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Protection of The Natural Environment (PNE) During Armed Conflict and The Implementation Guidance On PNE

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ABSTRACT: The protection of the natural environment during armed conflict has become an increasingly significant concern in international humanitarian law (IHL), given the devastating environmental consequences of contemporary warfare. Armed conflicts frequently result in the destruction of forests, contamination of water resources, degradation of agricultural land, pollution of the atmosphere, and damage to ecosystems essential for human survival. These consequences threaten civilian populations, undermine public health, compromise food security, and impede post-conflict recovery. Although existing international humanitarian law instruments, particularly the Additional Protocols I and II of 1977 to the Geneva Conventions of 1949, provide specific protections against certain forms of environmental damage, significant challenges remain concerning the interpretation, implementation, and enforcement of the applicable legal standards. This paper examines the legal framework governing the protection of the natural environment during armed conflict, with particular emphasis on the International Committee of the Red Cross (ICRC) Guidelines on the Protection of the Natural Environment in Armed Conflict and the subsequent implementation guidance developed to facilitate their practical application. It evaluates the principles of distinction, proportionality, precaution, military necessity, and the prohibition of widespread, long-term and severe environmental damage, while highlighting the relationship between environmental protection and the protection of civilians and civilian objects. The paper further examines the institutional, operational, and normative challenges that impede the effective implementation of environmental protection obligations by states, armed forces, and other relevant actors. It argues that although the existing legal framework provides an important foundation for environmental protection during hostilities, its effectiveness depends on the integration of environmental considerations into military planning, operational decision-making, legal training, and post-conflict remediation. The paper concludes that effective implementation guidance, supported by national legislation, institutional accountability, and international cooperation, is essential for strengthening compliance with international humanitarian law and preventing avoidable environmental harm during armed conflict.

KEYWORDS: Protection of the Natural Environment, Armed Conflict, International Humanitarian Law, ICRC Guidelines, Implementation Guidance, Military Operations.

1. INTRODUCTION

The protection of the natural environment during armed conflict has emerged as a significant issue in contemporary international humanitarian law (IHL), environmental law, and international legal scholarship. Armed conflicts frequently produce environmental consequences that extend beyond the immediate battlefield, including the destruction of forests, contamination of water bodies, degradation of agricultural land, loss of biodiversity, and damage to ecosystems upon which civilian populations depend for their survival. Such consequences may persist long after the cessation of hostilities, undermining public health, food security, economic development, and the capacity of affected communities to recover from conflict. The natural environment, therefore, cannot be regarded merely as collateral to military operations; it is an essential component of civilian survival and human security that requires effective legal protection during armed conflict.[1]

Historically, the regulation of warfare concentrated primarily on protecting combatants, civilians, and civilian property from the effects of hostilities. Although these objectives remain central to IHL, the environmental consequences of modern warfare have increasingly demonstrated the need to interpret and apply existing humanitarian rules in ways that adequately account for environmental harm. The destruction of environmental resources may directly threaten civilian populations, while the contamination

[1] International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary* (ICRC 2020).

of water supplies, damage to agricultural systems, and disruption of essential ecological processes may produce indirect and long-term humanitarian consequences. Accordingly, the protection of the natural environment is closely connected with the fundamental humanitarian objectives of limiting unnecessary suffering and protecting persons who are not, or are no longer, participating in hostilities.[2]

The international legal framework for environmental protection during armed conflict comprises treaty rules, customary international humanitarian law, and relevant principles of international environmental law and international criminal law. Two important treaty provisions are Articles 35(3) and 55 of Additional Protocol I of 1977 to the Geneva Conventions of 1949. Article 35(3) prohibits the employment of methods or means of warfare intended, or expected, to cause widespread, long-term and severe damage to the natural environment. Article 55 further requires parties to an armed conflict to protect the natural environment against such damage, which would prejudice the health or survival of the population.[3] These provisions establish specific protections against particularly serious environmental destruction. Nevertheless, their interpretation, scope of application, and demanding cumulative threshold have generated continuing debate concerning the extent to which they adequately address the diverse environmental consequences of contemporary armed conflicts.

Beyond these express treaty provisions, the natural environment benefits from the application of general principles of IHL governing the conduct of hostilities. The principles of distinction, proportionality, and precaution are particularly relevant. Under the principle of distinction, the natural environment is generally civilian in character and may not be attacked unless particular parts of it satisfy the legal requirements for classification as military objectives. The principle of proportionality prohibits attacks expected to cause incidental environmental damage that would be excessive in relation to the concrete and direct military advantage anticipated, where the applicable legal rules require such an assessment. Similarly, the obligation to take feasible precautions in attack requires parties to take relevant environmental consequences into account when planning and conducting military operations.[4] These rules demonstrate that environmental protection is not confined to exceptional cases of catastrophic destruction but is also relevant to the ordinary application of the law governing the conduct of hostilities.

The International Committee of the Red Cross (ICRC) has played a significant role in clarifying and promoting the application of these legal obligations. In 1994, following international concern about the environmental consequences of armed conflict, the ICRC issued guidelines intended to assist the incorporation of environmental protection rules into military manuals and instructions. In September 2020, the organisation published its updated *Guidelines on the Protection of the Natural Environment in Armed Conflict*, reflecting developments in treaty and customary international law. The Guidelines comprise 32 rules and recommendations, accompanied by commentaries explaining their legal foundations, interpretation, and applicability. They address specific protections afforded to the natural environment, general rules governing the conduct of hostilities, restrictions associated with particular weapons, and measures relating to the implementation and dissemination of applicable legal obligations.[5]

The importance of the 2020 Guidelines lies in their attempt to bring together relevant existing IHL rules and make them accessible to states, armed forces, non-state armed groups, and other actors responsible for promoting or implementing humanitarian law. The Guidelines also provide recommendations for translating legal obligations into practical measures, including environmental awareness within military training, the identification of ecologically important or fragile areas, and the incorporation of environmental considerations into military planning and national legal frameworks. Although the Guidelines are not, in themselves, a treaty creating new binding obligations, the legal rules they identify may be binding where they reflect applicable treaty law or customary international law. Their practical value therefore lies in clarifying existing obligations and facilitating measures to improve compliance.[6]

Notwithstanding these developments, the existence of international rules does not automatically guarantee effective environmental protection during armed conflict. Significant challenges remain concerning the dissemination of applicable legal standards, the integration of environmental considerations into military doctrine, the identification and assessment of anticipated environmental damage, and the investigation and accountability of violations. In addition, the complexity of modern warfare, the involvement of non-state armed groups, and the long-term and sometimes transboundary nature of environmental harm complicate the implementation of existing protections. These difficulties demonstrate that effective environmental protection requires more than

[2] Obregón Gieseken, H and Murphy, V., 'The Protection of the Natural Environment under International Humanitarian Law: The ICRC's 2020 Guidelines' (2023) 105(924) *International Review of the Red Cross* 1181.

[3] Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3, arts 35(3) and 55.

[4] Protocol I, arts 48, 51(5)(b) and 57; Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law*, vol I: *Rules* (Cambridge University Press 2005), rules 43–45.

[5] ICRC (*supra*)

[6] Ibid; Henckaerts and Doswald-Beck (*supra*), rules 43–45.

the formal recognition of legal principles; it demands institutional preparedness, practical implementation measures, monitoring, and accountability.

