

ENVIRONMENTAL HARM FROM MILITARY OPERATIONS AND THE PROTECTION OF CIVILIANS IN ARMED CONFLICT

**CENTER FOR
CIVILIANS IN CONFLICT**
RECOGNIZE. PREVENT. PROTECT. AMEND.



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T +1 202 558 6958

E comms@civiliansinconflict.org

civiliansinconflict.org

ORGANIZATIONAL MISSION AND VISION

Center for Civilians in Conflict (CIVIC) is an international organization dedicated to promoting the protection of civilians in conflict. CIVIC envisions a world in which no civilian is harmed in conflict. Our mission is to support communities affected by conflict in their quest for protection and strengthen the resolve and capacity of armed actors to prevent and respond to civilian harm.

CIVIC was established in 2003 by Marla Ruzicka, a young humanitarian who advocated on behalf of civilians affected by the war in Iraq and Afghanistan. Honoring Marla's legacy, CIVIC has kept an unflinching focus on the protection of civilians in conflict. Today, CIVIC has a presence in conflict zones and key capitals throughout the world, where it collaborates with civilians to bring their protection concerns directly to those in power, engages with armed actors to reduce the harm they cause to civilian populations, and advises governments and multinational bodies on how to make life-saving and lasting policy changes.

CIVIC's strength is its proven approach and record of improving protection outcomes for civilians by working directly with conflict-affected communities and armed actors. At CIVIC, we believe civilians are not "collateral damage" and civilian harm is not an unavoidable consequence of conflict — civilian harm can and must be prevented.

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EXECUTIVE SUMMARY

This paper provides an overview of the relationship between the conduct of military operations, environmental harm, and the protection of civilians in armed conflict. Further, it clarifies and provides recommendations on specific considerations for the incorporation of environmental protection in the conduct of military operations.

Most environmental harm in armed conflict occurs not through direct attacks, although examples of this exist, but rather as a result of incidental damage or pollution during the conduct of military operations. In order to mitigate civilian harm in conflict settings, States must consider the environmental impact of their military operations, including potential harm resulting from the indirect effects of operations.

The first section examines the link between environmental harm and the protection of civilians. Military operations that harm the environment can directly and immediately affect the civilian population, but less direct and longer-term environmental harm can further impact a population's livelihood and health, and cause displacement. Over the long term, the destruction of the environment can create significant barriers to reconciliation efforts.

The paper goes on to establish how the conduct of military operations may affect the environment in armed conflict. It considers prevention and precautionary measures for mitigating harm to the environment that should be taken by States and those planning military operations. It addresses specific legal obligations and other factors to consider in targeting decisions and the choice and use of weapons, as well as the environmental impacts of remnants of war.

Finally, the paper examines the role of cooperation and the distribution of responsibilities among different actors in the protection of the environment in armed conflict. Relevant actors include States, scientific and environmental experts, civil society, and local populations, as well as non-State actors such as corporations and armed groups.

The Annex presents international law provisions relevant to the protection of the environment in armed conflict. There are certain direct and clear obligations under international law, while other legal provisions indirectly protect the environment through their implementation. Beyond their formal legal obligations, there is a noticeable rise in the interest of States to ensure environmental protection during armed conflict. This trend reflects a mounting awareness of environmental protection and its impact on global efforts to address climate change.

Recommendations

- States should recognize the interrelatedness of military operations and environmental harm, and their mutual impact on civilian populations.
- When assessing civilian harm from past operations and when planning new military tactics, States should look at direct and indirect or reverberating effects of their operations on the environment. When using dedicated civilian harm tracking mechanisms, States should include these direct and indirect effects in the scope of their analyses.

- States should ratify relevant treaties related to the protection of the environment in armed conflict and comply with their international legal obligations.
- States may choose to engage in pledges committing to greater protection of the environment in the preparation and conduct of their military operations.
- Integrating environmental considerations within military planning is imperative for mitigating environmental harm during military operations. Militaries should incorporate relevant guidance, such as the updated ICRC guidelines, in military manuals and training.
- States planning military operations need to include environmental assessments in their initial legal analyses and develop tools to monitor the environmental impact of their military operations. Environmental assessments are necessary in order to determine compliance with international law on targeting, but are also useful for States seeking to mitigate the environmental harm of their military operations more generally.
- Those planning military operations must take all feasible precautions during an attack to avoid or, at the very least, to minimize incidental damage to the environment. They must also take precautionary measures against the effects of an attack. Such precautions include refraining from conducting operations within, or in close proximity to, valuable or especially sensitive ecosystems that may be particularly vulnerable to the impact of military operations.
- As a policy matter, States should err on the side of caution with regard to lack of scientific certainty about possible environmental harm.
- States should seek to designate—ideally in times of peace—areas of major environmental and cultural importance as protected zones. During armed conflict, the use of demilitarized zones established by agreement between parties as provided for under IHL may enhance the protection of such areas.
- Potential harm to the environment needs to be taken into account when deciding on targets, including during proportionality assessments. Those planning military operations should recognize that the destruction of certain types of targets, or targets in particular locations, may have exacerbated impacts on the environment.
- States must not launch attacks that are expected to cause long-term, widespread, and severe damage to the environment.
- When choosing and deciding how to use weapons, States should pay attention to environmental impacts. In the development or acquisition of new weapons, they should be conscious of the potential environmental impact of their use.
- States and their militaries should take into account the environmental consequences of explosive and toxic remnants of war—including the acquisition or development of such weapons, their storage and use, and the environmental consequences of clearance operations. States should ratify relevant treaties and cooperate with international and civil society organizations working on remnants of war.
- States should coordinate with other relevant actors to effectively prevent and address environmental harm in armed conflict, such as working with other States, international organizations, the scientific community, and environmental experts, as well as with civil society and local populations.
- States should exercise due diligence regarding the use and exploitation of conflict resources, including by third parties.

