

Protecting the Environment during Armed Conflict

N.B. As per the disclaimer, neither the ICRC nor the authors can be identified with the opinions expressed in the Cases and Documents. Some cases even come to solutions that clearly violate IHL. They are nevertheless worthy of discussion, if only to raise a challenge to display more humanity in armed conflicts. **Similarly, in some of the texts used in the case studies, the facts may not always be proven;** nevertheless, they have been selected because they highlight interesting IHL issues and are thus published for didactic purposes.

A. Guidelines on the Protection of the Natural Environment in Armed Conflict

[**Source:** International Committee of the Red Cross, Guidelines on the Protection of the Natural Environment in Armed Conflict (2020); **available at** www.icrc.org/en/publication/4382-guidelines-protection-natural-environment-armed-conflict]

[**N.B.:** In 2009, at a seminar organized by the United Nations Environment Programme (UNEP) and the ICRC, it was agreed that the ICRC's 1994 Guidelines needed to be updated and efforts to promote them stepped up. The Legal Division of the ICRC undertook this work, taking into account the developments in treaty and customary law since 1994, and drawing in particular on the clarifications provided by the ICRC's 2005 Study on Customary International Humanitarian Law. The 2020 Guidelines, like the 1994 version, focus on how rules of IHL protect the natural environment. They set out existing legal obligations under IHL, and a concise commentary accompanies each rule to clarify its legal source and aid its application].

GUIDELINES ON THE PROTECTION OF THE NATURAL ENVIRONMENT IN ARMED CONFLICT

PART I: SPECIFIC PROTECTION OF THE NATURAL ENVIRONMENT UNDER INTERNATIONAL HUMANITARIAN LAW

Rule 1 – Due regard for the natural environment in military operations. Methods and means of warfare must be employed with due regard to the protection and preservation of the natural environment.

Rule 2 – Prohibition of widespread, long-term and severe damage to the natural environment. 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 is prohibited.

Rule 3 – Prohibition of using the destruction of the natural environment as a weapon. A. Destruction of the natural environment may not be used as a weapon. B. For States party to the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention), the military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party is prohibited.

Rule 4 – Prohibition of attacking the natural environment by way of reprisal. A. For States party to Protocol I additional to the Geneva Conventions (Additional Protocol I): i. Attacks against the natural environment by way of reprisal are prohibited. ii. Reprisals against objects protected under the Protocol are prohibited, including when such objects are part of the natural environment. B. For all States, reprisals against objects protected under the Geneva Conventions or the Hague Convention for the Protection of Cultural Property are prohibited, including when such objects are part of the natural environment.

PART II: GENERAL PROTECTION OF THE NATURAL ENVIRONMENT UNDER INTERNATIONAL HUMANITARIAN LAW

Rule 5 – Principle of distinction between civilian objects and military objectives. No part of the natural environment may be attacked, unless it is a military objective.

Rule 6 – Prohibition of indiscriminate attacks. Indiscriminate attacks are prohibited. Indiscriminate attacks are those: A. which are not directed at a specific military objective; B. which employ a method or means of combat which cannot be directed at a specific military objective; or C. which employ a method or means of combat the effects of which cannot be limited as required by international humanitarian law; and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects, including the natural environment, without distinction.

Rule 7 – Proportionality in attack. Launching an attack against a military objective which may be expected to cause incidental damage to the natural environment which would be excessive in relation to the concrete and direct military advantage anticipated is prohibited.

Rule 8 – Precautions. In the conduct of military operations, constant care must be taken to spare the civilian population, civilians and civilian objects, including the natural environment. All feasible precautions must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects, including the natural environment.

Rule 9 – Passive precautions. Parties to the conflict must take all feasible precautions to protect civilian objects under their control, including the natural environment, against the effects of attacks.

Rule 10 – Prohibitions regarding objects indispensable to the survival of the civilian population. Attacking, destroying, removing or rendering useless objects indispensable to the survival of the civilian population is prohibited, including when such objects are part of the natural environment.

Rule 11 – Prohibitions regarding works and installations containing dangerous forces. A. Particular care must be taken if works and installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, and other installations located at or in their vicinity are attacked, in order to avoid the release of dangerous forces and consequent severe losses among the civilian population. B.

i. For States party to Additional Protocol I, works or installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, may not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population, subject to the exceptions specified in Article 56(2) of the Protocol. Other military objectives located at or in the vicinity of these works or installations may not be made the object of attack if such attack may cause the release of dangerous forces from the works or installations and consequent severe losses among the civilian population.

ii. For States party to Protocol II additional to the Geneva Conventions (Additional Protocol II) and non-state actors that are party to armed conflicts to which the Protocol applies, works or installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, may not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population.

Rule 12 – Prohibitions regarding cultural property. A. Property of great importance to the cultural heritage of every people, including such property which constitutes part of the natural environment, must not be made the object of attack or used for purposes which are likely to expose it to destruction or damage, unless imperatively required by military necessity. Any form of theft, pillage or misappropriation of, and any acts of vandalism directed against, such property is prohibited. B. For States party to Additional Protocols I and II, as well as for non-state actors that are party to non-international armed conflicts to which Additional Protocol II applies, directing acts of hostility against historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples, including when these are part of the natural environment, or using them in support of the military effort, is prohibited.

Rule 13 – Prohibition of the destruction of the natural environment not justified by imperative military necessity. The destruction of any part of the natural environment is prohibited, unless required by imperative military necessity.

Rule 14 – Prohibition of pillage. Pillage is prohibited, including pillage of property constituting part of the natural environment.

Rule 15 – Rules concerning private and public property, including the natural environment, in case of occupation. In occupied territory: A. movable public property, including objects forming part of the natural environment, that can be used for military operations may be confiscated; B. immovable public property, including objects forming part of the natural environment, must be administered according to the rule of usufruct; and C. private property, including objects forming part of the natural environment, must be respected and may not be confiscated; except where destruction or seizure of such property is required by imperative military necessity.

Rule 16 – The Martens Clause with respect to the protection of the natural environment. In cases not covered by international agreements, the natural environment remains under the protection and authority of the principles of international law derived from established custom, the principles of humanity and the dictates of public conscience.

Recommendation 17 – Conclusion of agreements to provide additional protection to the natural environment. Parties to a conflict should endeavour to conclude agreements providing additional protection to the natural environment in situations of armed conflict.

Recommendation 18 – Application to non-international armed conflicts

of international humanitarian law rules protecting the natural environment in international armed conflicts. If not already under the obligation to do so under existing rules of international humanitarian law, each party to a non-international armed conflict is encouraged to apply to that conflict all or part of the international humanitarian law rules protecting the natural environment in international armed conflicts.

PART III: PROTECTION OF THE NATURAL ENVIRONMENT AFFORDED BY RULES ON SPECIFIC WEAPONS

Rule 19 – Prohibition of using poison or poisoned weapons. The use of poison or poisoned weapons is prohibited.

Rule 20 – Prohibition of using biological weapons. The use of biological weapons is prohibited.

Rule 21 – Prohibition of using chemical weapons. The use of chemical weapons is prohibited. **Rule 22 – Prohibition of using herbicides as a method of warfare.** The use of herbicides as a method of warfare is prohibited if they: A. are of a nature to be prohibited chemical weapons; B. are of a nature to be prohibited biological weapons; C. are aimed at vegetation that is not a military objective; D. would cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which may be expected to be excessive in relation to the concrete and direct military advantage anticipated; or E. would cause widespread, long-term and severe damage to the natural environment. **Rule 23 – Incendiary weapons.** A. If incendiary weapons are used, particular care must be taken to avoid, and in any event to minimize, incidental loss of civilian life, injury to civilians and damage to civilian objects, including the natural environment. B. For States party to Protocol III to the Convention on Certain Conventional Weapons, it is prohibited to make forests or other kinds of plant cover the object of attack by incendiary weapons, except when these are used to cover, conceal or camouflage combatants or other military objectives, or are themselves military objectives.

