

According to preliminary data, it will take Ukraine's nature at least 15 years to recover, and it will need more than $46 billion for restoration and at least decade for demining the country.[9]

[4] Vasyliuk & Kolodezhna (2022).
[5] Bieloussova (2023).
[6] BBC (2022).
[7] de Klerk *et al.* (2022).
[8] WWF (2022).
[9] SIPRI (2023).

International experience of environmental reparations

There is still no evidence of the war in Ukraine ending soon, but the international community is already discussing how to force Russia to pay for the damage caused on Ukrainian territory. On 14 November 2022, the resolution of the UN General Assembly calling on Russia to pay reparations received 94 votes in favour, 14 states voted against the resolution, and 73 abstained.

It is worth mentioning that claims of environmental crimes have been relatively rare, although there was a precedent. After the Persian Gulf War in the early 1990s, the UN Security Council voted to compel Iraq to pay reparations to Kuwait, 'including environmental damage', which ended up totalling about $5 billion out of the $52 billion of post-war financial obligations.[10] The Special Commission of UN was established with a view to develop the procedure of managing the ecological damage. As a result, it took Iraq 30 years to pay this compensation debt – which it finally did in February 2022.

The second case is a conflict between Costa Rica and Nicaragua. At the end of 2010, Costa Rica filed a case against Nicaragua at the International Court of the UN (ICUN), regarding Nicaragua's invasion of Costa Rican territory and its occupation, the construction of a canal, known as 'caño', and carrying out certain drainage works on the San Juan River and others. The ICUN concluded that sovereignty over the disputed territory belongs to Costa Rica and recognised that the activities carried out by Nicaragua are a violation of the territorial sovereignty of Costa Rica. As a result, Nicaragua was obliged to pay compensation for the damage caused including environmental compensation in the amount of up to $379 million.[11]

In Ukraine, reconstruction costs are uncertain because the course of the war is indeterminate. For now, the damage caused to Ukraine is likely to be much larger: according to a report by the World Bank and the Ukrainian government, the country's recovery will cost almost $350 billion.[12] At first glance it seems it is not an impossible amount of aid for donors. So, this is more than 40 per cent of the NextGenerationEU programme, which EU countries agreed on in July 2020,[13] and it is roughly 20 per cent of the US Rescue Plan Act signed by Joe Biden in March 2021.[14] However, it seems misplaced to ask the EU and US to mend what Russia has broken in Ukraine. Additionally, it may be a signal to other dictators that they can avoid responsibility. Attempts to force Russia to pay any reparations, for example, by confiscating Russian assets held abroad, face a complex set of legal and diplomatic obstacles. The lack of consensus on reparations has led some national legislatures to initiate special procedures. Thus, the US and Canada have launched legal moves to pay reparations by repurposing frozen assets, including yachts and property held abroad by Russian oligarchs. So far, the EU has drawn up plans that mainly focus on criminal responsibility, rather than financial reparations. Germany alone, for example, says it has frozen €4.5 billion of Russian assets.[15] In this context the next important step would be to move from freezing Russian assets, to seizing and handing them to an international body who would use them to pay reparation to Ukraine. Unquestionably, the Bank of Russia's frozen reserves in the sum of $284 billion would partly cover the Ukrainian bill, but it may at the same time undermine the faith in the global

[10] *Kuwait Times* (2022); EPL (2022).
[11] Herbert Smith Freehills (2018).
[12] World Bank (2022).
[13] https://next-generation-eu.europa.eu/index_en
[14] White House (2021).
[15] *Guardian* (2022).

financial system without some sort of special legal framework. This could significantly delay reparation payments at a time when Ukraine is in immediate need of huge funds. One possible way of avoiding these limitations would be to incorporate environmental and climate reparations into existing financial tools. This is where the EU's Carbon Border Adjustment Mechanism (CBAM) provides a possible route.

A proposal for CBAM as the basis of climate-friendly development and sustainable peace

The European Commission recently introduced the world's first Carbon Border Adjustment Mechanism (CBAM) that is based on values of climate protection and contributions to the achievement of climate neutrality of EU states by 2050. CBAM will initially cover specific products in some of the most carbon-intensive sectors, including electricity, iron, steel, aluminum, cement and fertiliser. The EU's primary mechanism for incentivising the industry to decarbonise is through carbon pricing that predictably will rise substantially. CBAM extends the concept of carbon pricing to imports for the first time. From 2026 onwards, the full CBAM will start and the levy – linked to the EU's carbon market price, currently around €90/ton – will be payable. It means that exporters to the EU should buy CBAM-certificates that will cover the price differences between the EU and the state-of-origin markets in the Emissions Trading System (ETS). The CBAM deal casts new light on the attempts to accelerate the decarbonisation of the carbon-intensive industries, and hopes to become a driver of speeding-up the decarbonisation of non-EU states.