INTRODUCTION

Military operations in armed conflict can cause environmental harm that, in turn, can directly or indirectly affect civilians. States seeking to mitigate civilian harm in conflict settings therefore need to take into account the environmental impact of their military operations. The environmental dimensions of armed conflict are increasingly a focus of the international agenda,¹ particularly in light of the mounting evidence connecting environmental harm and climate change to heightened security risks.²

This paper provides an overview of the relationship between the conduct of military operations, environmental harm, and the protection of civilians in armed conflict. It also provides clarification and recommendations on certain strategic issues to be taken into account in the conduct of military operations for the protection of the environment in armed conflict. These issues are illustrative and not exhaustive, and draw upon common themes extrapolated from contemporary and past practice.³ Although conflict and the environment are necessarily interconnected, this paper does not focus on the more indirect links between them, such as climate-induced insecurity or the environmental impacts of conflict-driven displacement.⁴

While there is no single agreed-upon definition under international law,⁵ for the purposes of this paper, the term “environment” is broadly defined as “natural resources, both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors, and the characteristics of the landscape.”⁶

THE IMPACT OF ENVIRONMENTAL HARM ON THE PROTECTION OF CIVILIANS

While certain elements of environmental harm have long been recognized as affecting civilians in armed conflict,⁷ we now have an evolving awareness of how harm to the environment can specifically impact the protection of civilians.

Military operations that harm the environment can directly and immediately affect the civilian population—for example, through the destruction of objects indispensable to their survival, damage to property, or destruction of installations which may release dangerous pollutants, such as factories or oil depots contaminating air or water.⁸ Damage to certain targets such as dams may cause significant environmental and civilian harm. Less directly, and over the longer term, harm to the environment can affect a population’s ability to live off their land, and can impact their health through pollution, or explosive or toxic remnants of war.⁹ Certain actions taken by parties to the conflict that affect the environment, such as pollution or manipulation of river routes, may affect civilians’ ability to access water for drinking or agricultural use. There is a recognized link between environmental harm and displacement of civilians—which is harmful in itself. Civilians will often flee areas, either immediately or within a short time period, where the natural environment has been severely damaged.¹⁰ Military operations that harm the environment can therefore contribute to displacement.

Over the long term, the destruction of the environment can create significant barriers to reconciliation efforts,¹¹ thus prolonging conflict and its associated harms. Environmental harm that contributes to climate change, such as through the increase of greenhouse gases, is not the focus of this paper. But it is worth noting that such harm undermines the protection of the entire global population¹² and is also increasingly recognized as a security threat, often aggravating conflict and undermining stability.¹³ Conflict-affected populations are especially vulnerable to the consequences of climate change.¹⁴ The mitigation of factors that contribute to climate change, such as environmental harm, is therefore a long-term contribution to the protection of civilians, in part by preventing or mitigating further conflict and the vulnerabilities and harms associated with it. Further, different segments of the civilian population experience varied vulnerabilities in the face of environmental harm, and these disparities must be borne in mind when State or non-State actors seek to effectively reduce potential harm.

PROTECTION OF THE ENVIRONMENT DURING MILITARY OPERATIONS

The environmental harm caused by States during armed conflict may not necessarily be intentional. But in order to effectively minimize such harm, States need to take environmental impact into account when planning and carrying out military operations. States have certain explicit and implicit legal obligations to protect the environment, in addition to a range of strong policy incentives to do so. More generally, States and armed actors are increasingly recognizing the carbon footprint of warfare, including in the preparation and creation of material for war, as well as in the transport and carrying out of military operations.¹⁵

Prevention, precaution, and constant care in military operations

The obligations of precaution and prevention under both international humanitarian law (IHL) and international environmental law (IEL) may have particular relevance for environmental protection in military operations.¹⁶ States need to take all feasible precautions in attack to avoid, and in any case to minimize, incidental environmental damage.¹⁷ They also have an obligation to ensure constant care in the conduct of all military operations, to spare civilians and civilian objects,¹⁸ and generally to exercise due regard for the environmental impact of military operations.¹⁹ The precautionary principle under IEL further suggests that decision-makers should “err on the side of caution” with regard to lack of scientific certainty or knowledge regarding possible environmental harm.²⁰

A good faith application of the IHL obligation of precaution with respect to the environment, would require, within the circumstances, a proper environmental assessment of potential harm.²¹ Such

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an assessment would be necessary to determine compliance with targeting decisions as laid out below, but could also be useful for States seeking to mitigate the environmental harm of their military operations more generally – such as, to assess the environmental impact of training exercises or military presence.²² States planning military operations would therefore need to include regional environmental assessments in their initial legal analyses of those operations²³ and develop tools to monitor the consequent environmental impact of these operations. These tools will necessarily need to integrate new scientific knowledge as it develops. States also have obligations with regard to the study, development, acquisition, or adoption of new weapons,²⁴ including the determination of their environmental impact.²⁵

The principle of precaution in IHL could be tied to the environmental principle of prevention,²⁶ considering the positioning of military objects in relation to the environment, in situations where they were targeted by the adversary. Central to prevention is avoiding the placement of military objectives within, or near valuable or especially sensitive ecosystems that may be particularly vulnerable to the impact of military operations,²⁷ such as underground aquifers or endangered species.²⁸ Environmental areas that form part of a cultural property site are regulated by specific treaties.²⁹