Rule 24 – Landmines. A. For parties to a conflict, the minimum customary rules specific to landmines are:

i. When landmines are used, particular care must be taken to minimize their indiscriminate effects, including those on the natural environment.

ii. A party to the conflict using landmines must record their placement, as far as possible. iii. At the end of active hostilities, a party to the conflict which has used landmines must remove or otherwise render them harmless to civilians, or facilitate their removal. B. For a State party to the Anti-Personnel Mine Ban

Convention:

i. The use of anti-personnel mines is prohibited. ii. Each State Party must destroy or ensure destruction of its anti-personnel mine stockpiles. iii. As soon as possible, each State Party must clear areas under its jurisdiction or control that are contaminated with anti-personnel mines. C. For a State

not party to the Anti-Personnel Mine Ban Convention, but party to Protocol II to the Convention on Certain Conventional Weapons as amended on 3 May 1996 (Amended Protocol II to the CCW), the use of anti-personnel and anti-vehicle mines is restricted by the general and specific rules under the Protocol, including those requiring that: i. All information on the placement of mines, on the laying of minefields and on mined areas must be recorded, retained and made available after the cessation of active hostilities, notably for clearance purposes. ii. Without delay after the cessation of active hostilities, all mined areas and minefields must be cleared, removed, destroyed or maintained in accordance with the requirements of Amended Protocol II to the CCW.

Rule 25 – Minimizing the impact of explosive remnants of war, including unexploded cluster munitions. A. Each State party to Protocol V to the Convention on Certain

Conventional Weapons and parties to an armed conflict must: i. to the maximum extent possible and as far as practicable, record and retain information on the use or abandonment of explosive ordnance; ii. when it

has used or abandoned explosive ordnance which may have become explosive remnants of war, without delay after the cessation of active hostilities and as far as practicable, subject to its legitimate security interests, make available such information in accordance with Article 4(2) of the Protocol; iii. after the cessation of active hostilities and as soon as feasible, mark and clear, remove or destroy explosive remnants of war in affected territories under its control. B. Each State party to the Convention on Cluster Munitions undertakes: i. never under any circumstances to use cluster munitions; ii. to destroy all cluster munitions in its stockpiles and to ensure that destruction methods comply with applicable international standards for protecting public health and the environment; iii. as soon as possible, to clear and destroy, or ensure the clearance and destruction of, cluster munition remnants located in cluster munition contaminated areas under its jurisdiction or control.

PART IV: RESPECT FOR, IMPLEMENTATION AND DISSEMINATION OF INTERNATIONAL HUMANITARIAN LAW RULES PROTECTING THE NATURAL ENVIRONMENT

Rule 26 – Obligation to respect and ensure respect for international humanitarian law, including the rules protecting the natural environment. A. Each party to the conflict must respect and ensure respect for international humanitarian law, including the rules protecting the natural environment, by its armed forces and other persons or groups acting in fact on its instructions or under its direction or control. B. States may not encourage violations of international humanitarian law, including of the rules protecting the natural environment, by parties to an armed conflict. They must exert their influence, to the degree possible, to stop violations of international humanitarian law. **Rule 27 – National implementation of international**

humanitarian law rules protecting the natural environment. States must act in accordance with their obligations to adopt domestic legislation and other measures at the national level to ensure that international humanitarian law rules protecting the natural environment in armed conflict are put into practice. **Rule 28 – Repression of war crimes that concern the natural environment.** A. States must investigate war crimes, including those that concern the natural environment, allegedly committed by their nationals or armed forces, or on their territory, and, if appropriate, prosecute the suspects. They must also investigate other war crimes over which they have jurisdiction, including those that concern the natural environment, and, if appropriate, prosecute the suspects. B. Commanders and other superiors are criminally responsible for war crimes, including those that concern the natural environment, committed by their subordinates if they knew, or had reason to know, that the subordinates were about to commit or were committing such crimes and did not take all necessary and reasonable measures in their power to prevent their commission, or if such crimes had been committed, to punish the persons responsible. C. Individuals are criminally responsible for war crimes they commit, including those that concern the natural environment. **Rule 29 – Instruction in international**

humanitarian law within armed forces, including in the rules protecting the natural environment. States and parties to the conflict must provide instruction in international humanitarian law, including in the rules protecting the natural environment, to their armed forces. **Rule 30 – Dissemination of international humanitarian law, including of the rules protecting the natural environment, to the civilian population.** States must encourage the teaching of international humanitarian law, including of the rules protecting the natural environment, to the civilian population. **Rule 31 – Legal advice to the armed forces on international humanitarian law, including on the rules protecting the natural environment.** Each State must make legal advisers available, when necessary, to advise military commanders at the appropriate level

on the application of international humanitarian law, including of the rules protecting the natural environment.

Rule 32 – Evaluation of whether new weapons, means or methods of warfare would be prohibited by international humanitarian law, including by the rules protecting the natural environment. In the study, development, acquisition or adoption of a new weapon, means or method of warfare, States party to Additional Protocol I are under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by applicable rules of international law, including those protecting the natural environment.

B. United Nations Environment Programme, Protecting the Environment During Armed Conflict

[Source: United Nations Environment Programme, Protecting the Environment During Armed Conflict, An Inventory and Analysis of International Law, November 2009; available at http://postconflict.unep.ch/publications/int_law.pdf. Footnotes omitted.]

1. INTRODUCTION

The toll of warfare today reaches far beyond human suffering, displacement and damage to homes and infrastructure. Modern conflicts also cause extensive destruction and degradation of the environment. In turn environmental damage, which often extends beyond the borders of conflict-affected countries, can threaten the lives and livelihoods of people well after peace agreements are signed.

This report aims to understand how natural resources and the environment can be better protected during armed conflict by examining the status of existing international law and making recommendations on concrete ways to strengthen this legal framework and its enforcement.

Public concern regarding the targeting and use of the environment during wartime first peaked during the Viet Nam War. The use of the toxic herbicide Agent Orange, and the resulting massive deforestation and chemical contamination it caused, sparked an international outcry leading to the creation of two new international legal instruments. The Environmental Modification Convention (ENMOD) was adopted in 1976 to prohibit the use of environmental modification techniques as a means of warfare. Additional Protocol I to the Geneva Conventions, adopted in the following year, included two articles (35 and 55) prohibiting warfare that may cause “widespread, long-term and severe damage to the natural environment.”

The adequacy of these two instruments, however, was called into question during the 1990-1991 Gulf War. The extensive pollution caused by the intentional destruction of over 600 oil wells in Kuwait by the retreating Iraqi army and the subsequent claims for USD 85 billion in environmental damages led to further calls to strengthen legal protection of the environment during armed conflict. While some advocated a “fifth” Geneva Convention focusing on the environment, many scholars, organizations and States also considered whether and to what extent the emerging body of international environmental law might apply.

In 1992, the UN General Assembly held an important debate on the protection of the environment in times of

armed conflict. While it did not call for a new convention, the resulting resolution (RES 47/37) urged Member States to take all measures to ensure compliance with existing international law on the protection of the environment during armed conflict. It also recommended that States take steps to incorporate the relevant provisions of international law into their military manuals and ensure that they are effectively disseminated.

As an outcome of the UN debate, the International Committee of the Red Cross (ICRC) issued a set of guidelines in 1994 that summarized the existing applicable international rules for protecting the environment during armed conflict. [See Part D of this case] These guidelines were meant to be reflected in military manuals and national legislation as a means to raise awareness and help limit damage to the environment in times of war. Despite this important step international momentum to address the issue – particularly through a formal binding instrument – slowed by the end of the 20th century.

Yet armed conflicts have continued to cause significant damage to the environment – directly, indirectly and as a result of a lack of governance and institutional collapse. For instance, dozens of industrial sites were bombed during the Kosovo conflict in 1999, leading to toxic chemical contamination at several hotspots. In another example, an estimated 12,000 to 15,000 tons of fuel oil were released into the Mediterranean Sea following the bombing of the Jiyeh power station during the conflict between Israel and Lebanon in 2006.

[...]

The fact that the environment continues to be the silent victim of modern warfare raises a number of important legal questions. Which international laws directly and indirectly protect the environment and natural resources during armed conflict? Who is responsible for their implementation and enforcement? Who should pay for the damage and under what circumstances? Do multilateral environmental agreements apply during armed conflict? Can environmental damage be a violation of basic human rights? When can damage to the environment be a criminal offence? How can “conflict resources” be better monitored and international sanctions against their illegal exploitation and trade be made more systematic and effective?

To answer these questions, the United Nations Environment Programme (UNEP) and the Environmental Law Institute (ELI) undertook a joint assessment of the state of the existing legal framework protecting natural resources and the environment during armed conflict. This legal assessment was informed by the outcomes of an expert meeting held by UNEP and the ICRC in Nairobi, Kenya in March 2009, which brought together twenty senior legal experts from international organizations, non-governmental organizations, governments, the military, courts and academia to explore the status and effectiveness of the current instruments.

[...]

2. International Humanitarian Law

2.1 Introduction

[...]

IHL [...] distinguishes between international armed conflict (IAC) [...] and non-international armed conflict (NIAC) [...].