CBAM: an environmental reparation mechanism for Ukraine

A possible solution for Ukraine would be the establishment of repayments by Russia within the CBAM funds. Payments under CBAM's certification[16] could be deposited into the special account for financing reparations on ecological and climate damages to Ukraine. Moreover, a supplementary environmental peacebuilding tax in respect of goods and services from aggressor country/countries aiming to cover environmental and climate damage of the affected state(s) could be established. This tax could be extended to third countries that use raw materials or other resources from the aggressor country for the production of their goods and export them to other countries. Funds generated within the framework of the environmental tax mechanism, in other words environmental and climate reparations, would be used for funding in order to overcome negative impacts on the environment in the suffered country.

It is assumed that Russia will remain a trade partner of the EU for the next decade at least, with the CBAM covering goods including iron ore, aluminum and others that are not on the sanction list. In this way, such an approach provides the opportunity to force Russia to pay environmental and climate reparations to Ukraine through the CBAM or other taxation mechanism.

[16] Before export to the EU, regarding CBAM procedure, the importer should buy CBAM-certificates that will cover the differences of CO_2 price between the EU market and the third state. Next, the payment of this certificate will flow to three EU funds – Modernisation Fund, Innovation Fund, and Social Climate Fund. The first two funds will cover the needs of the EU business in decarbonisation; the Social Climate Fund will focus on supporting decarbonisation in the developing states and, potentially, it may be a part of environmental reparation mechanism.

In the case of Russia voluntarily leaving the European markets that are under CBAM regulations and thereby avoiding the payment of reparations to Ukraine, Russia's market share could be captured by low-carbon emission businesses from such states as Ukraine, United Kingdom, Norway, Turkey, and others. Potentially, Russia could reorient export flows to Asian markets, but shifting the focus to this market space would hypothetically be accompanied by price dumping. Such a situation would significantly reduce the export revenues to the Russian budget and its ability to direct funds to the defence industry. For example, according to 2018 data, the share of revenues to the Russian budget from the export of metals amounted to 9.9 per cent.

The implementation of such an approach simultaneously and naturally could contribute to Russia`s decarbonisation by means of growing investments in sustainable development, making its economy more climate-friendly. In addition, the influence of oligarch groups on the government and economy, as traditionally Russian oligarch's clans have been closely connected with raw materials, industry semi products and fertiliser businesses, could be diminished or mitigated.

For Ukraine, such environmental and climate reparations from Russia would facilitate the increase of renewable energy sources (RES), restore the electric grids, decarbonise the industrial sector, demine its territories, clean water resources, start reforestation, etc. Furthermore, by decreasing its dependence on fossil fuel, Ukraine could achieve its energy security through sustainable resilience, developing its energy system to be compatible and in line with the European one. Following this, the concept of 'energy independence' would have a completely new sense for Ukraine – so that it would not just be about independence from Russia, but primarily be about breaking its dependence on fossil fuel. Additionally, the recovery of the Ukrainian energy system post-war would bring at least two benefits: firstly, it would make the energy infrastructure more sustainable and better prepared for physical risks; and secondly, the energy sector may become a growth point for the Ukrainian economy generally.

The mechanism of digitisation and payment of environmental and climate reparations by the aggressor could also become a UN tool to prevent conflicts in the future, as well as strengthening the importance and value of the Green Deal for the EU as a geopolitical actor. Simultaneously, it poses multifaceted tasks for developing the practical tools and instruments of environmental and climate reparation implementation for the EU and for Ukraine within the negotiation procedure.

Conclusion

The international recognition of the key role of a healthy environment in sustaining peace has never been so important. The war in Ukraine has only driven the point home more forcefully.

Regardless of the hostilities, Ukraine has proceeded to implement its previous Green Deal obligations and legal framework reforms. The future post-war recovery of Ukraine largely depends on the survival of its natural resources, as well as on its human-made infrastructure – on its forests, rivers, and wildlife, as well as its roads, power plants, and cities. Nevertheless, Ukraine's government and citizens are setting a precedent and serving as a positive example of how to understand and respond to environmental damage in armed conflict. Further, the practical mechanism for environmental reparations incorporated into climate taxation, CBAM in particular, could be a signal and a driver for other countries to use this approach and pave the opportunity for 'ice-breaking' in the context of international legislation towards environmental reparation. In such a way, climate

diplomacy could gain an effective tool of environmental justice aiming to enforce peace, prevent aggressions, and protect the environment globally.

The global community should move to create a multi-level deterrence system on the basis of already existing structures and mechanisms, which will be ready both to respond to pre-emption and to signal to a potential aggressor that, in the case of war, compulsory compensation for environmental and climate damages will be set in action.

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