The designation of areas of major environmental and cultural importance as protected zones, ideally prior to armed conflict, is one way of implementing precautionary measures.³⁰ Targeting demilitarized zones constitutes a grave breach of IHL,³¹ so their use – established by agreement between parties – as provided for under IHL, is one option for enhancing the protection of environmentally rich areas.³²

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Military targeting

Targeting that is expected to cause long-term, widespread, and severe damage to the natural environment is directly prohibited under IHL.³³ Although the threshold for severe damage to the environment is very high, when this threshold is met, the prohibition is absolute, and neither military necessity nor a proportionality balancing test could contravene such a prohibition.³⁴

Unless it becomes a military objective, the natural environment is by default generally recognized as civilian in character,³⁵ and is protected under IHL rules concerning civilian objects. Parties to the conflict may therefore have to proactively identify and account for legally protected areas or especially sensitive or valuable environments.³⁶ Parts of the natural environment may become military objectives if due to their nature, location, purpose or use, they make an effective contribution to military action.³⁷ Still, they may be lawfully targeted only if their “total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”³⁸

Proportionality assessments must account for potential harm to the environment, to ensure that the overall harm to civilian objects, including the environment, is not excessive in relation to the expected military advantage.³⁹ Such assessments would require the ability to analyse what sort of incidental (short- and long-term) damage to the environment is reasonably foreseeable from a specific attack, using all of the information sources available at the time.⁴⁰ It should also include looking at potential civilian harm that may arise from the reverberating effects of environmental harm.⁴¹

The destruction of certain targets, due to their nature or strategic location, can result in an exacerbated impact on the environment. Particular environmental areas may constitute civilian objects due to being indispensable to the survival of the civilian population, and would therefore be protected – such as agricultural areas and sources of drinking water.⁴² Certain industrial installations are recognized to have significant impacts on the environment if they are targeted, and some of these—for example, dams, dykes, and nuclear electrical generating stations—are directly protected under IHL.⁴³ However, the relevant treaty provision does not mention other installations whose targeting would also cause significant harm to the environment, such as oil fields and petrochemical plants.⁴⁴ Relevant IHL rules will determine the legality of targeting such installations, depending on how their destruction or damage would impact civilian lives in conflict. Some parts of the environment may be protected as cultural property under the 1955 Hague Convention and Protocols,⁴⁵ and if listed under the UNESCO World Heritage List.⁴⁶

In the context of Naval operations, the San Remo Manual addressing the law of naval warfare encourages parties to agree to avoid conducting hostilities in marine areas containing “rare or fragile ecosystems or the habitat of depleted, threatened or endangered species or other forms of marine life;” to have due regard for the natural environment in the means and methods of warfare employed; and to exempt from attack vessels designated or adapted exclusively for responding to polluting environment.⁴⁷

Weapons

Certain types of weapons, by their nature or use, may be expected to cause harm to the environment. These may either be prohibited completely, or warring parties may be required to take their effects into account when choosing means of warfare. Environmental protection is strengthened by the ratification and implementation of relevant treaties.⁴⁸

Chemical and biological weapons are completely banned as a means of warfare, irrespective of their impact on the environment.⁴⁹ Nuclear weapons can have devastating effects on the environment, in both their testing and use,⁵⁰ as well as potentially constituting toxic remnants of war.⁵¹ While their legality is debated at the international level, their testing and proliferation is regulated, to some extent, by treaties.⁵² The use of nuclear weapons is restricted by IHL principles that limit the means and methods of warfare that may be deployed in armed conflict. However, it is pertinent to note that there is no customary international law principle that provides a blanket ban on the use of nuclear weapons. The international community still struggles to reach consensus on drafting an international treaty that imposes a blanket ban on the use, testing and proliferation of nuclear weapons. A recent development in this area is the Treaty on the Prohibition of Nuclear Weapons, which requires States Parties to undertake environmental remediation for damage caused by the use or testing of nuclear weapons to individuals and areas under their jurisdiction or control.⁵³

Explosive weapons are not unlawful under IHL, although their use is regulated by certain treaties.⁵⁴ They can have significant impacts on the environment, depending on their nature and/or use. Their detonation can kill or injure wildlife (including endangered species),⁵⁵ and can cause forest fires⁵⁶ and soil degradation.⁵⁷ Their detonation or degradation over time can release hazardous chemicals that contaminate the soil and groundwater.⁵⁸ Proportionality assessments regarding the impact of weapons and compliance with the aforementioned targeting rules must account for these impacts. Even if lawful, policy decisions aimed at mitigating environmental harm during military operations must consider the environmental impact of weapons.

Remnants of war

There are specific environmental consequences related to the impact of remnants of war, some of which are regulated by treaties.⁵⁹ Certain attacks may lead to contamination of water, soil and land, and may release pollutants in the air,⁶⁰ destroy large areas of forests,⁶¹ or cause significant loss of biodiversity. Other types of attacks may also lead to the release of large amounts of greenhouse gases, such as in the case of oil installations.⁶²

Explosive remnants of war can affect the environment through their detonation or degradation over time.⁶³ More indirectly, they can make it impossible for people to access productive farmland, which can contribute to biodiversity loss, as populations are compelled to hunt wildlife or destroy native habitat for fuel or shelter.⁶⁴ They also impact the livelihoods of local populations and postpone the return to normalcy following conflict. Clearance operations can actually cause long-term harm⁶⁵ if methods such as mechanical clearance or bulk demolition are used,⁶⁶ and through the carbon footprint of clearance operators.⁶⁷ While conducting clearance operations, it is important to consider the type of land involved⁶⁸ and post-clearance land use,⁶⁹ and their implications on the environment.