This distinction poses a significant challenge to the applicability and enforcement of IHL for environmental protection. Indeed, while IHL was largely developed in an era of interstate conflicts, the overwhelming majority of conflicts today are internal. Many laws are therefore inapplicable, or much less restrictive when applied to internal conflicts. Yet internal conflicts are the most strongly linked to the environment, with recent research suggesting that at least forty percent of all intrastate conflicts over the last sixty years have a link to natural resources.

Another challenge is that very few provisions of IHL address environmental issues directly, as most major treaties predate the widespread concern about environmental damage generated by the Viet Nam and Gulf wars. Protection is therefore generally inferred from provisions regulating the means and methods of warfare and the impacts of armed conflict on civilian objects and properties, or recommended through non-binding or soft law, including UN resolutions.

[...]

2.2 Treaty law

The relevant provisions of IHL treaty law for the protection of the environment during armed conflict can be divided into three main categories: those that directly address the issue of environmental protection, the general principles of IHL that are applicable to environmental protection, and the provisions that can be considered to provide indirect protection to the environment during times of conflict.

Provisions specifically aimed at protecting the environment during armed conflict

Additional Protocol I to the 1949 Geneva Conventions, Article 35(3) and Article 55(1) (1977)

[...]

Article 35 [...] protects the natural environment *per se* – which had never been done before – and applies not only to intentional damage, but also to expected collateral damage. Importantly, specific intent is not necessary.

Article 55 provides specific protection for the environment within the context of the protection granted to civilian objects. It also explicitly prohibits attacks on the environment by way of reprisals.

The common core of these two Articles is the prohibition of warfare that may cause “widespread, long-term and severe damage to the natural environment.” The scope of these provisions initially appears extensive. However, important questions remain with regard to the threshold at which the damaging activity violates international law. Indeed, this triple standard is a cumulative requirement, meaning that to qualify as prohibited “damage,” the impact must be widespread and long-term and severe. The Protocol fails to define these terms, resulting in a high, uncertain and imprecise threshold.

One commentary on Article 35(3) has accordingly noted that it would “not impose any significant limitation on combatants waging conventional warfare. It seems primarily directed instead to high-level decision-makers and would affect such unconventional means of warfare as the massive use of herbicides and chemical agents which could produce widespread, long-term and severe damage to the natural environment.”

The relevance of these two provisions and the effectiveness of the protection they provide in practice, therefore, seem limited.

UN Convention on the Prohibition of Military or Any Other Use of Environmental Modification Techniques (ENMOD) (1976)

The ENMOD Convention was established as a reaction to the military tactics employed by the United States during the Viet Nam War. These included plans for large-scale environmental modification techniques that had the ability to turn the environment into a weapon, for instance by provoking earthquakes, tsunamis, or changes in weather patterns – what some commentators have called “geophysical warfare.” The Convention was also a reaction to the use of large quantities of chemical defoliants (known as Agents Orange, White and Blue), which resulted in extensive human suffering (death, cancer and other illnesses, mutations, and birth defects) and long-term environmental contamination, as well as very significant destruction of forests and wildlife.

ENMOD’s objective was to prohibit the use of environmental modification techniques as a means of warfare. Article (1) requires that “each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party.” Hence, while Article 35(3) of Additional Protocol I aims to protect the natural environment per se, ENMOD prohibits the use of techniques that turn the environment into a “weapon.” [...]

Another noticeable difference with the article of Additional Protocol I is that ENMOD requires a much lower threshold of damage, with the triple cumulative standard being replaced by an alternative one: “widespread, long-lasting or severe.” In addition, it appears that the terms were interpreted differently. For instance, under ENMOD the term “long-lasting” is defined as lasting for a period of months or approximately a season, while under Additional Protocol I “long-term” is interpreted as a matter of decades.

[...]

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 (CCW), and its Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons (1980)

See

Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons

Amendment to Article 1 of the 1980 Convention, in Order to Extend it to Non-International Armed Conflicts

Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III to the 1980 Convention)

[...] An amendment to Article 1 of the Convention introduced in 2001 extends its application to situations referred to in common Article 3 to the 1949 Geneva Conventions – that is, to non-international armed conflict (NIAC).

Article 2(4) of the CCW Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons also directly addresses environmental protection, as it prohibits “mak[ing] forests or other kinds of plant cover the subject of an 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.”

The specific situations where ENMOD and the CCW and its Protocol III would apply and the high threshold of the two provisions protecting the environment per se in Additional Protocol I limit the utility of these direct protections in establishing a wide-reaching duty to protect the environment in armed conflict.

General principles of IHL applicable to the protection of the environment during armed conflict

The general principles of IHL are often referred to as a source of law on their own. They complement and underpin the various IHL instruments and apply to all countries. Prior to an analysis of these principles, it is important to note the importance of the Martens Clause, a general provision that was first adopted at the 1899 Hague Conference and thereafter contained in the Preamble of the 1907 Hague Convention IV.

[...]

In essence, [...] where gaps exist in the international framework governing specific situations (including, for instance, the relationship between armed conflict and the environment), the Martens Clause stipulates that States should respect a minimum standard as established by the standards of “humanity” and the “public conscience.” The Martens Clause is generally considered to constitute a foundational principle of IHL and a

core principle protecting the environment in the absence of other provisions in treaty or customary law [...].

The core principles underpinning IHL include the principles of distinction, military necessity, proportionality, and humanity – all of which can be considered to have a bearing on environmental protection during armed conflict, as detailed below.

[...]

The principle of distinction

The principle of distinction is a cornerstone of IHL and the first test to be applied in warfare: it distinguishes between military and civilian persons and objects, and prohibits indiscriminate attacks and direct attacks against civilian objects. Article 52(2) of Additional Protocol I defines military objectives as those that “by nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.” It can therefore be argued that given the non-military nature of most environmentally significant sites and protected areas, targeting such areas would be contrary to the principle of distinction and, subsequently, to Article 52(2).

Nevertheless, the application of this principle may be difficult in practice, for instance when considering the targeting of industrial facilities such as power plants or chemical factories, which could have important environmental impacts but would be seen as a direct contribution to ongoing military action. In such circumstances, a relevant question regarding the meaning of Protocol I would be: “Does undermining a country’s morale and political resilience constitute a sufficiently definite military advantage?”

Similar questions arise for example when a protected area is affected by the illegal exploitation of high-value natural resources (whether by rebels, government troops or foreign occupying forces). In this scenario, would the protected area be considered an acceptable target, considering that revenue from this illegal trade was contributing to the war effort?

The difficulties in interpreting the provisions of Article 52(2) highlight the need for a more precise definition of what constitutes a definite (or direct) military advantage, as opposed to a diffuse (or indirect) one.

The principle of military necessity

The principle of military necessity implies that the use of military force is only justified to the extent that it is necessary to achieve a defined military objective. Furthermore, the principle of military necessity seeks to prohibit military actions that do not serve any evident military purpose.

The principle of military necessity is reflected in the 1907 Hague Convention IV, in Article 23(g) on enemy

property, which stipulates that it is forbidden “to destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war.” This provision has significant environmental relevance as “enemy property” may well encompass protected areas, environmental goods and high-value natural resources, all of which could therefore be granted indirect protection.

The principle of proportionality

Based on the principle of proportionality codified in Article 57 of Additional Protocol I, disproportionate attacks are those in which the “collateral damage” would be regarded as excessive in relation to the anticipated direct military advantage gained. Destroying an entire village or burning an entire forest to reach a single minor target, for example, would be considered a disproportionate strategy in relation to the military gain.

Many instances of environmental damage could be seen as a “disproportionate” response to a perceived threat and therefore considered illegal. This was the opinion shared by most experts in the case of the massive pollution resulting from the burning of oil fields and the millions of gallons of oil deliberately spilled into the Gulf Sea during the 1990-1991 Gulf War.

The principle of humanity

The principle of humanity prohibits inflicting unnecessary suffering, injury and destruction. Thus a Party cannot use starvation as a method of warfare, or attack, destroy, remove or render useless such objects indispensable to the survival of the civilian population. According to this principle, the poisoning of water wells and the destruction of agricultural land and timber resources that contribute to the sustenance of the population, as seen in the ongoing conflict in Darfur, could be considered “inhumane” means of warfare.

[...]

IHL treaty provisions that indirectly protect the environment during armed conflict

[...]

Limitation on means and methods of warfare

Many weapons have the potential to cause serious and lasting damage to the environment. Limiting the development and use of these weapons can therefore indirectly protect the environment during armed conflict.