Against this background, the ICRC's 2026 publication, *Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance*, represents an important development in the practical application of the law. Published on 4 June 2026, the Implementation Guidance identifies measures to assist national entities in implementing IHL rules protecting the natural environment, particularly selected key obligations. It provides implementation checklists for states and examples of state practice, supporting the incorporation of the rules identified in the 2020 Guidelines into military doctrine and national legal and policy frameworks. It also supports the implementation of the relevant principles adopted by the United Nations International Law Commission on the protection of the environment in relation to armed conflicts.[7] The relationship between the 2020 Guidelines and the 2026 Implementation Guidance is consequently important: while the former consolidates and explains relevant legal rules and recommendations, the latter focuses more directly on the practical steps through which states can give effect to those obligations.

The implementation of these standards requires coordinated action by governments, armed forces, national humanitarian law committees, environmental authorities, legislative institutions, and other relevant stakeholders. Measures such as reviewing military manuals, strengthening legal training, incorporating environmental considerations into operational planning, improving environmental assessment capabilities, and developing appropriate national legislation can help bridge the gap between international legal standards and actual military practice. Furthermore, identifying environmentally sensitive areas before and during armed conflict, where feasible and operationally relevant, may assist parties in reducing avoidable damage and protecting resources essential to civilian survival.[8]

This paper, therefore, examines the protection of the natural environment during armed conflict, with particular emphasis on the ICRC's Guidelines on the Protection of the Natural Environment in Armed Conflict and the subsequent Implementation Guidance. It considers the applicable international legal framework, the scope and significance of the relevant environmental protection rules, and the practical challenges associated with their implementation. It further evaluates the extent to which the Implementation Guidance can strengthen national compliance, improve military preparedness, and promote accountability for environmental harm associated with armed conflict. The central argument is that although international humanitarian law provides an important foundation for protecting the natural environment during warfare, the effectiveness of that protection depends substantially on the consistent translation of legal obligations into military procedures, national legislation, institutional practices, and effective compliance mechanisms. Strengthening implementation is therefore indispensable to reducing environmental destruction, safeguarding conflict-affected populations, and preserving the ecological conditions necessary for post-conflict recovery.

2. LEGAL FRAMEWORK GOVERNING THE PROTECTION OF THE NATURAL ENVIRONMENT DURING ARMED CONFLICT

The legal framework governing the protection of the natural environment during armed conflict comprises international humanitarian law (IHL), customary international law, international environmental law, and relevant principles of international criminal law. These bodies of law establish restrictions on the destruction, exploitation, and contamination of the natural environment during hostilities and provide a foundation for preventing environmental damage that threatens civilian populations and ecological systems. The framework is particularly significant because the consequences of environmental destruction may extend beyond the duration of hostilities, undermining public health, food security, access to clean water, and post-conflict reconstruction. The International Committee of the Red Cross (ICRC) has consolidated important rules and recommendations in its *Guidelines on the Protection of the Natural Environment in Armed Conflict* (2020), while its *Implementation Guidance* of 2026 identifies practical measures to facilitate compliance with selected environmental protection obligations.[9]

The principal legal challenge is not simply whether international law recognises environmental protection during warfare, but whether existing rules provide sufficient protection against the range of environmental harm associated with contemporary armed conflicts and whether states and other parties to armed conflict implement those rules effectively. Accordingly, the applicable legal framework must be examined through its treaty provisions, customary rules, weapons-specific restrictions, international environmental law principles, and mechanisms for national implementation and accountability.

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[7] ICRC, *Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance* (4 June 2026).

[8] ICRC (*supra*)

[9] International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary* (ICRC 2020); ICRC, *Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance* (4 June 2026).

2.1 The Geneva Conventions and Additional Protocol I of 1977

The four Geneva Conventions of 1949 constitute the foundation of modern international humanitarian law. Although their principal provisions focus on the protection of wounded and sick persons, prisoners of war, and civilians during armed conflict, they contribute to environmental protection by safeguarding persons whose survival depends upon natural resources and essential civilian infrastructure. Nevertheless, the Conventions do not establish a comprehensive, standalone regime governing all forms of environmental damage caused by warfare. More explicit protection emerged through Additional Protocol I of 1977, which addresses the environmental consequences of methods and means of warfare.[10]

Article 35(3) of Additional Protocol I prohibits the employment 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. This provision places a substantive limitation on the conduct of hostilities by prohibiting warfare practices that produce environmental destruction meeting the prescribed threshold. The three elements, widespread, long-term and severe, are cumulative, meaning that the damage must satisfy all three requirements for the specific prohibition in Article 35(3) to apply. The provision is therefore important but relatively narrow in its application, particularly where environmental damage is serious but does not meet every element of the threshold.[11]

Article 55(1) of Additional Protocol I reinforces this protection by requiring care to be taken in warfare to protect the natural environment against widespread, long-term and severe damage. It further prohibits attacks against the natural environment by way of reprisals. Article 55(2) addresses the prohibition of reprisals against the natural environment and makes clear that such measures must not be used as a means of retaliation against an adversary.[12] These provisions establish an important distinction between the general regulation of methods and means of warfare under Article 35(3) and the specific environmental protection obligations under Article 55.

The significance of Articles 35(3) and 55 lies in their express recognition that the natural environment deserves protection against particularly serious wartime destruction. However, their treaty application is subject to the scope of Additional Protocol I and the applicable rules governing treaty obligations. Moreover, the existence of these specific provisions does not mean that environmental damage falling below their threshold is automatically lawful. Other IHL rules, including the principles of distinction, proportionality and precaution, continue to regulate attacks and their foreseeable environmental consequences.[13]

2.2 Additional Protocol II of 1977

Additional Protocol II of 1977 supplements the Geneva Conventions by regulating certain non-international armed conflicts. Although it does not reproduce the specific prohibition of widespread, long-term and severe environmental damage contained in Article 35(3) of Additional Protocol I, it provides environmental protection through provisions safeguarding objects indispensable to the survival of the civilian population.

Article 14 of Additional Protocol II prohibits the starvation of civilians as a method of combat. It expressly prohibits attacking, destroying, removing or rendering useless objects indispensable to civilian survival, including foodstuffs, agricultural areas used for the production of food, crops, livestock, drinking-water installations and supplies, and irrigation works, when the conduct is undertaken for the specific purpose of denying their sustenance value to the civilian population or the adverse party, whatever the motive, whether to starve civilians, cause them to move away, or for another motive.[14]

This provision has significant environmental implications because agricultural land, water resources, livestock and related ecological systems are indispensable to human survival. The destruction of such resources may generate severe humanitarian consequences even when the environmental damage does not satisfy the threshold under Additional Protocol I. Article 14 therefore provides a particularly important form of protection in non-international armed conflicts, subject to its precise terms and the applicable legal requirements.

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[10] Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 31; Geneva Convention II for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 85; Geneva Convention III relative to the Treatment of Prisoners of War (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 135; Geneva Convention IV relative to the Protection of Civilian Persons in Time of War (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 287; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3.

[11] Protocol I (*supra*), art 35(3).

[12] Ibid, art 55.

[13] Ibid, arts 48, 51(5)(b) and 57; Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law*, vol I: *Rules* (Cambridge University Press 2005), rules 43–45.

[14] Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 609, art 14.

Article 15 of Additional Protocol II protects works and installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, against attacks that may release dangerous forces and consequently cause severe losses among the civilian population.[15] Although the provision is principally directed at protecting civilians from the dangers associated with such installations, it may also prevent serious environmental consequences, including flooding, contamination and widespread ecological damage.

Taken together, Articles 14 and 15 demonstrate that environmental protection during non-international armed conflict is not limited to rules expressly referring to the natural environment. Provisions designed to safeguard civilian survival and prevent catastrophic consequences may also protect ecosystems and essential natural resources.