Toxic remnants of war are those that represent a hazard to humans or ecosystems through the radiological or toxic substances resulting from military activities, ranging from weapons testing and combat to military waste disposal.⁷⁰ The effects of toxic remnants of war can be much slower to manifest than those of explosive remnants of war, but their impact on the environment can be equally devastating.⁷¹

COOPERATION AND DISTRIBUTION OF RESPONSIBILITIES IN PROTECTING THE ENVIRONMENT

The previous sections have examined the international legal obligations and complementary actions by individual States with regard to their own military operations. However, the most effective protection of the environment during armed conflict is through cooperation and distribution of responsibilities across multiple relevant actors.⁷²

Other States and coalitions

Armed conflict can have severe consequences on the environment, that transcend international borders. Addressing such impact requires multi-State approaches to cooperation, an established principle under IEL.⁷³ States can share good practice on effective domestic implementation measures for environmental protection.⁷⁴ Cooperation between States can potentially provide more efficient environmental protection in armed conflict, through sharing of knowledge, resources, and expertise.

The cooperation that is standard practice among coalition forces also has the potential of fostering enhanced protection for the environment during military operations,⁷⁵ by combining resources and expertise. For instance, NATO supports partner countries in cleaning up dangerous stockpiles of weapons, unexploded remnants of war and ammunition.⁷⁶

Scientific and environmental experts

Under IHL, the legitimacy of military operations often depends on the foreseeable consequences of military targeting. In part, this requires States to employ expert environmental advice in planning their military operations,⁷⁷ and in the design, development, and procurement of weapons. States therefore need to work with the scientific community to understand the potential impact of military operations on the environment.⁷⁸ Additionally, a diversity of actors also have expertise in environmental protection and can contribute to a better understanding of that impact. This group can include international organizations, NGOs with knowledge of environmental matters, as well as existing domestic governmental actors and national environmental regulation organizations who may not have previously been involved in planning military operations but who will have local expertise on environmental protection.⁷⁹

Civil society and local populations

Communication with local populations can also offer insights into the environmental impact of military operations and appropriate remedies.⁸⁰ Local populations, including indigenous peoples who are often most affected by environmental harm, can play a key role in safeguarding the environment that they depend on for their sustenance and livelihood.⁸¹ Civil society can also play a vital role in supporting and strengthening the implementation of environmental protection norms in armed conflict.⁸²

Non-State Actors

Non-State actors such as corporations and non-state armed groups have an important role to play in protecting the environment during armed conflict.⁸³ While non-State actors may have direct obligations under international and domestic law, States must continue to exercise due diligence to ensure that these obligations are upheld.⁸⁴ In particular, the exploitation of natural resources to fund war efforts⁸⁵ can have severe adverse consequences, including the depletion of such resources.⁸⁶ Conflict can also create situations prone to looting, pillage and illegal trade of environmental resources.⁸⁷ Non-State actors and non-State armed groups play a much broader role in the exploitation or protection of the environment in conflict – matters that are beyond the scope of this paper.

INTERNATIONAL LAW AND THE ENVIRONMENT IN ARMED CONFLICT

As international law surrounding environmental protection evolves, it can be difficult to assess whether measures taken by States and their militaries to protect the environment in armed conflict are a response to legal obligations, or simply good practice and policy decisions independent of any obligations.⁸⁸ There are certain direct and clear obligations under international law, and other legal provisions exist that indirectly protect the environment through their implementation. Environmental protection in armed conflict is primarily accomplished through implementing relevant provisions of existing international humanitarian law. Additionally, other applicable bodies of international law can provide clarification on how such protection may best be achieved.⁸⁹ However, beyond formal legal obligations, in general, States have increasingly demonstrated greater political interest in protecting the environment in armed conflict,⁹⁰ reflecting a growing concern for environmental protection in armed conflict.

International humanitarian law

IHL is the main body of law applicable to military operations in situations of armed conflict. It provides both direct and indirect protections for the environment,⁹¹ some of which were explored above in Section C. The ICRC has published updated Guidelines on the Protection of the Environment under IHL detailing these protections.⁹² Direct IHL protections on the natural environment are often seen as too stringent to be effective, due to the very high threshold of harm.⁹³ Indirect protections are therefore seen as offering most protection. For instance, consider the principle of the protection of civilian objects which mandates that parties to the conflict must always distinguish between civilian objectives and military objectives, thereby indirectly protecting the environmental resources that constitute civilian objects.⁹⁴

International environmental law

International environmental law (“IEL”) is a body of law that has developed significantly since the 1960s. It consists of treaty and customary obligations related to environmental protection and the responsibility of States with regard to environmental harm.⁹⁵ IEL provides more specific and technical obligations than other bodies of international law and may provide more clear and concrete measures for protection of the environment.⁹⁶ Developments under IEL in the form of statutes, or judgments and interpretations by international treaty-monitoring bodies, can also contribute to the understanding of obligations under other bodies of law such as IHL, by expanding the application of existing customary law norms that concern the environment.