The following sources, regulating the use of various types of weapons, are relevant in this context:

- **The Hague Convention IV (1907)**

[...]

[T]wo provisions of the Hague Convention IV of 1907 [...] are relevant for the environment. The first, Article 22, provides that “the right of belligerents to adopt means of injuring the enemy is not unlimited.” Some commentators have referred to this Article as one of the most significant provisions in the regulations in so far as a precautionary imperative can be implied from it in the absence of explicit provisions. This first provision should be read in light of the second – the Martens Clause – which is contained in the Preamble of the 1907 Hague Convention IV.

It should be noted that very little has been achieved so far in terms of enforcement of the Hague Law on means and methods of warfare, and that most judicial cases conducted to date have instead focused on violations of the Geneva Law protecting persons and civilian objects.

– **The Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (1925)**

[See The Geneva Chemical Weapons Protocol]

[...]

In so far as the use of chemical and biological weapons may cause harm to the environment, the Protocol can be seen to provide some level of environmental protection during armed conflict.

The Protocol, however, suffers from major limitations. First, only the use of chemical and biological means of warfare is prohibited, excluding the research, development, stockpiling and possession of such weapons from control. Second, the Protocol lacks control mechanisms and provisions for establishing responsibility for violations, thereby limiting its ability to serve as a deterrent.

– **The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (BWC) (1972)**

[See ICRC, Biotechnology, Weapons and Humanity]

[...]

The actual use of biological weapons is not prohibited by the BWC, as the drafters of the agreement took the stance that this aspect is regulated by the 1925 Protocol. [...]

By banning the use of these weapons, the BWC and the Protocol protect the environment in armed conflict from weapons that are likely to cause significant environmental degradation, particularly to the natural environment and to fauna and flora.

– **Convention on Certain Conventional Weapons (CCW) (1980)**

See :

Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons

Amendment to Article 1 of the 1980 Convention, in Order to Extend it to Non-International Armed Conflicts

Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III to the 1980 Convention)

Protocol on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, as amended on 3 May 1996 (Protocol II to the 1980 Convention)

Protocol on Explosive Remnants of War (Protocol V to the 1980 Convention)

As noted above, the Preamble of the 1980 CCW and its Protocol III expressly mention environmental protection. Following a 2001 amendment, the CCW also applies to non-international armed conflict (NIAC).

In addition, Protocol II to the CCW attempts to limit the harmful effect of landmines [...]. Finally, Protocol V on Explosive Remnants of War, adopted in 2003, is the first international legal instrument dealing with the problem of unexploded and abandoned ordnance [...].

– **Chemical Weapons Convention (CWC) (1993)**

See Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction

[...]

It is [...] notable that the CWC specifically prohibits destroying chemical weapons by “dumping in any body of water, land burial and open pit burning,” thereby ensuring that the human and environmental costs of disposal are minimized.

As is the case for the Biological Weapons Convention, the CWC has an immediate bearing on the protection of the natural environment during armed conflict, as chemical substances may have particularly direct and severe impacts on the environment. In addition, the CWC has effective mechanisms in place that may

provide a model for monitoring, verification and non-compliance mechanisms in other treaties.

– **Nuclear weapons**

[See ICJ, Nuclear Weapons Advisory Opinion]

Nuclear weapons are indiscriminate by nature and the damage they cause to human populations and the environment they live in is immense.

The use of nuclear weapons must be considered in reference to three treaties. The first is the 1963 Partial Test-Ban Treaty, which does not regulate the conduct of warfare as such [...].

The second treaty of interest is the 1968 Nuclear Non-Proliferation Treaty, which does not explicitly prohibit the use of nuclear weapons in armed conflict per se [...].

The third treaty, and the most significant, is the 1996 Comprehensive Nuclear-Test-Ban Treaty, which seeks to secure an end to all nuclear weapons testing and other forms of nuclear explosions. [...].

It is also important in this respect to mention regional nuclear disarmament treaties. [...].

[Note from authors: At the time of publishing this report, the Treaty on the Prohibition of Nuclear Weapons (TPNW) had not entered into force. The Treaty, which provides a comprehensive framework for the prohibition of the use of nuclear weapons, finally entered into force in 2020]

– **Landmines and cluster bombs**

See

Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons (Protocol III to the 1980 Convention)

Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction

Protocol on Explosive Remnants of War (Protocol V to the 1980 Convention)

Convention on Cluster Munitions

[...]

In concluding this analysis of IHL treaty law addressing the means and methods of warfare, attention should

be given to the absence of treaties explicitly banning or otherwise addressing the use of depleted uranium munitions and other recently developed weapons. This being said, Article 36 of Additional Protocol I to the Geneva Conventions, which is binding on 168 States, requires them to ensure that any new weapon, or means or method of warfare, does not contravene existing rules of international law. IHL also prohibits weapons and means or methods of warfare that cause superfluous injury or unnecessary suffering, have indiscriminate effects, or cause widespread, long-term and severe damage to the natural environment.

Protection of civilian objects and property

The provisions that govern the protection of civilian objects and property could provide a more effective legal basis for protecting the environment during armed conflict than those protecting the environment per se, at least under existing IHL treaty law. Relevant provisions are as follows:

– The Hague Regulations (1907)

The Hague Regulations attached to the 1907 Hague Convention IV on the Laws and Customs of War on Land stipulate that it is forbidden “to destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war.” As noted earlier, this “enemy property” could include protected areas, environmental goods and natural resources, which would as such be indirectly protected by the Hague Regulations.

– The Geneva Convention IV (1949)

[...] In a reiteration of the Hague Regulations rule on enemy property, Article 147 lists “extensive destruction and appropriation of property not justified by military necessity and carried out unlawfully and wantonly” among the acts constituting “grave breaches” of the Convention.

Furthermore, in the specific context of occupation, Article 53 states that “any destruction by the Occupying Power of real or personal property belonging individually or collectively to individuals, or to the State, or to other public authorities, or to social or cooperative organizations, is prohibited, except where such destruction is rendered absolutely necessary by military operations.”

As natural resources are generally considered civilian property [...], their destruction could be considered to violate Articles 147 and 53 of the Geneva Convention IV, if not justified by imperative military necessity.

– Additional Protocol I to the 1949 Geneva Conventions (1977)

The “basic rule” for the protection of civilian objects against the effects of hostilities is enunciated under Article 48 of Additional Protocol I to the Geneva Conventions. Article 48 provides indirect protection for the

environment by stating that “in order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.” This basic rule is an explicit affirmation of the general principle of distinction. This principle is re-emphasized within the rule contained in Article 52, which explains what constitutes a military objective as opposed to a civilian object.

Article 54(2) of Additional Protocol I also indirectly protects the environment by prohibiting attacks against “objects indispensable to the survival of the civilian population,” meaning objects that are of basic importance to the population’s livelihood. Natural resources such as agricultural land, cattle, and drinking water could in many instances be seen as such means of survival. This provision is generally considered to reflect customary international law as its violation would constitute a grave breach of IHL if it amounted to any of the acts enumerated within Article 147 of Geneva Convention IV. In addition, Article 54(3)(b) applies even when farmlands and foodstuffs are used in direct support of military action, if their destruction were to cause starvation or forced relocation of the civilian population. The effect of this provision is also to exclude, except in defence of a State’s own territory, recourse to scorched-earth policies that cause severe environmental destruction.

Finally, the precautionary measures contained within Article 57, which also recall the proportionality principle, add protection for the environment by discouraging acts that could possibly impact the environment.

– **Additional Protocol II to the 1949 Geneva Conventions (1977)**

Additional Protocol II specifically addresses issues of protection during non-international armed conflict (NIAC). [...] The provisions that indirectly address environmental protection are Article 14 on civilian objects, Article 15 on installations containing dangerous forces and Article 16 on cultural objects and places of worship. Article 14 prohibits attacks on objects indispensable to civilian populations, including foodstuffs, agricultural land, crops, livestock, drinking water installations and irrigation works. It thus replicates for internal conflicts the protection provided by Article 54 of Protocol I applicable to international armed conflict (IAC). [...]

Protection of cultural objects

– **The Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict and its two Protocols (1954 and 1999)**

See Conventions on the Protection of Cultural Property

[...]

- **Additional Protocols I and II to the 1949 Geneva Conventions (1977)**

The protection of cultural property is reinforced by provisions contained in the two 1977 Additional Protocols to the 1949 Geneva Conventions, namely Articles 38, 53 and 85 of Additional Protocol I and Article 16 of Additional Protocol II. Though they do not mention the environment per se, these provisions could be useful in providing legal protection for the natural environment during armed conflict.