2.3 Customary International Humanitarian Law

Customary international humanitarian law is an essential component of the legal framework because it may bind parties to armed conflict independently of whether a particular treaty provision applies to them, provided the relevant customary rule is established. Customary international law generally emerges from sufficiently general state practice accepted as law (*opinio juris*). The ICRC's 2005 study of customary international humanitarian law identifies several rules that are particularly relevant to environmental protection.[16]

First, Rule 43 provides that the general principles on the conduct of hostilities apply to the natural environment. Accordingly, no part of the natural environment may be attacked unless it constitutes a military objective. The rule also prohibits attacks against military objectives that may be expected to cause incidental environmental damage excessive in relation to the concrete and direct military advantage anticipated, and requires feasible precautions to avoid or minimise incidental environmental damage.[17]

Second, Rule 44 provides that methods and means of warfare must be employed with due regard to the protection and preservation of the natural environment. In conducting military operations, all feasible precautions must be taken to avoid, and in any event minimise, incidental damage to the environment. Lack of scientific certainty regarding the environmental effects of particular military operations does not, by itself, justify disregarding applicable legal obligations.[18]

Third, Rule 45 addresses the prohibition of methods or means of warfare intended, or expected, to cause widespread, long-term and severe environmental damage. It also states that destruction of the natural environment may not be used as a weapon. The ICRC's formulation of Rule 45 distinguishes between the general prohibition on causing such damage and the legal implications of the rule for particular weapons and methods of warfare. The customary status and precise scope of elements of Rule 45 have, however, attracted differing views among states. Its application must therefore be assessed with due regard to relevant state practice, *opinio juris*, and the applicable treaty rules.[19]

Customary IHL is particularly significant because it supplements treaty provisions and reinforces the application of general humanitarian principles to environmental damage. Nevertheless, the customary status of each specific environmental rule should be assessed individually rather than assuming that every formulation in the ICRC study has identical legal status or scope.

2.4 The Principles of Distinction, Proportionality and Precaution

The principles governing the conduct of hostilities provide some of the most practically significant protections for the natural environment. Their importance lies in their application to ordinary military operations, including situations in which environmental harm does not reach the exceptional threshold prescribed by Articles 35(3) and 55 of Additional Protocol I.

2.4.1 The Principle of Distinction

The principle of distinction requires parties to an armed conflict to distinguish between civilians and combatants and between civilian objects and military objectives. Attacks may be directed only against military objectives, subject to the applicable rules of IHL.[20]

The natural environment, in its ordinary condition, is generally civilian in character. Forests, rivers, agricultural land, wildlife habitats and other natural features do not become lawful objects of attack merely because they are located in a theatre of war. A particular part of the environment may, however, qualify as a military objective if it satisfies the applicable legal criteria concerning its nature, location, purpose or use and the military advantage offered by its destruction, capture or neutralisation in the circumstances ruling at the time.[21]

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[15] Ibid, art 15.

[16] Henckaerts and Doswald-Beck (*supra*).

[17] Ibid, rule 43.

[18] Ibid, rule 44.

[19] Ibid, rule 45; ICRC (*supra*).

[20] Protocol I (*supra*), arts 48 and 52(2).

[21] Ibid, art 52(2); Henckaerts and Doswald-Beck (*supra*), rule 7.

Consequently, the deliberate destruction of forests, water sources or agricultural areas cannot be justified merely by asserting a general military interest. The legality of an attack must be determined by applying the relevant rules governing military objectives and other applicable IHL restrictions.

2.4.2 The Principle of Proportionality

The principle of proportionality prohibits an attack expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, that would be excessive in relation to the concrete and direct military advantage anticipated.[22]

Environmental damage is relevant to this assessment insofar as it constitutes damage to civilian objects or contributes to other foreseeable incidental harm protected by the applicable rules. For example, an attack on a military objective may cause foreseeable contamination of water resources, destruction of agricultural land or damage to civilian infrastructure. Such consequences must be considered where they fall within the legally relevant assessment of incidental harm.

The principle does not prohibit every attack that causes environmental damage. Rather, it requires an assessment of the expected incidental harm in relation to the anticipated military advantage, taking account of the applicable legal standards. It must also be distinguished from the separate prohibition of widespread, long-term and severe environmental damage under Articles 35(3) and 55 of Additional Protocol I.

2.4.3 The Principle of Precaution

The obligation to take precautions in attack requires parties to do everything feasible to verify that targets are military objectives, to choose means and methods of attack with a view to avoiding or minimising incidental civilian harm, and to cancel or suspend an attack where the relevant legal conditions are met.[23]

Environmental considerations are relevant to these obligations. Where feasible and operationally relevant, military planners should consider the likely effects of an operation on water resources, agricultural areas, forests, protected habitats and other environmentally significant locations. Environmental assessments, updated information and appropriate technical advice may assist decision-makers in identifying foreseeable harm and determining whether alternative methods or targets would reduce incidental damage.

The precautionary principle in this context should not be confused with a general requirement to prevent all environmental harm regardless of circumstances. The binding obligations arise from the applicable IHL rules, including the requirement to take feasible precautions. The ICRC's Guidelines help explain how environmental considerations can be incorporated into their practical application.[24]

2.5 The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques 1976

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention) was adopted in 1976 and entered into force in 1978. It specifically addresses the hostile use of environmental modification techniques, thereby supplementing the broader protections provided by IHL.[25]

Article I requires each State Party not to engage in military or other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to another State Party. The Convention's prohibition is framed around the hostile use of environmental modification techniques, rather than all environmental damage resulting from military operations.

Article II defines environmental modification techniques as techniques for changing, through the deliberate manipulation of natural processes, the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space.[26]

The ENMOD Convention must be distinguished from Articles 35(3) and 55 of Additional Protocol I. Under ENMOD, the terms *widespread*, *long-lasting* and *severe* are disjunctive: the relevant prohibition may apply where the prescribed effects satisfy any one of these characteristics. Under Additional Protocol I, by contrast, the terms *widespread*, *long-term* and *severe* are cumulative. The instruments also differ in subject matter and scope. ENMOD addresses specified hostile environmental modification techniques, while Additional Protocol I regulates particular methods and means of warfare and the protection of the environment more generally.[27]

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[22] Protocol I (*supra*), art 51(5)(b).

[23] Ibid, art 57.

[24] ICRC (*supra*), rules 5–8.

[25] Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (adopted 10 December 1976, entered into force 5 October 1978) 1108 UNTS 151.

[26] Ibid, arts I–II.

[27] Ibid, arts I–II; Protocol I (*supra*), arts 35(3) and 55.

The Convention therefore constitutes an important but specialised part of the international legal framework. Its application must be considered alongside, rather than as a substitute for, the general principles and specific environmental protections of IHL.

2.6 The Rome Statute of the International Criminal Court

International criminal law provides a further dimension of protection by establishing individual criminal responsibility for certain serious violations committed during armed conflict. Under Article 8(2)(b)(iv) of the Rome Statute of the International Criminal Court, it is a war crime in international armed conflict to intentionally launch an attack in the knowledge that it will cause incidental loss of life or injury to civilians, damage to civilian objects, or widespread, long-term and severe damage to the natural environment that would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.[28]

This provision is significant because it expressly includes serious environmental damage within the definition of a particular war crime. Nevertheless, the offence has demanding elements. It requires the relevant mental element, including knowledge of the anticipated consequences, and the environmental damage must satisfy the specified threshold and be clearly excessive in relation to the anticipated military advantage. It is therefore not a general criminalisation of every unlawful act that causes environmental harm. Article 8(2)(b)(iv) expressly concerns international armed conflict. The Rome Statute does not contain an identical standalone offence of environmental destruction for non-international armed conflict. Depending on the circumstances, however, conduct that damages the environment may constitute another crime within the Court's jurisdiction if all the elements of that offence are satisfied.[29]

The Rome Statute consequently provides a potential accountability mechanism for particularly serious environmental harm, but its reach is limited by the jurisdictional and substantive requirements of the Court and the specific elements of the alleged crime.