IEL was traditionally envisaged for application primarily during peace-time. The extension of IEL to situations of armed conflict is context-specific, and depends on the content of the treaty, nature of the armed conflict, and type of military operation.⁹⁷

International human rights law

International human rights law (IHRL) continues to apply in situations of armed conflict and contains certain provisions that directly or indirectly address the protection of the environment in relation to individuals affected by environmental harm.⁹⁸ It addresses, for instance, the right to a clean, healthy,

sustainable and safe environment,⁹⁹ and also expressly recognizes the link between harm to the environment and the right to life, family life, and health, along with the rights of minority groups and indigenous peoples to their culture and traditional practices.¹⁰⁰

The application of IHRL in armed conflict may be dependent on the context, and needs to be determined on a case-by-cases basis.¹⁰¹ IHRL stipulates specific protections linking the environment to individual human rights, and can additionally provide guidance around State-conduct affecting natural resources and the environment during armed conflict.¹⁰² It can also help inform existing provisions under other bodies of law¹⁰³— such as on the question of how the state of the environment affects the survival of the civilian population. Further, the expertise of monitoring and enforcement bodies enriches contemporary understanding of how IHRL is linked to the protection of the environment.¹⁰⁴

International criminal law

Finally, international criminal law encompasses provisions that may directly or indirectly protect the environment in armed conflict. However, the codification of international crimes related to the environment is currently underway. A certain type of environmental harm can either constitute an international crime in itself, or additionally also represent a material element of another international crime, such as a war crime. For instance, consider attacks on forests as part of a scorched earth tactic – such attacks could constitute the war crime of destruction of property.¹⁰⁵ The war crime of excessive incidental death, injury, or damage – as codified under the Rome Statute and the supplementary Elements of Crime – accounts for excessive, long-term and severe damage to the natural environment. Yet, this definition is restricted in scope. In order to count as a war crime, environmental damage must meet the high threshold of harm envisioned under IHL and must be clearly disproportionate and excessive.¹⁰⁶ At the same time, the Rome Statute provides other avenues for addressing harm to the natural environment as a material element of other war crimes.¹⁰⁷ In 2021, an Independent Expert Panel comprising senior jurists, academics and members of civil society, launched a definition of the crime of ecocide and suggested that it be included as an additional separate crime under the Rome Statute.¹⁰⁸ Efforts to codify the international crime of ecocide are still at an elementary stage, and the aforementioned definition, while aspirational, has no legally binding effect. To date, environmental war crimes have not been adjudicated before an international court, but the increasing momentum for the international criminalization of harm to the environment in conflict demonstrates its heightened significance for the international community.¹⁰⁹

ENDNOTES

- 1 Doug Weir and Stavros-Evdokimos Pantazopoulos, "If not us, who? How States – with the help of civil society – can implement the legal framework protecting the environment from armed conflict," ICRC Humanitarian Law & Policy Blog, June 10, 2021; Alex Frost, "Mitigating the environmental impacts of explosive ordnance and land release," ICRC Humanitarian Law & Policy Blog, December 16, 2021.
- 2 "When Rain Turns to Dust: Understanding and Responding to the Combined Impact of Armed Conflicts and the Climate and Environment Crisis on People's Lives," ICRC (2020), p. 19; Florian Titze, "The nature-security nexus and the UN Security Council," ICRC Humanitarian Law & Policy Blog, October 14, 2021.
- 3 For more exhaustive analysis of these topics, see updated "Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary," ICRC (2020); "Draft Principles on the Protection of the Environment in Relation to Armed Conflicts," ILC, A/74/10 (2019); "Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law," UNEP (2009).
- 4 "Guidelines on the Protection of the Natural Environment," ICRC (2020); "When Rain Turns to Dust: Understanding and Responding to the Combined Impact of Armed Conflicts and the Climate and Environment Crisis on People's Lives," ICRC (2020); "Protection of civilians in armed conflict: Report of the Secretary-General," UNSC, S/2020/366, May 6, 2020, para. 44; "Climate Change and Violent Conflict in West Africa: Assessing the Evidence," SIPRI, February 2022; Marja Lehto, "Overcoming the disconnect: environmental protection and armed conflicts," ICRC Humanitarian Law & Policy Blog, May 27, 2021; Jani Leino, "Bringing IHL home: the protection of the environment in war," ICRC Humanitarian Law & Policy Blog, October 12, 2021; David Jensen and Steve Loneragan, "Natural resources and post-conflict assessment, remediation, restoration, and reconstruction: Lessons and emerging issues," in *Assessing and Restoring Natural Resources In Post-Conflict Peacebuilding* (London: Routledge, 2012); Karen Hulme, "Enhancing Environmental Protection During Occupation Through Human Rights Law," *Goettingen Journal of International Law* Vol 10, No. 1 (2020); "Second Report on the protection of the environment in relation to armed conflicts, submitted by Marie G. Jacobsson, Special Rapporteur," UNGA, A/CN.4/685, May 28, 2015.
- 5 "Commentary and Core Text," Independent Expert Panel for the Legal Definition of Ecocide, June 2021, p. 11; "Guidelines on the Protection of the Natural Environment," ICRC, para. 16; *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ, July 8, 1996, para. 29; "Preliminary report on the protection of the environment in relation to armed conflicts," ILC, A/CN.4/674, May 30, 2014, para. 86; Cymie R. Payne, "Protection of the Natural Environment," in *The Oxford Guide to International Humanitarian Law*, eds. Dapo Akkande and Ben Saul (Oxford: Oxford University Press, 2020), 208.
- 6 "Preliminary report on the protection of the environment in relation to armed conflicts," A/CN.4/674, May 30, 2014, para. 86.
- 7 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 20.
- 8 "Protecting the Environment During Armed Conflict," UNEP (2009), 8; "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 5; Karen Hulme, "Ukraine Symposium—Unprecedented Environmental Risks," *Articles of War* blog, Lieber Institute, April 12, 2022.
- 9 "When Rain Turns to Dust," ICRC (2020), 23; "Protecting the Environment During Armed Conflict," UNEP (2009), 4; Bonnie Docherty, "Mine action in action: influencing law and policy on toxic remnants of war," ICRC Humanitarian Law & Policy Blog, December 21, 2021.
- 10 "When Rain Turns to Dust," ICRC (2020).
- 11 "Protecting the Environment During Armed Conflict," UNEP (2009), 4; Rio Declaration on Environment and Development, UNGA, A/CONF.151/26 (Vol. I), August 12, 1992, Principle 25; "Draft Principles on the Protection of the Environment," ILC, A/74/10 (2019).
- 12 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 2.
- 13 Florian Titze, "The nature-security nexus and the UN Security Council," ICRC Humanitarian Law & Policy Blog, October 14, 2021; Burgess, L., "The Relationship between Climate Change and Conflict," ICRC Intercross Blog, January 6, 2016).
- 14 "When Rain Turns to Dust," ICRC (2020).
- 15 See e.g., "NATO Climate Change and Security Action Plan," NATO, June 14, 2021, https://www.nato.int/cps/en/natohq/official_texts_185174.htm; "The EU military sector's carbon footprint," Conflict and Environment Observatory, February 23, 2021, <https://ceobs.org/the-eu-military-sectors-carbon-footprint/>.
- 16 Michael Bothe, "Precaution in International Environmental Law and Precautions in the Law of Armed Conflict," *Goettingen Journal of International Law* Vol 10 (2020), 272; Dieter Fleck, "The Martens Clause and Environment Protection in Relation to Armed Conflicts," *Goettingen Journal of International Law* Vol 10 (2020), 262.
- 17 *Customary International Humanitarian Law*, ICRC, Rule 44 (2004), accessed at: <https://ihl-databases.icrc.org/en/customary-ihl>.
- 18 Fleck, "The Martens Clause and Environment Protection," 262; Bothe, "Precaution in International Environmental Law," 279; Marie Jacobsson and Marja Lehto, "Protection of the Environment in Relation to Armed Conflicts: An Overview of the International Law Commission's Ongoing Work," *Goettingen Journal of International Law* Vol. 10 (2020), 36.
- 19 *Customary International Humanitarian Law*, ICRC, Rule 44; Bothe, "Precaution in International Environmental Law," 274; Karen Hulme, "Taking care to protect the environment against damage: a meaningless obligation?" *IRRC* Vol. 92, No 879 (2010), 680.
- 20 Bothe, "Precaution in International Environmental Law," 273.
- 21 Hulme, "Taking care to protect the environment," 681.
- 22 See, e.g., the example of Finland described in Leino, "Bringing IHL home."
- 23 Payne, "Protection of the Natural Environment," 208; Frost, "Mitigating the environmental impacts."
- 24 Protocol Additional to the Geneva Conventions of August 12, 1949, and relating to the Protection of Victims of International Armed Conflicts, 1125 UNTS 3 (1977), Art. 36.
- 25 Leino, "Bringing IHL home."
- 26 Bothe, "Precaution in International Environmental Law," 278.
- 27 *Ibid.*, 279.
- 28 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 137.