Protection of industrial installations containing dangerous forces

- **Additional Protocol I to the 1949 Geneva Conventions, Article 56**

[...] Oil fields and petrochemical plants are not explicitly addressed here (and may even have been intentionally excluded). As a result, the provision does not cover the attacks on oil fields and petrochemical facilities that occurred, for instance, during the 1990-1991 Gulf War, the 1999 Kosovo conflict, or the 2006 Israel-Lebanon conflict. It should be noted, however, that oil fields and petrochemical plants can be protected by the general principle of distinction comprised within the chapeau rule under Article 52.

As is the case under Article 54(2), the prohibition set forth in Article 56 applies even when the target (dams, dykes and nuclear electrical generating stations) constitutes a military objective, except in the restricted cases referred to under Paragraph 2.

- **Additional Protocol II to the 1949 Geneva Conventions,**

Article 15 of Additional Protocol II extends the protections contained in Article 56 of Protocol I to non-international armed conflicts [...].

Limitations based on [...] areas

- **Territories under occupation**

[...]

Article 55 of the 1907 Hague Convention IV sets forth the rules of usufruct for the occupying power. It clarifies that the occupying power has the right to “use” the occupied property, but not the right to damage or destroy it, except in the circumstances of military necessity. Similarly, Article 53 of the 1949 Geneva Convention IV prohibits destruction by the occupying power of property individually or collectively owned by inhabitants of the occupied territories, except in the circumstances of absolute military necessity.

The special status of occupation and the regulations attached to it, such as those provisions qualifying the occupants as “usufructuary,” may offer some guiding principles for dealing with similar situations in the

context of non-international armed conflict (NIAC). The over-extraction and depletion of valuable natural resources has become an all too common feature of NIACs, with revenue generated from this often illegal exploitation serving to finance armed forces and their weaponry. Recent research shows that over the last twenty years, at least eighteen civil wars have been fuelled by natural resources such as diamonds, timber, minerals and cocoa, which have been exploited by armed groups in Liberia, Angola and the Democratic Republic of Congo, for example.

– **Demilitarized zones**

Formally identified “neutralized” or “demilitarized” zones between belligerents are also subject to dedicated protection under Article 15 of the Geneva Convention IV and Article 60 of Additional Protocol I. Violation of this obligation constitutes a grave breach of IHL if it is carried out under the circumstances set forth in the chapeau requirements under Article 85 of Protocol I.

A few other areas are specifically protected from warfare and its impacts, including Antarctica – by the 1959 Antarctic Treaty – and outer space – by the 1967 Outer Space Treaty.

It thus follows that one option to enhance the protection of particularly valuable protected areas or dangerous environmental hotspots would be to formally classify them as “demilitarized zones.” [...]

2.3 Customary international humanitarian law

[...]

[See: rules 43, 44 and 45]

The ICRC 2005 multi-volume explanation of customary IHL discusses 161 “rules” that the authors consider to represent customary international humanitarian law. Three of these rules relate particularly to natural resources, and specify the implications of the general principles of IHL for environmental protection during armed conflicts.

[...]

The ICRC rules offer an articulation of the principles of distinction, proportionality and military necessity in relation to the natural environment, and emphasize the importance of taking a precautionary approach in the absence of scientific certainty about the likely effects of a particular weapon on the environment. In addition, the rules expressly prohibit the use of means of warfare that are intended or can be expected to cause significant damage to the environment, requiring Member States to consider the likely environmental repercussions of their military methods.

The difference in applicability of these rules in IAC versus NIAC remains to a large extent open to interpretation. Due to the differences of scholarly opinion, some experts have noted that codifying the existing customary law on this topic could clarify some of the outstanding questions and, in the process, create more definite measures to protect the environment in armed conflict.

2.4 Soft law related to the corpus of international humanitarian law

[...]

UNGA Resolution 47/37 (9 February 1993)

[...]

UNGA Resolution 49/50 (17 February 1995)

In 1994, the ICRC submitted a proposal to the UN General Assembly in the form of *Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict*. At its 49th Session, the General Assembly, without formally approving them, invited all States to disseminate the guidelines widely and to “give due consideration to the possibility of incorporating them” into their national military manuals. These guidelines have also been published as an annex to the Secretary-General Report A/49/323 United Nations decade of international law (1994).

UNGA resolutions considering nuclear disarmament

[...]

UNGA resolutions addressing depleted uranium-related issues

Guided by the purposes and principles enshrined in the Charter of the United Nations and the rules of IHL, the General Assembly has started addressing the issue of depleted uranium. Since 2007, it has adopted two resolutions aimed at assessing both the human and environmental impacts of depleted uranium armaments. UNGA Resolutions 62/30 of December 2007 and 63/54 of January 2009 request the Secretary-General to produce reports on the issue.

UNGA Resolution 63/54 clearly acknowledges the importance of protecting the environment and reads, in part, that because “humankind is more aware of the need to take immediate measures to protect the environment, any event that could jeopardize such efforts requires urgent attention to implement the required measures.” The resolution also recognizes “the potential harmful effects of the use of armaments and ammunitions containing depleted uranium on human health and the environment.”

These two resolutions could eventually lead to the codification in treaty law of norms protecting both human health and the environment from depleted uranium armaments, thus addressing the current major gap in treaty law regarding the use of such weapons.

UNGA Resolution 63/211 (19 December 2008)

[...]

The San Remo Manual (1994) and UNGA Resolution 2749

[See San Remo Manual on International Law Applicable to Armed Conflicts at Sea]

[...]

2.5 Case law

Generally speaking, cases addressing the responsibility and liability of States for violations of international humanitarian law (IHL) have been extremely rare. Similarly, there have been very few interpretations by authoritative judicial bodies of international humanitarian law and international criminal law norms relating to environmental protection.

However, several international cases provide relevant guidance and clarification in relation to the protection of the environment during armed conflict. Indeed, judicial decisions are helpful for treaty interpretation and as evidence of customary law. In addition, case law reveals a number of practical gaps in the existing international legal framework governing environmental protection during armed conflict.

Case law of the International Court of Justice (ICJ)

[...]

ICJ Advisory Opinion on Nuclear Weapons (1996)

[See ICJ, Nuclear Weapons Advisory Opinion]

[...]

ICJ Decision on Armed Activities on the Territory of the Congo (DRC v. Uganda) (2005)

[See ICJ, Democratic Republic of the Congo/Uganda, Armed Activities on the Territory of the Congo]

In this case, the ICJ found that the Republic of Uganda had failed to comply with its obligations as an occupying Power in Ituri district to prevent acts of looting, plundering and exploitation of Congolese natural resources, and therefore had violated its obligations of vigilance under international law (particularly stated in Article 43 of the Hague Regulations of 1907), which resulted in a duty of reparation. This case therefore recognized that acts of looting, plundering and exploitation by occupying powers are illegal, that there exists a State duty of vigilance for preventing such acts from occurring, and that reparations are due for damage to natural resources in the context of an armed conflict.

Decisions of international tribunals and the United Nations Compensation Commission (UNCC)

[...]

ICTY Decision on Yugoslavia v. NATO (1999)

[See Federal Republic of Yugoslavia, NATO Intervention]

[...] Although the prosecutor ultimately found no basis for opening a criminal investigation into any aspects of the NATO air campaign, the ICTY did examine the question of responsibility for environmental damage and use of depleted uranium from an environmental perspective, thereby establishing a precedent that merits attention.

The report of the Special Committee established to study the case stated that “the NATO bombing campaign did cause some damage to the environment,” mentioning the bombings of chemical plants and oil installations. Second, it observed that Article 55 of Additional Protocol I “may reflect current customary law” and, therefore, may be applicable to non-Parties to the Protocol (such as France [at that time] and the United States). With regard to the substance of the legal provisions contained in this Protocol, the committee held that: “Articles 35(3) and 55 have a very high threshold of application. Their conditions for application are extremely stringent and their scope and contents imprecise. Consequently, it would appear extremely difficult to develop a prima facie case upon the basis of these provisions, even assuming they were applicable.” The Special Committee report maintained that the NATO air campaign did not reach the threshold of Additional Protocol I.

The report then analysed the question of environmental damage in light of the customary principles of military necessity and proportionality, stating that: “[E]ven when targeting admittedly legitimate military objectives, there is a need to avoid excessive long-term damage to the economic infrastructure and natural environment with a consequential adverse effect on the civilian population. Indeed, military objectives should not be targeted if the attack is likely to cause collateral environmental damage which would be excessive in relation to the direct military advantage which the attack is expected to produce.”