2.7 The International Law Commission's 2022 Principles on the Protection of the Environment in Relation to Armed Conflicts

An important development in the progressive clarification of international law is the International Law Commission's 2022 *Draft Principles on Protection of the Environment in Relation to Armed Conflicts*, adopted on second reading. The principles address environmental protection before, during and after armed conflict, thereby extending the analytical framework beyond the conduct of hostilities alone.[30]

The principles address such matters as the designation of protected zones, the protection of the environment of indigenous peoples, the responsibilities of occupying powers, the sustainable use of natural resources, the prevention of transboundary harm, environmental assessment after armed conflict, remedial measures, and the management of remnants of war.[31]

Their significance lies in their comprehensive treatment of the environmental consequences of armed conflict across different phases. They recognise that effective protection requires preventive measures before hostilities, compliance with applicable law during conflict, and assessment, remediation and cooperation after hostilities have ended.

However, the principles are not, as a complete instrument, a treaty. Their legal effect varies according to the content of each principle: some reflect existing rules of international law, while others articulate recommendations or contribute to the progressive development of the law. Their status must therefore be assessed individually. The United Nations General Assembly, in Resolution 77/104 of 7 December 2022, took note of the principles and encouraged their widest possible dissemination.[32]

The principles complement the ICRC's 2020 Guidelines by situating IHL environmental protections within a wider framework that includes the prevention of environmental harm, state responsibility and post-conflict recovery.

2.9 The ICRC Guidelines on the Protection of the Natural Environment in Armed Conflict, 2020

The ICRC's *Guidelines on the Protection of the Natural Environment in Armed Conflict*, published on 25 September 2020, represent a significant reference document for understanding the application of IHL to environmental protection. The Guidelines contain 32 rules and recommendations accompanied by commentaries explaining their legal basis, interpretation and applicability.

The Guidelines are organised into four principal parts:

1. Specific protection of the natural environment under IHL.
2. General IHL rules protecting the natural environment.
3. Rules concerning particular weapons that afford protection to the natural environment.

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[28] Rome Statute of the International Criminal Court (adopted 17 July 1998, entered into force 1 July 2002) 2187 UNTS 3, art 8(2)(b)(iv).

[29] Ibid, art 8; see also art 22 on the principle of legality and strict construction of crimes within the Court's jurisdiction.

[30] International Law Commission (ILC), *Draft Principles on Protection of the Environment in Relation to Armed Conflicts, with Commentaries* (2022), UN Doc A/77/10, chap VI.

[31] *Ibid.*

[32] UNGA Res 77/104, 'Protection of the Environment in Relation to Armed Conflicts' (7 December 2022) UN Doc A/RES/77/104.

4. Rules and recommendations relating to respect for, implementation and dissemination of environmental protection obligations.

The Guidelines consolidate existing treaty and customary IHL rules and provide recommendations for reducing environmental harm during armed conflict. They address the application of the principles of distinction, proportionality and precaution to the natural environment, as well as specific restrictions relating to environmental destruction and the use of certain weapons.

The Guidelines also recommend practical measures to strengthen compliance, including the incorporation of relevant rules into military manuals, training programmes and national legal and policy frameworks. They encourage the identification of environmentally important or fragile areas and the adoption of appropriate measures to protect such areas, where feasible.

It is important to distinguish the legal status of the Guidelines from that of the rules they discuss. The Guidelines are not a treaty and do not independently create binding obligations merely by stating them. Rather, they identify existing legal obligations and provide recommendations intended to facilitate implementation. A rule identified in the Guidelines is binding to the extent that it reflects an applicable treaty obligation or customary international law; a recommendation does not become legally binding solely because it appears in the document.

2.10 The ICRC's 2026 Implementation Guidance on the Protection of the Natural Environment

The publication of the ICRC's *Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance* on 4 June 2026 represents a further step towards translating environmental protection standards into practical national measures. The Guidance is intended to assist national entities in implementing selected IHL rules protecting the natural environment. It includes checklists of measures states can adopt and examples of state practice illustrating possible approaches to implementation.[33]

The Guidance supports the incorporation of the rules set out in the ICRC's 2020 Guidelines into military doctrine and national legal and policy frameworks. It also supports the implementation of relevant principles developed by the International Law Commission on the protection of the environment in relation to armed conflicts.

Its practical importance lies in the recognition that effective environmental protection depends on the domestic and institutional measures through which international obligations are implemented. Relevant measures may include:

a. Reviewing national legislation and military manuals to identify gaps in environmental protection.
b. Integrating applicable environmental protection rules into military education and operational training.
c. Developing procedures for considering environmental consequences in military planning and decision-making.
d. Strengthening coordination between armed forces, environmental authorities and national bodies responsible for implementing IHL.
e. Improving awareness of environmental risks and identifying areas of particular ecological importance.
f. Establishing appropriate systems for investigating alleged violations and addressing environmental damage in accordance with applicable law.

These measures must be tailored to the particular legal obligations, national institutions and operational circumstances involved.

The Implementation Guidance should not be understood as a new treaty or as an independent source of binding international obligations. Its primary function is to facilitate the practical implementation of applicable law through national measures, institutional procedures and examples of state practice. It is therefore complementary to the 2020 Guidelines: the latter consolidate and explain relevant rules and recommendations, while the 2026 Guidance focuses more directly on measures that national entities can adopt to implement selected obligations.[36]

Finally, the legal framework governing the protection of the natural environment during armed conflict is composed of interconnected rules derived from international humanitarian law, customary international law, international environmental law and international criminal law. Additional Protocol I establishes express prohibitions concerning widespread, long-term and severe environmental damage, while Additional Protocol II protects resources indispensable to civilian survival and certain installations containing dangerous forces. Customary IHL extends environmental protection through the principles of distinction, proportionality and precaution, while the ENMOD Convention prohibits specified hostile uses of environmental modification techniques.

The Rome Statute provides for individual criminal responsibility in narrowly defined circumstances involving particularly serious environmental damage during international armed conflict. Meanwhile, the International Law Commission's 2022 principles and the ICRC's 2020 Guidelines provide important clarification and guidance concerning environmental protection before, during and after armed conflict. The ICRC's 2026 Implementation Guidance further emphasises the practical measures necessary to translate applicable legal obligations into national legislation, military doctrine, training and institutional practice.

Ultimately, the effectiveness of this legal framework depends not only on the existence of international rules but also on their faithful implementation, enforcement and integration into military decision-making. Strengthening these measures is essential to reducing

[33] ICRC, *Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance* (4 June 2026).

avoidable environmental harm, protecting civilian populations and preserving the natural resources required for post-conflict recovery and sustainable development.