- 29 "Protecting the Environment During Armed Conflict," 18; The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict and its two Protocols (1954 and 1999); API (n 24) 53; 85; Protocol Additional to the Geneva Conventions of August 12, 1949, and relating to the Protection of Victims of Non-International Armed Conflicts 1125 UNTS 609 (1977), Art. 16; UNESCO World Heritage Convention, Art. 11(4); UNESCO 2003 Convention for the Safeguarding of Intangible Cultural Heritage, Art. 3(l) and 22(l).
- 30 Jacobsson and Lehto, "Protection of the Environment," 33; "Draft Principles on the Protection of the Environment," ILC, Draft Principle 4; Payne, "Protection of the Natural Environment," 212.
- 31 API (n 24) Art 85(3)(d).
- 32 Bothe, "Precaution in International Environmental Law," 276; "Protecting the Environment During Armed Conflict," UNEP (2009), 20; "When Rain Turns to Dust," ICRC (2020), 17; Jacobsson and Lehto, "Protection of the Environment," 33.
- 33 API (n 24) Art 35(3).
- 34 Payne, "Protection of the Natural Environment," 218; Karen Hulme, "Environmental Protection in Armed Conflict," in *Research Handbook on International Environmental Law*, eds. Malgosia Fitzmaurice, David M. Ong, and Panos Merkouris (Northampton: Edward Elgar, 2010), 588.
- 35 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 18.
- 36 Payne, "Protection of the Natural Environment," 215.
- 37 Rule 8, *Customary International Humanitarian Law Database*, ICRC.
- 38 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 18; Payne, "Protection of the Natural Environment," 215; On environmental areas contributing to "war-sustaining" capabilities, see also "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 102.
- 39 *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ, July 8, 1996, para. 30; Payne, "Protection of the Natural Environment," 216.
- 40 Leino, "Bringing IHL home."
- 41 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 117 & 249; Orr, C., "Reverberating Effects and International Law," Center for Civilians in Conflict, 2021.
- 42 API (n 24) Art 54(2); APII (n 29) Art 14; "When Rain Turns to Dust," ICRC (2020), 17; Burgess, L "The Relationship between Climate Change and Conflict", January 6, 2016, <https://intercrossarchive.icrc.org/blog/4gqwb4xa0dgrapefnxmab5bcclzq9i>.
- 43 API (n 24) Art 56.
- 44 "Protecting the Environment During Armed Conflict," UNEP (2009), 18.
- 45 Ibid.
- 46 Ibid., 38; Payne, "Protection of the Natural Environment," 208.
- 47 San Remo Manual on International Law Applicable to Armed Conflicts at Sea (1994), Art. 11, 44, 47; "Protecting the Environment During Armed Conflict," UNEP (2009), 24.
- 48 "Protecting the Environment During Armed Conflict," UNEP (2009), 15.
- 49 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (1925); Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (1993); Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (1972).
- 50 Ibid.; *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, ICJ, July 8, 1996.
- 51 Docherty, "Mine action in action."
- 52 Treaty on the Non-Proliferation of Nuclear Weapons (1968); Comprehensive Nuclear-Test-Ban Treaty (1963). (The latter treaty has not entered into force.)
- 53 Treaty on the Prohibition of Nuclear Weapons (2017), Article 6; Docherty, "Mine action in action."
- 54 Amended Protocol II of the Convention on Certain Conventional Weapons on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices 2048 UNTS 93 (1996); Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (1997) [Ottawa Convention] 2056 UNTS 211 (1997); Convention on Cluster Munitions, May 30, 2008, 2688 UNTS 39.
- 55 Frost, "Mitigating the environmental impacts."
- 56 Ibid.
- 57 Ibid.
- 58 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 2; "When Rain Turns to Dust," ICRC (2020), 17; Frost, "Mitigating the environmental impacts."
- 59 "Protecting the Environment During Armed Conflict," UNEP (2009), 16; Protocol V of the Convention on Certain Conventional Weapons on Explosive Remnants of War, November 28, 2003, 2399 UNTS 100; Convention on Cluster Munitions, May 30, 2008, 2688 UNTS 39, Art. 4; "Draft Principles on the Protection of the Environment," ILC, Draft Principle 27.
- 60 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 2; "When Rain Turns to Dust," ICRC (2020), 17.
- 61 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 2; ICRC, "When Rain Turns to Dust," ICRC (2020), 17.
- 62 Burgess, L., "The Relationship between Climate Change and Conflict", January 6, 2016; "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 2; "Protection of civilians in armed conflict: Report of the Secretary-General," UNSC, S/2020/366, May 6, 2020.
- 63 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 2; "When Rain Turns to Dust," ICRC (2020), 17; Frost, "Mitigating the environmental impacts."
- 64 Frost, "Mitigating the environmental impacts."
- 65 Ibid.; Mine Action Review, "Mitigating the Environmental Impacts of Explosive Ordnance and Land Release" (2021).
- 66 Frost, "Mitigating the environmental impacts"; "Environmental Management in Mine Action," International Mine Action Standards (2017).
- 67 Frost, "Mitigating the environmental impacts."
- 68 Ibid.
- 69 Ibid.