With respect to the principle of proportionality, the report stressed that the importance of the target must be assessed and weighed against the incidental damage expected; the more important the target, the greater the degree of risk to the environment that may be justified. After analysing Article 8(2)(b)(iv) of the ICC Rome Statute, the report stated that: "In order to satisfy the requirement of proportionality, attacks against military targets which are known or can reasonably be assumed to cause grave environmental harm may need to confer a very substantial military advantage in order to be considered legitimate. At a minimum, actions resulting in massive environmental destruction, especially when they do not serve a clear and important military purpose, would be questionable. The targeting by NATO of Serbian petrochemical industries may well have served a clear and important military purpose."

After dwelling upon the imprecise nature of the notion of "excessive" environmental destruction and the fact that the present and long-term environmental impact of NATO actions was "unknown and difficult to measure," the report set forth a detailed list of points that it considered necessary to clarify in order to evaluate claims of intentional excessive environmental damage: "It would be necessary to know the extent of the knowledge possessed by NATO as to the nature of Serbian military-industrial targets (and thus the likelihood of environmental damage flowing from their destruction), the extent to which NATO could reasonably have anticipated such environmental damage (for instance, could NATO have reasonably expected that toxic chemicals of the sort allegedly released into the environment by the bombing campaign would be stored alongside that military target?), and whether NATO could reasonably have resorted to other (and less environmentally damaging) methods for achieving its military objective of disabling the Serbian military-industrial infrastructure."

On the basis of these considerations, the report concluded that an investigation into the collateral environmental damage caused by the NATO bombing campaign should not be initiated. Concerning the use of depleted uranium projectiles by NATO aircraft, the report observed that there is currently no specific treaty banning the use of such projectiles, but that principles such as proportionality are also applicable in this context. Referring to the information available regarding environmental damage from depleted uranium, the report recommended that the Office of the prosecutor should not commence investigations into the use of depleted uranium projectiles by NATO.

[...]

The United Nations Compensation Commission (UNCC)

[See UN Compensation Commission, Recommendations]

[...]

During the [1991 Gulf] war, the extensive environmental damage caused by Iraq was widely condemned by

the international community. In addition, the damage caused outside the territory of Iraq was declared to have violated Article 23(g) of the Hague Regulations regarding the destruction of enemy property. As a result, UNSC Resolution 687 stated in Paragraph 16 that “Iraq is liable under international law for any [...] damage, including environmental damage and the depletion of natural resources [...] as a result of Iraq’s unlawful invasion and occupation of Kuwait.” Paragraph 18 of the Resolution created a fund to provide compensation for claims that came under Paragraph 16, and established the UNCC to administer it.

[...]

One way to strengthen the international legal framework governing environmental protection during armed conflict would be to broaden the principles and approach taken by UNSC Resolution 687 creating the UNCC, by establishing a permanent body in charge of evaluating and possibly compensating for wartime environmental damage. Such an approach would be more effective and legally sound if it were grounded in the clear legal basis that environmental damages are illegal per se, and directly breed State or criminal liability.

2.6 Conclusions on international humanitarian law

The provisions of IHL governing environmental protection during armed conflicts constitute a disparate body of treaty law, customary law, soft law and general principles that have developed over decades to respond to a wide range of practical problems and moral concerns. A number of significant gaps and difficulties remain to be reconciled if the protection of the environment is to be enhanced within the IHL framework.

First, while most recent and ongoing conflicts are internal, the body of IHL treaty and customary law governing non-international armed conflict (NIAC) is relatively limited. There is no treaty norm that explicitly addresses the issue of environmental damage during NIAC, and obligations applicable in this context are generally far less restrictive than for international armed conflicts (IAC). The principle treaty law regulations for NIAC are contained within Common Article 3 to the four Geneva Conventions and Additional Protocol II. Common Article 3 merely restates basic protections for persons *hors de combat*, and is of little direct relevance to environmental protection, while Protocol II does not provide detailed limitations regarding methods and means of warfare. In addition, as noted by one expert, “instances of Protocol II’s application have been rare,” mainly due to the fact that few States ratified it before the late 1980s or 1990s. Protocol II could not, therefore, be applied as a source of treaty law in the many internal conflicts that occurred during that period, including in Angola, Haïti, Somalia and Sri Lanka. General principles of IHL and customary law may be of assistance in filling this gap of applicable law to internal conflicts.

[...]

Second, many rules contained within treaties are not universally applicable to all States (particularly to those States that are not a Party to them) unless they have entered the corpus of customary international law. This

is a major limitation for the practical relevance and effectiveness of the treaties highlighted above, particularly in light of the fact that many have not been ratified by some of the major military powers, resulting in disagreement regarding their implementation and enforcement. It is therefore essential that all States be encouraged to become signatories to the major treaties and to ratify them with haste to ensure that IHL protection for the environment is real and effective.

Third, few norms of IHL explicitly address the issue of environmental protection, and in most cases the environment is better protected indirectly by other norms regulating the means and methods of warfare or protecting civilian persons and objects. The analysis has shown that the indirect means provide significantly more comprehensive protection than the norms of IHL that protect the environment *per se*.

Fourth, a significant criticism of the entire IHL framework centres on the lack of State adherence to IHL norms even where they are signatories to the relevant treaties. It has all too often been observed that even where applicable environmental provisions do exist, States decide not to enforce them for political or military reasons. The ICRC *Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict* (1994) provide guidance for implementation of these norms of IHL in military education.

Finally, aside from the International Criminal Court [...], and ad hoc criminal tribunals, there are few effective mechanisms for enforcing provisions of IHL, particularly relating to damage to the environment.

A key solution to these issues involves the codification of environmental protection into a coherent and practical instrument that considers both IAC and NIAC. Such an instrument could be developed on the basis of updated ICRC guidelines on protecting the environment during armed conflict, and with the expertise of the International Law Commission (ILC). In the absence of such a practical instrument, the protection of the environment remains governed by a disparate body of law that requires elaboration and consolidation.

[Note from authors: At the time of publishing this report, the 1994 ICRC *Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict* had not been updated. The Guidelines were updated in 2020. (See Document A of this case)]

C. IUCN, Nature in a Globalised World: Conflict and Conservation

[Source: IUCN, *Nature in a Globalised World: Conflict and Conservation*, Report No.1, 28 April 2021, available at <https://portals.iucn.org/library/node/49472>. Footnotes omitted.]

a. What is 'conflict'?

(1) Conflicts are complicated and driven by many motivations and values. They exist in many forms, ranging from outright war between states, to skirmishes of contesting factions to subtler underlying social, economic and military tensions. Conflicts also encompass unarmed combat or 'soft war', including unarmed coercion

and cyberwarfare. This assessment considers multiple dimensions and forms of conflict, but our main focus is on violent conflict involving armed force, which itself comprises a number of elements and stages [...]

(2) The number of armed conflicts is currently at its highest point in 30 years. A key development over recent decades has been the increased prevalence of internal conflicts, including those that are internationalised (an internal conflict in which one or more third-party governments are involved with combat personnel in support of the objectives of either side).

b. What is 'nature'?

(3) The term 'nature' is elusive and contested. To some, nature is only 'natural' if it is free from human influence; to others, nature encompasses the entire global environment, including all of humanity, along a continuum from 'natural' to 'artificial'. This report focuses on the relationships within the 'natural' side of this continuum. This is not to deny that there are relationships between conflict and those elements of nature which exist in cities, intensively farmed landscapes, laboratories and indeed, in 'human nature' itself. Rather, this report concentrates on the elements of nature which typically comprise the focus of conservation.

(4) Finally, this report defines 'conservation' as the human activity dedicated to averting the loss of nature and advancing its recovery. Here, conservation therefore encompasses a range of concepts including both 'protection' ('preservation') and 'sustainable use', as well as 'restoration'. It is considered part of the broader concept of sustainable development, consistent with the United Nations 2030 Agenda for Sustainable Development, especially Goals 14 (Life below water) and 15 (Life on land).