3. INSTITUTIONAL, OPERATIONAL, AND NORMATIVE CHALLENGES THAT IMPEDE THE EFFECTIVE IMPLEMENTATION OF ENVIRONMENTAL PROTECTION OBLIGATIONS BY STATES

The protection of the natural environment during armed conflict constitutes an important obligation under international humanitarian law (IHL). Despite the existence of international legal instruments, customary rules, and institutional guidelines designed to prevent environmental destruction during hostilities, significant challenges continue to impede their effective implementation by states. Armed conflicts frequently result in the destruction of forests, contamination of water resources, degradation of agricultural land, and damage to ecosystems essential to civilian survival. These consequences reveal a persistent gap between the recognition of environmental protection obligations under international law and their practical application in military operations.[34]

The International Committee of the Red Cross (ICRC), through its *Guidelines on the Protection of the Natural Environment in Armed Conflict* (2020), has consolidated relevant legal rules and recommendations to strengthen environmental protection during hostilities. The subsequent *Implementation Guidance* published in 2026 seeks to assist national entities in translating selected obligations into practical measures, including national legislation, military doctrine, training, and institutional procedures.[35] Nevertheless, the effectiveness of these instruments depends substantially on the willingness and capacity of states to implement applicable obligations, provide adequate institutional support, and establish effective mechanisms for monitoring compliance.

The challenges confronting implementation may be classified into three interconnected categories: institutional, operational, and normative. Institutional challenges concern weaknesses in national legal systems, administrative coordination, oversight, and accountability. Operational challenges arise from the realities of military planning, intelligence limitations, competing military objectives, and the difficulty of assessing environmental consequences during hostilities. Normative challenges relate to ambiguities in the applicable legal standards, disagreements concerning the interpretation and customary status of particular rules, and limitations in the scope of existing international legal protections. These challenges are mutually reinforcing and require coordinated responses if the natural environment is to receive effective protection during armed conflict.

3.1 Institutional Challenges

3.1.1 Inadequate Domestic Implementation of International Legal Obligations

One of the principal obstacles to effective environmental protection during armed conflict is the inadequate incorporation of applicable international obligations into domestic legislation, military manuals, and national operational policies. Although international humanitarian law establishes restrictions on environmental destruction, states may fail to translate those restrictions into clear national rules, administrative procedures, and military instructions. The existence of international obligations does not, by itself, ensure that commanders and operational personnel understand how those obligations apply to particular military activities.[36] Articles 35(3) and 55 of Additional Protocol I to the Geneva Conventions of 1949 establish specific protections against widespread, long-term and severe environmental damage. Similarly, the customary rules identified by the ICRC require the application of general principles governing the conduct of hostilities to the natural environment.[37] However, where national military manuals omit environmental considerations or reproduce treaty provisions without explaining their operational implications, military personnel may have insufficient guidance for assessing foreseeable environmental harm.

Domestic implementation is particularly important because environmental protection during armed conflict involves multiple governmental institutions, including defence ministries, armed forces, environmental protection agencies, ministries of justice, and national bodies responsible for implementing IHL. In the absence of clearly defined responsibilities and effective coordination, environmental obligations may remain fragmented across different institutions without a coherent implementation strategy.

The ICRC's 2026 Implementation Guidance seeks to address this implementation gap by providing practical measures, checklists, and examples of state practice that can assist national authorities in implementing selected environmental protection obligations.[38]

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[34] International Committee of the Red Cross (ICRC), *Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary* (ICRC 2020).

[35] ICRC, *Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance* (4 June 2026).

[36] Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 31; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3, arts 35(3) and 55.

[37] Protocol I (*supra*), arts 35(3) and 55; Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Humanitarian Law*, vol I: *Rules* (*supra*), rules 43–45.

[38] ICRC (*supra*).

However, its effectiveness ultimately depends on national follow-through, including legislative review, military policy development, training, and the allocation of adequate resources.

3.1.2 Weak Institutional Coordination and Fragmented Responsibilities

Effective environmental protection during armed conflict requires cooperation between military institutions and civilian environmental authorities. Military commanders possess operational information concerning the location, nature, and anticipated effects of military activities, while environmental authorities may possess specialised knowledge of ecosystems, water resources, biodiversity, pollution risks, and environmentally sensitive locations. The absence of effective communication between these institutions can undermine the identification and management of environmental risks.

For instance, an attack against a military objective located near a water-treatment facility, agricultural area, forest reserve, or industrial installation may produce environmental consequences extending beyond the immediate target. Assessing these consequences may require technical information that military personnel do not routinely possess. Where environmental authorities are excluded from relevant planning processes, feasible opportunities to prevent or minimise environmental damage may be overlooked.[39]

Institutional fragmentation may also affect the management of environmental consequences after hostilities. Military authorities may prioritise security operations, while environmental agencies concentrate on pollution control, ecosystem restoration, and natural-resource management. Without clearly defined responsibilities and appropriate coordination mechanisms, the identification of contaminated sites, rehabilitation of damaged ecosystems, and restoration of essential water and agricultural resources may be delayed.

The International Law Commission's 2022 *Draft Principles on Protection of the Environment in Relation to Armed Conflicts* addresses environmental protection across the pre-conflict, conflict, and post-conflict phases. The principles emphasise preventive measures, protection during armed conflict, and appropriate measures concerning environmental damage after hostilities.[40] Their practical significance depends, however, on the development of national institutions capable of coordinating environmental protection throughout these different phases.

3.1.3 Inadequate Funding, Technical Expertise, and Institutional Capacity

The implementation of environmental protection obligations requires adequate financial, human, and technical resources. States experiencing armed conflict may have limited institutional capacity to undertake environmental assessments, maintain environmental databases, identify vulnerable ecosystems, or provide specialised training to military personnel. These limitations may be especially pronounced where national institutions are already weakened by insecurity, economic disruption, or the destruction of public infrastructure.

Environmental assessment may require expertise in hydrology, toxicology, ecology, geology, public health, and pollution control. Without access to such expertise, military planners and relevant public authorities may find it difficult to anticipate the environmental consequences of attacks on industrial facilities, fuel-storage installations, dams, or other infrastructure containing potentially hazardous materials.[41]

The absence of reliable environmental baseline data presents an additional difficulty. Without information about pre-conflict environmental conditions, it may be difficult to determine the extent of damage attributable to particular military operations, identify the sources of contamination, or establish appropriate restoration priorities. The collection and preservation of environmental data before and during armed conflict can therefore contribute to both preventive decision-making and subsequent accountability.

Resource constraints may also impede the implementation of environmental training programmes, the acquisition of appropriate assessment technology, and the establishment of specialised military environmental units or advisory mechanisms. Consequently, even where states formally recognise their international obligations, insufficient institutional capacity may prevent consistent compliance.

3.1.4 Weak Monitoring, Enforcement, and Accountability Mechanisms

Another significant institutional challenge is the difficulty of monitoring compliance with environmental protection obligations and holding responsible persons accountable for violations. Environmental damage occurring during armed conflict may be difficult to investigate because of continuing hostilities, restricted access to affected areas, destruction of physical evidence, and threats to investigators and affected communities.

In addition, environmental harm may develop gradually or become apparent only after hostilities have ended. Contamination of groundwater, the persistence of hazardous substances, and the long-term degradation of ecosystems may complicate the

[39] ICRC (*supra*); Henckaerts and Doswald-Beck (*supra*), rules 43–44.

[40] International Law Commission (ILC), *Draft Principles on Protection of the Environment in Relation to Armed Conflicts, with Commentaries* (2022), UN Doc A/77/10, chap VI.