- 70 Docherty, "Mine action in action"; "Draft Principles on the Protection of the Environment," ILC, Draft Principle 27 and Commentary.
- 71 Docherty, "Mine action in action." Although not directly addressed by treaties, the environmental effects of depleted uranium can also be severe. "Protecting the Environment During Armed Conflict," UNEP (2009), 16; McDonald, Avril, Kleffner, Jann, and Toebe, Brigit (eds), *Depleted Uranium Weapons and International Law: A Precautionary Approach*. The Hague: T.M.C. Asser Press, 2008.
- 72 "Draft Principles on the Protection of the Environment," ILC, Draft Principle 24 and Commentary; Lehto, "Overcoming the disconnect."
- 73 See ILC Draft Principle 24 and Commentary along with Declaration of the United Nations Conference on the Human Environment 11 ILM 1416 (1972); Alastair Neil Craik, "The Duty to Cooperate in International Environmental Law: Constraining State Discretion through Due Respect," in *Yearbook of International Environmental Law* Vol 30 No. 1 (2020).
- 74 Leino, "Bringing IHL home."
- 75 Ibid.; "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 122.
- 76 "Environment, climate change and security," NATO, July 2022, https://www.nato.int/cps/en/natohq/topics_91048.htm.
- 77 Leino, "Bringing IHL home."
- 78 Ibid.
- 79 Ibid.
- 80 Ibid.; Docherty, "Mine action in action"; "Draft Principles on the Protection of the Environment," ILC, Draft Principle 5; Jacobsson and Lehto, "Protection of the Environment," 33; Elaine Hsiao, "Protecting Protected Areas in Bello: Learning from Institutional Design and Conflict Resilience in the Greater Virunga and Kidepo Landscapes," *Goettingen Journal of International Law* Vol 10 (2020), 81.
- 81 "Indigenous Women Convening for Peace, Justice, and Reconciliation," Carr Center for Human Rights Policy, (2021), <https://carrcenter.hks.harvard.edu/event/indigenous-women-convening-peace-justice-and-reconciliation>; "Draft Principles on the Protection of the Environment," ILC, Draft Principle 5; Jacobsson and Lehto, "Protection of the Environment," 33; Hsiao, "Protecting Protected Areas in Bello," p. 81.
- 82 Leino, "Bringing IHL home."
- 83 See, inter alia, Daniëlla Dam-de Jong and Saskia Wolters, "Through the Looking Glass: Corporate Actors and Environmental Harm Beyond the ILC," *Goettingen Journal of International Law* Vol 10 (2020); "Draft Principles on the Protection of the Environment," ILC, Draft Principles 10 and 11.
- 84 Docherty, "Mine action in action"; "Draft Principles on the Protection of the Environment," ILC Draft Principles 10 and 11; Dam-de Jong and Wolters, "Through the Looking Glass."
- 85 "Protecting the Environment During Armed Conflict," UNEP (2009), 5; Ibid., 19.
- 86 Dam-de Jong and Wolters, "Through the Looking Glass," 118.
- 87 Ibid., p. 4; Lehto, "Overcoming the disconnect"; "Draft Principles on the Protection of the Environment," ILC.
- 88 Weir and Pantazopoulos, "If not us, who?"; Britta Sjøstedt and Anne Dienelt, "Enhancing the Protection of the Environment in Relation to Armed Conflicts: The Draft Principles of the International Law Commission and Beyond," *Goettingen Journal of International Law* Vol. 10 No. 1 (2020), 15.
- 89 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 4; Payne, "Protection of the Natural Environment," 231. The ILC considers the interplay of relevant bodies of law in depth in its Draft Principles on the Protection of the Environment in Relation to Armed Conflicts" (see Note 3). While most international legal provisions on the environment in armed conflict are provided for in the context of international armed conflicts, there is an increasing understanding of how such measures apply to non-international armed conflicts, including through the clarification of customary international humanitarian rules. Some international legal obligations, especially under international environmental law, may in fact be more protective in non-international armed conflicts. "Protecting the Environment During Armed Conflict," UNEP (2009), 4, 47; *Customary International Humanitarian Law*, ICRC, Rules 43 & 44; "Second report on protection of the environment in relation to armed conflicts by Marja Lehto, Special Rapporteur," UNGA, A/CN.4/728, March 27, 2019, 9-23.
- 90 Hulme, "Taking care to protect the environment," 689; "Protecting the Environment During Armed Conflict," UNEP (2009), 29.
- 91 API (n 24) Arts 35(3) & 55; "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 22-23.
- 92 Ibid.; "Protecting the Environment During Armed Conflict," UNEP (2009), 34.
- 93 Ibid., 4; Bothe, "Precaution in International Environmental Law," 276; Fleck, "The Martens Clause and Environment Protection," 245.
- 94 See Article 48, Additional Protocol I to the Geneva Conventions (1977); "Guidelines on the Protection of the Natural Environment in Armed Conflict," ICRC (2020); "Protecting the Environment During Armed Conflict," UNEP (2009), 4.
- 95 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 29; International environmental law treaties regulate inter alia the protection and preservation of the marine environment, prevention of marine and air pollution, protection and conservation of environmental areas, identification and safeguarding of cultural and natural heritage, regulation of nuclear damage, and the regulation of trade and conservation of endangered species. See, e.g., UNCLOS Art. 192, 194; Barcelona Convention 1973/1995; UNEP (2009), 35-36; OILPOL; MARPOL; Convention on Long-Range Transboundary Air Pollution (1979); Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972); International Convention on Civil Liability for Oil Pollution Damage (1971); Ramsar Convention (1971); African Convention on Conservation of Nature and Natural Resources 2003; UNEP (2009), 38; World Heritage Convention (1972); Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment (1993); Convention on Third Party Liability in the Field of Nuclear Energy (1960); Vienna Convention on Civil Liability for Nuclear Damage (1963); International Convention on Civil Liability for Oil Pollution Damage (1971); Convention on Early Notification of a Nuclear Accident (1986); Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973); V Convention on the Conservation of Migratory Species of Wild Animals (CMS) (1979).