Influences of conflict on nature and natural resources

(5) The impacts of conflict on nature are overwhelmingly negative, but vary widely in detail, as evidenced both by the published literature and by analyses of data from the Uppsala Conflict Data Program, as well as by biodiversity and conservation data mobilised according to IUCN standards. Variation includes differences in impact across levels of ecological organisation (e.g. on species relative to ecosystems), spatial scales (where there appears to be high spatial congruence between warfare and nature at coarse scales, and lower congruence at fine scales), and mode of impact (from direct and intentional use of environmental degradation as a tactic; to direct but unintentional consequences of war for nature; to indirect impacts such as the loss of human conservation capacity and the persecution of environmental defenders). In a few cases, conflict has also been observed to yield some positive impacts on nature, but these are often short-lived and overwhelmed by the waves of unconstrained development that can follow conflict.

a. Synthesis of current evidence

(6) Warfare affects nature through both direct (military and supporting activities) and indirect (changing institutional dynamics, movement of people, and altered economies and livelihoods) pathways. Armed

conflict erodes the rule of law by facilitating illegal plunder and driving unsustainable use of natural resources, variously by corrupt officials, criminal gangs and impoverished or displaced people who are faced with few other options for subsistence. Of 30,178 species assessed as threatened on the IUCN Red List of Threatened Species...only 219 are classified as threatened by 'war, civil unrest & military exercises', but this figure includes iconic species such as the Critically Endangered Eastern Gorilla *Gorilla beringei*. However, this might also be an underestimate of the real figure. For example, the total does not include the Critically Endangered fish *Oxynoemacheilus galilaeus*, which is now extirpated from Hula Lake in Israel, and threatened by uncontrolled well-drilling during the recent Syrian conflict which appears to have dried out Muzairib, the last lake in which it survived.

(7) War impacts nature through direct killing of individual organisms, modifications of natural ecosystems, and reduced capacity for conservation implementation. At the organismal level, most impacts relate to deliberate killing for food; this may be particularly the case for primates and other large mammals. During the 1994 war in Rwanda for example, 90 per cent of the large mammals in Akagara National Park were killed for food or trade, and poaching of ungulates in the Parc National des Volcans also increased. The genocide sent thousands of people walking through protected areas, either to reach safety or to join the conflict, often killing animals for food and clearing trees along the way. The Vietnam War almost certainly accelerated the slide into extinction of the Critically Endangered Javan Rhinoceros *Rhinoceros sondaicus* in mainland Asia, as the Viet Cong shot them to supplement a meagre diet. During the 1996–1997 war in the Democratic Republic of the Congo, there was a fivefold increase in poaching in Garamba National Park; while in Nepal, the 1996–2006 Maoist insurgency forced troops guarding rhinoceroses and tigers to move to other duties, allowing a similar spike in poaching. Increased availability of guns has been shown to have been a major driver of large mammal decline during the Angolan Civil War, which took place in the last quarter of the 20th century. In Cambodia, there were marked declines in the relative abundance of animals during the country's periods of conflict from the 1950s to the 1990s; in the Sahara-Sahel, conflict has contributed significantly to the killing of the region's threatened species and the resulting population declines [...]

(8) At the ecosystem level, environmental degradation is both a tactic and a consequence of war. Its use as a tactic is perhaps most infamously exemplified by the use of defoliants in the Vietnam War, leaving a legacy of environmental devastation felt to this day; and the deliberate setting ablaze of oil wells and related oil spills during the 1991 Gulf War. There is some evidence that the increasing prevalence of intra-state warfare and territorial occupation...has come hand-in-hand with the direct targeting of environmental infrastructure, resources and ecosystems in conflict settings. In the Middle East for example, agricultural land has been bombed and burned, and water has been contaminated in the recent conflicts.

(9) Ecosystem-level consequences of conflict are common. For example, war may force soldiers, refugees and local people to overexploit forests for fuelwood. There was a substantial presence of armed groups in Colombian forests from 1985 to 1997, and 2000 to 2015; while in some cases this generated "gunpoint conservation", more often, both guerrillas and paramilitaries cleared forests for cultivation of coca. Pollution is

another ecosystem-level impact of conflict, for example the noise from naval sonar – the use of which extends from war into peacetime – severely impacts cetaceans that depend on echolocation. The ecosystem impacts of war also include indirect costs imposed on people through the degradation of ecosystem services, for example through changes in hydrology and associated water management and irrigated agriculture [...] It is also possible that broad-scale relationships between zoonotic disease outbreaks and armed conflict – as documented for Ebola in the Democratic Republic of the Congo in 2018–2019 – may be influenced by the environmental deterioration concomitant with both.

d. Changing climate, weather and conflict

(10) [...] High-profile studies have sought to identify causal linkages between climate change and violent conflict. One study found a positive relationship between conflict and temperature across sub-Saharan Africa since 1960, and combined this with climate projections to anticipate a 54 per cent increase in armed conflict (equivalent to 393,000 deaths) by 2030, in the absence of climate change mitigation. Another study similarly showed that the conflict in Syria, which began in 2011, could be attributed to climate change, together with poor governance and unsustainable agricultural and environmental policies.

(11) A 2013 synthesis of the literature concluded that “amplified rates of human conflict could represent a large and critical social impact of anthropogenic climate change in both low- and high-income countries.” A broad range of conflict-related endpoints have been found to be associated with climate, with data suggesting that an increase in temperature is associated with an increase in conflict probability.

(12) These findings are heavily contested, however. For example, ethno-political exclusion, fragile economies, and the end of the Cold War may explain conflict in Africa better than climate change. The purported causal linkages between climate change, drought, migration and conflict in Syria over the past decade are also in dispute. Literature reviews and meta-analyses find that evidence is not yet robust enough to offer conclusive insight into the effects that climate variability and change have on conflict.

(13) One important criticism of the climate-conflict link is that some of the evidence draws from select cases where conflict is present and data are available, rather than subjecting to similar scrutiny, cases where no conflict has emerged, even if comparable environmental conditions are at play. A recent assessment of the conflict literature supports this notion: evidence on the climate-conflict connections comes disproportionately from countries that are already experiencing conflict. Syria is a case in point: research has examined the role the multi-year drought has played in the onset of the war in Syria in 2011, but assessments of the impacts of the same drought in Jordan and Lebanon, where such conflict did not emerge, are rare.

(14) Ignoring evidence on peaceful responses to changing environmental conditions also overlooks the role of complex political, economic and institutional factors that are often key to maintaining peace, as opposed to falling into conflict. Critics have also cautioned that overstating the role of climate change serves to ‘naturalise’ violence as an explicable human and social response to climate change, as if it were outside the

control of people making decisions within that context. This could suggest an almost deterministic relationship between the environment and armed conflict, thereby excusing belligerents of their direct responsibility for violence.

(15) However, alongside evidence regarding specific locations, a substantial literature has emerged that uses data from many locations and over a long time period to assess the climate-conflict link. Combining data on conflict, weather and other potential drivers of conflict, these studies use statistical approaches to empirically examine, test and quantify the interlinkages between climate and conflict [...] While evidence on the specific linkages between climate change and conflict is subject to ongoing debate and research, broad agreement exists that these linkages are relevant [...] Seeking to synthesise current knowledge, a recent study systematically elicited expert judgment data from some of the leaders in the field. In that study, experts considered that 3–20 per cent of conflict risk over the 20th century was influenced by climate. However, they also identified the specific mechanisms of climate–conflict linkages as a key uncertainty, and recognised that a better understanding of such linkages is needed.

D. ICRC, 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

[Source: ICRC, 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, July 2020, **available at** <https://www.icrc.org/en/publication/4487-when-rain-turns-dust>. Footnotes omitted.]

THE DIRECT AND INDIRECT CONSEQUENCES OF ARMED CONFLICT FOR PEOPLE'S RESILIENCE

(1) In addition to killing civilians, wars leave lasting scars on individuals and societies. They profoundly disrupt social, political, and economic arrangements, causing “development in reverse” and exacerbating poverty and inequalities. In situations of conflict, insecurity is only one of the many menaces people face. They may lose their homes and their livelihoods. Their access to food and water may be compromised, and (where they exist) essential services and systems that play a critical role in people's resilience to shocks may be badly damaged or overwhelmed. The economy may be depressed, social networks disrupted, social cohesion eroded, and some parts of the country's territory neglected or inaccessible to public officials.

(2) Conflicts can also cause long-term damage to the environment, harming people's physical and mental health, livelihoods, and resilience – notably to climate shocks – for decades. Research shows that most deaths during conflict are not directly caused by the violence, but indirectly by the breakdown of systems... Like climate change, conflicts are unfair. Their impact is unevenly distributed. They increase the vulnerability of those who are already vulnerable and create new vulnerabilities. Marginalized people with a lower socio-economic status, particularly women, are often more vulnerable to shock, as they tend to lack financial and social assets to cope with change. They also tend to be hit hardest by climate shocks.

WHEN ARMED CONFLICT AND CLIMATE RISKS COLLIDE

Does climate change cause conflict?