[41] ICRC (*supra*).

identification of the responsible actors and the determination of causal relationships between military activities and environmental consequences.[42]

International criminal law provides a possible accountability mechanism in particularly serious cases. Article 8(2)(b)(iv) of the Rome Statute of the International Criminal Court criminalises certain attacks launched intentionally in the knowledge that they will cause widespread, long-term and severe damage to the natural environment that would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.[43] However, this offence has demanding substantive and mental elements and is expressly confined to international armed conflict. It does not criminalise every act of environmental destruction, nor does it establish a general offence covering all unlawful environmental damage in non-international armed conflicts.

The jurisdictional limitations of international criminal law mean that domestic enforcement mechanisms remain important. States may need to establish appropriate investigative procedures, preserve evidence of environmental damage, and ensure that competent authorities can investigate alleged violations of applicable international and domestic law. Where enforcement mechanisms are ineffective, the deterrent effect of existing environmental protection rules may be weakened.

Institutional accountability also requires transparent procedures for assessing environmental damage, recording relevant evidence, and determining whether remedial measures are appropriate under applicable law. The existence of legal standards is unlikely to provide sufficient protection if violations cannot be investigated effectively or if responsible institutions fail to act on established findings.

3.2 Operational Challenges

3.2.1 The Primacy of Immediate Military Objectives

Military operations are frequently conducted in circumstances involving urgent security considerations, incomplete information, and rapidly changing battlefield conditions. Commanders may therefore prioritise immediate operational objectives, force protection, and the neutralisation of perceived threats. Environmental considerations may receive insufficient attention where they are not incorporated into established military planning procedures.

Nevertheless, environmental protection is not legally subordinate to military convenience. International humanitarian law requires parties to comply with applicable restrictions on the conduct of hostilities, including the rules governing distinction, proportionality, and precautions in attack.[44] The challenge is to ensure that environmental consequences are properly integrated into the application of these rules without disregarding legitimate military requirements recognised by law.

For example, an operation directed against a military objective situated near a river, agricultural zone, or industrial facility may create foreseeable risks of pollution or ecological damage. Where relevant and feasible, military planners should consider whether alternative means or methods of attack could reduce incidental harm while achieving the anticipated military advantage.

The difficulty is that environmental consequences may be treated as secondary considerations in operational decision-making, particularly where military doctrine does not provide clear procedures for assessing them. This institutional and operational weakness can be addressed through appropriate training, environmental advice, target-assessment procedures, and the incorporation of relevant legal obligations into military planning.

3.2.2 Difficulties in Environmental Assessment and Predicting Consequences

Environmental damage resulting from armed conflict is often difficult to predict accurately. The consequences of a military operation may depend on the physical characteristics of the target, local ecological conditions, weather patterns, soil composition, water flows, and the presence of hazardous substances. A strike against an industrial installation, for example, may generate immediate destruction as well as secondary effects involving smoke, toxic releases, water contamination, or damage to surrounding ecosystems.

The complexity of environmental systems makes it difficult to quantify all potential consequences before an operation. Environmental damage may also extend beyond the immediate target area or emerge after a considerable period.[45] These characteristics complicate the assessment of foreseeable incidental harm for the purposes of proportionality and the identification of feasible precautions.

However, uncertainty does not eliminate the obligation to comply with applicable IHL rules. Rule 44 of the ICRC's study of customary international humanitarian law addresses the obligation to take due regard of environmental protection and to take feasible precautions to avoid or minimise incidental environmental damage. It also recognises that a lack of scientific certainty regarding environmental effects does not, in itself, excuse disregard of applicable legal obligations.

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[42] ILC (*supra*).

[43] Rome Statute of the International Criminal Court (adopted 17 July 1998, entered into force 1 July 2002) 2187 UNTS 3, art 8(2)(b)(iv).

[44] Protocol I (*supra*), arts 48, 51(5)(b) and 57; Henckaerts and Doswald-Beck (*supra*), rules 43–44.

[45] ICRC *(supra*).

Operational decision-makers must therefore work with the information reasonably available in the circumstances while taking all feasible measures required by law. Depending on the operation, such measures may include consulting available environmental data, seeking technical advice, considering alternative targets or means of attack, and reassessing an operation when material new information becomes available.

3.2.3 Inadequate Environmental Training and Military Doctrine

The effectiveness of environmental protection rules depends significantly on the knowledge and professional competence of the personnel responsible for applying them. Military officers, legal advisers, intelligence personnel, and operational planners may be familiar with the general principles of IHL without possessing sufficient understanding of their application to environmental harm. Environmental protection requires consideration of issues such as damage to ecosystems, contamination of water resources, destruction of agricultural land, and the potential release of hazardous substances. Where these issues are absent from military training and operational doctrine, personnel may fail to identify environmental consequences that are legally relevant to their decisions.[46]

The ICRC's 2020 Guidelines recommend measures to improve the implementation and dissemination of environmental protection rules, including the incorporation of relevant obligations into military instructions and training. The 2026 Implementation Guidance further provides a practical basis for reviewing national arrangements and identifying implementation measures.

Nevertheless, translating such recommendations into effective practice requires regular training, updated military manuals, access to specialised legal and environmental advice, and appropriate procedures for reviewing operational decisions. Training should also distinguish between binding legal obligations and recommendations designed to facilitate compliance, ensuring that military personnel understand both the substance and the legal status of the relevant rules.

3.2.4 Protection of Environmentally Sensitive Areas

Environmentally sensitive areas may include wetlands, forests, protected habitats, water catchment areas, agricultural regions, and locations containing particularly vulnerable ecosystems. Damage to such areas may produce consequences extending beyond the immediate conflict zone, including the loss of biodiversity, disruption of water supplies, and deterioration of livelihoods.

A significant operational challenge is identifying and protecting these areas when hostilities occur in or near them. Information concerning protected areas may be incomplete, outdated, inaccessible, or unavailable to military planners. In some circumstances, environmental changes caused by the conflict itself may also make previously available information unreliable.

International humanitarian law does not provide every environmentally sensitive area with an automatic and absolute immunity from attack merely because of its ecological importance. The legality of an attack depends on the applicable rules, including the classification of the object, the relevant military-objective criteria, proportionality, precautions, and any specific protection applicable to the site.

Nevertheless, where feasible, parties can reduce environmental risks by identifying important ecological locations, maintaining relevant information, incorporating environmental data into planning systems, and considering alternative methods of operation. The designation of protected zones may also be relevant where supported by applicable law and appropriate arrangements.

The International Law Commission's 2022 Draft Principles address the designation of protected zones and other measures intended to strengthen environmental protection in relation to armed conflicts.[47] Their practical effectiveness depends on suitable implementation arrangements, adequate information, and respect for the applicable legal conditions.

3.2.5 Environmental Harm Caused by the Use of Weapons and Attacks on Hazardous Installations

Certain weapons and military operations may create substantial environmental risks. These include operations affecting industrial facilities, oil installations, chemical storage sites, water infrastructure, and other installations containing hazardous substances. Environmental harm may also arise from fires, unexploded ordnance, remnants of war, and the release of toxic materials.

The legal consequences depend on the weapon or operation involved, the circumstances of its use, and the applicable treaty and customary rules. International humanitarian law restricts particular weapons and prohibits or limits methods and means of warfare in specified circumstances.[48] However, the existence of environmental risks does not mean that every use of a weapon causing environmental damage is automatically unlawful. The applicable legal prohibitions and restrictions must be assessed in each case.

Operational difficulties arise where the potential consequences of an attack extend beyond the intended target. Damage to a facility containing hazardous substances may create risks for civilian populations and natural resources over a wide geographical area. Effective planning therefore requires consideration of reasonably foreseeable secondary effects, relevant civilian risks, and feasible precautions under applicable law.

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[46] ICRC *(supra)*.