- 96 "Protecting the Environment During Armed Conflict," UNEP (2009), 38.
- 97 The ILC has carried out a comprehensive study of the applicability of IEL in armed conflict. "Draft articles on the effects of armed conflicts on treaties, with commentaries," ILC, in *Yearbook of the International Law Commission* Vol. 2 Part II (2011). See also "Protecting the Environment During Armed Conflict," UNEP (2009), 43-48; "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 32-33.
- 98 *Ibid.*, para. 37.
- 99 *Ibid.*, para. 37; "The human right to a clean, healthy and sustainable environment," UNHRC, A/HRC/RES/48/13 (October 2021); ICESCR, Art. 12; ACHPR, Art. 24; Additional Protocol to the American Convention on Human Rights, Art. 11.
- 100 International Covenant on Civil and Political Rights, 999 UNTS 171 (1996), Art. 27; UN Declaration on Rights of Indigenous Peoples, A/RES/61/295 (2007), Art. 29; Indigenous and Tribal Peoples Conventions (1989), ILO, Art. 15; "Protecting the Environment During Armed Conflict," UNEP (2009), 48; "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 38. Procedural rights, e.g., the right to access information, participate in decision-making, and access to justice, are considered particularly important with regard to human rights and the environment. See, e.g., "Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters," UN Commission for Europe, Aarhus Convention (1998); "Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean," Escazú Agreement (2018).
- 101 "Guidelines on the Protection of the Natural Environment," ICRC (2020), para. 37-40.
- 102 "Protecting the Environment During Armed Conflict," UNEP (2009), 48.
- 103 *Ibid.*, 50.
- 104 *Ibid.*, 50; See, e.g., *Temeharo v. France*, Communication, Human Rights Committee, No. 645/1995 (1996); "General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12)," CESCR (2000); *Awas Tingni Indigenous Community v Nicaragua*, IACtHR, Ser C No. 79 (2001); *Social and Economic Rights Action Center & the Center for Economic and Social Rights v Nigeria* (Communication No. 155/96), ACmHPR, May 27, 2002; *Tătar v. Romania*, ECtHR, App. No. 67021/01, January 27, 2009.
- 105 See, e.g., *The Hostages Trial (Wilhelm List and Others)*, *Law Reports of Trials of War Criminals*, International Military Tribunal at Nuremberg.
- 106 "Protecting the Environment During Armed Conflict," UNEP (2009), 30.
- 107 *Ibid.*, 30-31; Rachel Kilean, "Prosecuting Environmental Crimes at the International Criminal Court: Is a Crime of Ecocide Necessary?" IntlLawGrrls Blog, June 30, 2021, <https://ilg2.org/2021/06/30/prosecuting-environmental-crimes-at-the-international-criminal-court-is-a-crime-of-ecocide-necessary/>; ICC prosecutor's Application for a Warrant of Arrest against President Omar Al-Bashir of Sudan.
- 108 Independent Expert Panel for the Legal Definition of Ecocide, "Commentary and Core Text" (June 2021).
- 109 Payne, "Protection of the Natural Environment," 225; Kilean, "Prosecuting Environmental Crimes"; Jacobsson and Lehto, "Protection of the Environment," 46.