(3) In recent years, concern has been growing about security risks resulting from climate change, as have warnings that a changing climate could provoke a succession of wars. Scientists generally agree that climate change does not directly cause armed conflict, but that it may indirectly increase the risk of conflict by exacerbating factors that can, in a complex interplay, ultimately lead to conflict. Such factors include social exclusion, a history of conflict and grievances, economic risks, environmental degradation, and tensions over the management of resources. In peaceful environments with solid institutions that provide social protection, resolve tensions, manage the use and allocation of resources in a sustainable and equitable manner, and ensure inclusive development, climate change does not cause violent conflicts. Such institutions are critical to climate-change adaptation. Countries affected by conflict, other violence or fragility tend to suffer from the absence of strong governance and inclusive institutions. In such places, while climate change may not cause conflict, it may contribute to exacerbating and prolonging conflict and instability by further weakening institutions, systems, and people's coping mechanisms. It may also aggravate communal violence.

(4) Research examining the connection between climate variability and violence shows that an increase or decrease in rainfall in resource-dependent economies enhances the risk of localized violence, particularly in communities where resources are already overstretched and where the State may not be able to resolve tensions. Shifts in pastoral routes and agricultural practices in response to a changing climate may also stir tensions when communities that lack established relationships, and conflict-resolution mechanisms in common, must share land and other resources.

[.....]

OUR CALL

(5) The survival and identity of people across the world is intrinsically connected to their environment and a predictable climate. Conflict-affected communities are already disproportionately affected by the consequences of the climate crisis, through loss of life, disease, economic setbacks, deteriorating living conditions and erosion of livelihoods. The impact on people's health and well-being is severe... Humanitarian organizations have a role and a responsibility to help people strengthen their resilience to climate risks, including in situations of conflict. We must collectively overcome obstacles and find ways to help them, in a consistent and predictable manner, to adapt to a changing and increasingly volatile climate. Urgent and ambitious measures to mitigate the climate crisis by reducing carbon emissions are essential, as adaptation alone will not be sufficient to avert the most disastrous consequences for people and their environment [...]

E. Article I of 1977 United Nations Convention on the Prohibition of Military

or Any Other Hostile Use of Environmental Modification Techniques (ENMOD)

[Source: Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques, Adopted by Resolution 31/72 of the United Nations General Assembly, December 10, 1976; available on <http://www.un-documents.net/enmod.htm>]

Article I

1. Each Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long lasting or severe effects as the means of destruction, damage or injury to any other State Party.
2. Each Party to this Convention undertakes not to assist, encourage or induce any State, group of States or international organization to engage in activities contrary to the provisions of paragraph 1 of this article.

Discussion

General Questions

1. [Document A; Document B; Document C; Document D; and Document E]

- a. How does IHL define the notions of 'natural environment' and 'armed conflict'? How do other texts or actors define them? To what extent does it matter for the protection of the natural environment in armed conflict? (ICTY, *The Prosecutor v. Tadić* [Document B, para. 70; PI Art. 52].)
- b. What are the links between the protection of the natural environment in armed conflict and climate change? To what extent would you say climate change has an incidence on armed conflicts? Is climate protection covered by the rules protecting the environment in armed conflict? How? Should IHL be further developed in that respect? Another body of law? Why?
- c. Traditionally the protection of the natural environment in armed conflict has been linked to the protection of the civilian population and civilian objects. Would you say that this approach has changed? (CIHL, Rule 44; 2020 Guidelines, Rules 1-13)
- d. What is the purpose of the ENMOD Convention? Which element does its Article 1 add to the protection of the environment provided by IHL? (ENMOD, Art.1.
- e. What is the purpose of the 2020 Guidelines? Which elements of its rules and recommendations add to the protection of the natural environment? (2020 Guidelines, Rules 1-7, 13-4, 27, 32)

Specific Protections

2. [Document A (paras. 18-21 of the 2020 Guidelines and Commentary); and Document E]

a. How is the natural environment protected under IHL? In international armed conflicts? In non-international armed conflicts? What are some of the specific IHL [ICRC1] rules in respect to the natural environment? What differences and similarities would you identify with the protection of the natural environment between different IHL texts? (PI, Art. 35(3), 55(1); PII, Art. 14 and 15; CIHL, Rules 43, 44, and 45; ENMOD, Art. 1; 2020 Guidelines, Rules 1-4).

b. What is a civilian object? Is the natural environment a civilian object? (PI, Art. 51-56; PII, Art. 14 and 15; CIHL, Rules 9, 10, 42 and 43).

c. Is every object that composes the environment necessarily a civilian object, which may therefore not be attacked? How does IHL address this question? How does it affect the protection of the environment during armed conflict? (PI, Art. 48, 51-57; PII, Art. 13, 14 and 15; CIHL, Rules 42 and 54; 2020 Guidelines, Rules 4-5).

Conduct of Hostilities

3. [Document A, Document B (international humanitarian law); and Document E]

a. Do IHL rules on conduct of hostilities also apply to attacks specifically directed against the natural environment? What about attacks damaging the natural environment, while not specifically targeted against it? (CIHL, Rules 7, 8, 10, 11, 12, 14, 15, 16, 17, 21, 22, 43 and 44; PI, Arts 48, 51, 52, 57 and 58; 2020 Guidelines, Rules 5-9)

b. To what extent may the legal provisions protecting the environment be bypassed by invoking imperative military necessity? Is there a difference between the provisions of Protocol I and Art. 1 of the ENMOD Convention in that regard? (2020 Guidelines, Rule 13)

c. How would you define the notion of military objective? Can the environment or parts of it become a military objective as defined in Protocol I? What criteria would you base this conclusion on? May those parts be attacked? Under which conditions? (P I, Arts 35(3), 52(2), 54 and 55, PII, Arts. 13, 14 and 15; CIHL, Rules 8, 53 and 54; 2020 Guidelines, Rules 5-10, 13)

d. How would you define incidental damage? Is destruction of the natural environment permitted as incidental damage? (PI, Art. 57; CIHL rules 15, 16, 17, 18, 19, 20 and 21)

e. Can the principles of distinction, proportionality and precautions be applied as such to the natural environment? If not, what specificities would you identify to apply those principles to it? (CIHL, Rules 7, 10, 11, 14-15, and 22, 42, 43, 44, 45, and 76; P I, Arts 48, 51, 52, 57 and 58; 2020 Guidelines, Rules 5-9).

f. What protection does IHL provide for areas of particular environmental importance or fragility? How can the

rules on demilitarized zones and non-defended localities, objects indispensable to the survival of the civilian population, cultural property, works and installations containing dangerous forces contribute to protect those areas? (2020 Guidelines, Rule 9 and recommendation 17).

The ENMOD Convention

4. [Document E]

- a. Does the ENMOD Convention also cover attacks on military objectives? How does this compare with the provisions protecting the environment in Protocols I and II?
- b. Since Art. 35(3) of Protocol I focuses on the environment, do you consider Art. I of the ENMOD Convention necessary? Do you think that the thresholds of applicability for Art. 35(3) of Protocol I and for Art. 1 of ENMOD are the same? Would you differentiate between the two articles in terms of applicability?
- c. Does the terminology used in Art. 1 of the ENMOD Convention and Art. 35(3) of Protocol I, namely that effects (or, respectively, damage) must be “widespread, long lasting or [respectively, long-term and] severe”, have the same meaning?

Policy Issues

5. [Document A; Document B; Document C; Document D; and Document E]

- a. Is the existing legal framework sufficient for the protection of the natural environment during armed conflict? Do you see areas that could use additional rules? In international armed conflict? In non-international armed conflict?
- b. What is the significance of Martens Clause with respect to the protection of the natural environment? (PI, Art. 1(2); PII, Preamble; 2020 Guidelines; Rule 16).
- c. Do you agree that the protection of the environment is less codified in non-international armed conflict? In the absence of a sufficient legal framework, are States allowed to damage the environment inside their own territory? Are non-state armed groups allowed to damage the environment inside the territory under their control? Should the rules applying in international armed conflict be applied by analogy in non-international armed conflict? (GCI-IV, Common Article 3; 2020 Guidelines, Recommendation 18 and Rules 26-32). Do they?
- d. Considering recent State practice would you say that the ENMOD Convention is necessary? Has the environment as such been used as a weapon since the adoption of that Convention in 1977? If not, does your answer prove that the Convention is not necessary?

e. Would you consider the articles concerning the environment as being customary or emerging customary international law? How could they become customary international law? Only through practice in armed conflicts? Or also through general State practice concerning the protection of the environment?

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