[47] ILC (*supra*), principles concerning protected zones.

[48] Convention on Certain Conventional Weapons (adopted 10 October 1980, entered into force 2 December 1983) 1342 UNTS 137; Protocol I (*supra*), arts 35(3) and 55.

The ENMOD Convention provides an additional, specialised prohibition against specified military or other hostile uses of environmental modification techniques.[49] However, it does not cover every instance of environmental damage resulting from conventional military operations. Its application must be distinguished from the broader restrictions under IHL governing attacks and methods of warfare.

3.2.6 Difficulties in Post-Conflict Environmental Assessment and Remediation

Environmental protection obligations do not become irrelevant when active hostilities cease. Armed conflicts may leave contaminated land, damaged water systems, degraded agricultural areas, unexploded ordnance, and ecosystems requiring long-term restoration. These consequences can impede the return of displaced populations, undermine public health, and obstruct economic recovery.

Post-conflict environmental assessment is often complicated by insecurity, inadequate funding, limited technical capacity, and the destruction of environmental records. The absence of reliable pre-conflict data may also make it difficult to distinguish conflict-related damage from pre-existing environmental degradation or damage caused by other activities.

The International Law Commission's 2022 Draft Principles address environmental assessment and remedial measures in relation to armed conflicts, including matters arising after hostilities. These principles help frame the need for appropriate assessment, cooperation, and remediation, although their legal status varies according to the content of the particular principle.

Effective post-conflict environmental recovery may require cooperation between states, international organisations, humanitarian agencies, environmental experts, and affected communities. It may also require the identification of contaminated sites, restoration of essential water and agricultural resources, and measures to manage hazardous remnants of war.

A failure to address these consequences can prolong the humanitarian effects of armed conflict well beyond the cessation of fighting. Accordingly, post-conflict assessment and remediation should be recognised as important elements of a comprehensive approach to environmental protection, consistent with applicable international law.

3.3 Normative Challenges

3.3.1 The High Threshold for Prohibited Environmental Damage

One of the most frequently discussed normative challenges is the high threshold established by Articles 35(3) and 55 of Additional Protocol I. These provisions prohibit or restrict specified conduct involving environmental damage that is widespread, long-term and severe. The three conditions are cumulative, meaning that all must be satisfied for the specific prohibition to apply.

The cumulative threshold creates difficulties where environmental destruction is severe but geographically limited, widespread but not sufficiently long-term, or persistent but insufficiently severe under the applicable legal standard. Consequently, environmental damage may have serious consequences for a particular community or ecosystem without necessarily satisfying all the requirements of Articles 35(3) and 55.

This does not mean that environmental damage falling below the threshold is necessarily lawful. The principles of distinction, proportionality and precaution, as well as other applicable treaty and customary rules, may still prohibit or restrict the conduct.[50] Nevertheless, the threshold remains an important limitation on the scope of the specific prohibition concerning widespread, long-term and severe environmental damage.

The challenge is therefore to ensure that the threshold is not incorrectly treated as the exclusive standard for environmental protection during armed conflict. A comprehensive assessment must consider the full range of applicable IHL rules and their distinct legal requirements.

3.3.2 Uncertainty Concerning the Interpretation of Key Legal Terms

The terms *widespread*, *long-term* and *severe* have generated debate concerning their interpretation and application. Additional Protocol I does not provide comprehensive definitions of these terms, and differences in interpretation may affect the assessment of particular military operations.

The negotiating history of Additional Protocol I and the ICRC's analysis of the relevant provisions provide important interpretative material. However, there is no universally accepted interpretation resolving every question concerning the geographical extent, duration, or intensity of environmental damage required by the treaty provisions.[51]

The ENMOD Convention adopts a different formulation. Its Article I prohibits specified hostile environmental modification techniques having widespread, long-lasting or severe effects. Unlike Additional Protocol I, the ENMOD formulation is disjunctive rather than cumulative.[52] The distinction reflects differences in the instruments' purposes and substantive scope and should not be overlooked when assessing environmental protection obligations.

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[49] Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (adopted 10 December 1976, entered into force 5 October 1978) 1108 UNTS 151, arts I–II.

[50] Ibid, arts 48, 51(5)(b) and 57; Henckaerts and Doswald-Beck (*supra*), rules 43–44.

[51] ICRC (*supra*), commentary to rules concerning environmental damage.

[52] ENMOD Convention (*supra*), arts I–II.

Legal uncertainty may complicate operational advice, the development of military doctrine, and the assessment of whether particular conduct violates a specific prohibition. It may also affect the investigation of alleged violations and the determination of individual criminal responsibility.

Nevertheless, interpretative uncertainty does not suspend the application of other established IHL rules. The principles of distinction, proportionality and precaution remain relevant even where the specific threshold under Articles 35(3) and 55 is not met.

3.3.3 Divergent State Practice and Disagreement over Customary International Law

Another normative challenge concerns the customary status and precise scope of particular rules protecting the natural environment during armed conflict. The ICRC's 2005 study identifies customary rules relating to the protection of the environment, including Rules 43, 44 and 45.[53] However, the customary status of particular formulations, especially aspects of Rule 45, has attracted disagreement among states.

This disagreement matters because customary international law may apply independently of particular treaty commitments, subject to the requirements for establishing a customary rule. Where states disagree about whether a particular environmental prohibition is customary, the legal basis for asserting that the rule binds a state that is not party to the relevant treaty may become contested.

It is therefore important to distinguish between the general proposition that customary IHL protects the natural environment and the separate question of whether every specific formulation of an environmental rule has achieved customary status. The latter question requires careful examination of state practice and *opinio juris*.[54]

The existence of divergent state views does not eliminate the binding force of established customary rules. It does, however, complicate the process of identifying the precise content of certain obligations and may contribute to inconsistent interpretations in military doctrine and national implementation.

3.3.4 Fragmentation of the Applicable Legal Framework

The protection of the natural environment during armed conflict is regulated by multiple bodies of law, including IHL, international environmental law, international criminal law, and, where applicable, international human rights law. Although these bodies of law may complement one another, they differ in their purposes, scope, applicable standards, and enforcement mechanisms.

IHL primarily regulates the conduct of hostilities and protects persons and objects affected by armed conflict. International environmental law addresses environmental protection more generally, while international criminal law establishes individual criminal responsibility for specified offences. Human rights law may also remain relevant during armed conflict, subject to applicable rules governing its interaction with IHL.[55]

The interaction between these legal regimes may raise difficult questions concerning the continuing application of environmental treaties, the relevance of peacetime environmental obligations during hostilities, and the relationship between environmental harm and the protection of human rights.

In its 1996 Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the International Court of Justice recognised the importance of environmental considerations in the assessment of military action. The Court observed that states must take environmental considerations into account when assessing what is necessary and proportionate in pursuit of legitimate military objectives.[56] The Opinion supports the proposition that environmental protection cannot be disregarded simply because military operations are taking place, although it does not establish that every environmental rule applies identically in peacetime and wartime.

The normative challenge is to clarify the interaction between these bodies of law without assuming that one regime entirely displaces another. Such clarification is essential for coherent legal advice, effective implementation, and the consistent assessment of alleged violations.

3.3.5 The Non-Binding Character of Implementation Guidelines and Recommendations

The ICRC's 2020 Guidelines and its 2026 Implementation Guidance are important instruments for clarifying legal obligations and promoting compliance. However, neither publication is a treaty that independently creates binding international obligations.

The legal effect of a particular rule discussed in the Guidelines depends on whether it reflects an applicable treaty provision, customary international law, or another binding legal source. Recommendations concerning military doctrine, environmental assessment, institutional coordination, or national implementation may guide states towards improved compliance, but they do not automatically acquire binding status merely by appearing in an ICRC publication.[57]

[53] Henckaerts and Doswald-Beck (*supra*), rules 43–45.

[54] Ibid; ICRC (*supra*).

[55] ILC, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law*, Report of the Study Group of the International Law Commission, UN Doc A/CN.4/L.682 (13 April 2006); ICRC (*supra*).

[56] *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 226, paras 29–30.

[57] ICRC (*supra*).

This distinction creates an implementation challenge. States may acknowledge the importance of the Guidelines while adopting different approaches to incorporating their recommendations into national law and military practice. Some may develop detailed procedures, while others may undertake limited or inconsistent implementation.

The 2026 Implementation Guidance is intended to help address this problem by providing checklists and examples of state practice.[58] Nevertheless, its effectiveness depends on national authorities identifying applicable obligations, assigning institutional responsibilities, allocating resources, and adopting measures suited to their legal systems and operational requirements.

A further difficulty arises where recommendations are not translated into enforceable domestic rules or internal military procedures. In such circumstances, the practical application of environmental protection may depend heavily on institutional discretion and the quality of operational leadership.

3.3.6 Limitations in International Criminal Accountability for Environmental Damage

Although the Rome Statute recognises a specific environmental war crime in international armed conflict, the offence under Article 8(2)(b)(iv) has a demanding threshold. The anticipated damage must be widespread, long-term and severe, and clearly excessive in relation to the concrete and direct overall military advantage anticipated. The perpetrator must also possess the required knowledge concerning the anticipated consequences.

These requirements create evidential and legal challenges. Investigators may need to establish the nature and extent of the anticipated environmental damage, the information available to the relevant decision-maker, the anticipated military advantage, and the relationship between the expected harm and that advantage.

The absence of an identical standalone environmental war crime applicable to non-international armed conflict further limits the specific offence's reach. Other offences may apply to particular conduct, but only where their elements and the Court's jurisdictional requirements are satisfied.

The result is that some serious environmental damage may fall outside the specific Rome Statute offence even where the conduct raises concerns under other applicable rules of IHL. This limitation reinforces the importance of domestic legislation, effective national investigation, and other applicable mechanisms of responsibility and reparation.

It is therefore necessary to distinguish between the existence of an international criminal offence for particularly serious environmental damage and the broader legal obligation to comply with environmental protection rules during armed conflict.

3.4 Interrelationship between Institutional, Operational, and Normative Challenges

Institutional, operational, and normative challenges do not operate independently. Rather, they interact in ways that may weaken the overall effectiveness of environmental protection during armed conflict.

For example, uncertainty concerning the interpretation of environmental protection rules may make it more difficult for national authorities to develop clear military instructions. If those instructions are inadequate, operational personnel may lack the guidance needed to identify foreseeable environmental harm. Where institutional monitoring and accountability mechanisms are also weak, violations may remain undetected or unaddressed.

Similarly, limited environmental expertise can prevent states from translating general legal standards into effective operational procedures. The absence of reliable data may complicate the assessment of foreseeable environmental consequences, while inadequate post-conflict investigation may make it difficult to establish responsibility for resulting damage.

The ICRC's 2020 Guidelines and 2026 Implementation Guidance provide complementary approaches to these difficulties. The Guidelines explain relevant legal rules and recommendations, while the Implementation Guidance supports the adoption of practical national measures. However, neither instrument can substitute for state compliance with binding legal obligations or for the establishment of effective institutions capable of implementing them.

A comprehensive response must therefore combine legal clarification, domestic implementation, military training, environmental expertise, inter-agency cooperation, monitoring, and appropriate accountability mechanisms. This integrated approach is necessary to ensure that environmental protection forms a meaningful part of military planning and conduct rather than remaining an abstract legal objective.

Generally, the effective implementation of environmental protection obligations during armed conflict is impeded by a combination of institutional weaknesses, operational difficulties, and normative uncertainty. Institutionally, inadequate domestic implementation, fragmented responsibilities, insufficient technical resources, and weak accountability mechanisms undermine compliance. Operationally, the prioritisation of immediate military objectives, difficulties in predicting environmental consequences, inadequate training, and the challenges of protecting environmentally sensitive areas may prevent the consistent application of relevant rules. Normatively, the high threshold under Articles 35(3) and 55 of Additional Protocol I, uncertainty surrounding key legal terms, disagreement over aspects of customary international law, and limitations in international criminal accountability complicate the enforcement of environmental protections.

[58] *Ibid.*

These difficulties do not mean that the natural environment lacks protection under international law. Rather, they demonstrate that the effectiveness of the existing framework depends on the consistent application of multiple legal rules and the adoption of appropriate national and operational measures. The ICRC's 2020 Guidelines and 2026 Implementation Guidance offer valuable support for clarifying obligations and improving implementation, but their practical impact depends on action by states and other relevant actors.

Accordingly, strengthening the protection of the natural environment during armed conflict requires states to review national legislation and military doctrine, improve environmental training, develop appropriate assessment procedures, enhance institutional coordination, and strengthen lawful mechanisms for investigating and addressing environmental harm. Such measures would help bridge the gap between international legal standards and military practice, reduce avoidable environmental destruction, and protect the ecological resources necessary for civilian survival and post-conflict recovery.

4. CONCLUSION

The protection of the natural environment during armed conflict remains an essential component of international humanitarian law, reflecting the recognition that environmental destruction threatens civilian survival, public health, food security, biodiversity, and post-conflict recovery. Although the Geneva Conventions of 1949, Additional Protocols I and II of 1977, customary international humanitarian law, the ENMOD Convention of 1976, and the Rome Statute of the International Criminal Court provide important legal protections, the effectiveness of the existing framework continues to be undermined by institutional weaknesses, operational difficulties, and normative uncertainties. In particular, the cumulative threshold of widespread, long-term and severe environmental damage under Articles 35(3) and 55 of Additional Protocol I, disagreements concerning the interpretation and customary status of certain environmental protection rules, and the limited scope of international criminal accountability demonstrate the challenges involved in securing comprehensive environmental protection during hostilities.

The International Committee of the Red Cross (ICRC) has made significant contributions through its 2020 *Guidelines on the Protection of the Natural Environment in Armed Conflict* and the 2026 *Implementation Guidance*. While the 2020 Guidelines consolidate and explain relevant legal rules and recommendations, the 2026 Implementation Guidance emphasises practical measures through which states can implement selected environmental protection obligations. These instruments provide valuable assistance in translating international legal standards into national legislation, military doctrine, operational procedures, training programmes, and institutional arrangements. Nevertheless, neither publication independently creates binding international obligations; their effectiveness depends on the application of relevant treaty and customary rules and the willingness of states to adopt appropriate implementation measures.

The analysis establishes that the existence of international legal standards is insufficient without effective domestic implementation, inter-agency coordination, adequate technical and financial resources, environmental expertise, and appropriate mechanisms for monitoring compliance and investigating violations. Environmental considerations must therefore be integrated into military planning, target assessment, operational decision-making, and post-conflict environmental recovery. States should also strengthen cooperation between military authorities, environmental agencies, national humanitarian law committees, and relevant international organisations to improve the identification, prevention, and management of environmental risks associated with armed conflict.

Ultimately, protecting the natural environment during armed conflict requires a coordinated approach that combines legal compliance, institutional preparedness, operational responsibility, and accountability. States must ensure that environmental damage is assessed under all applicable rules of international humanitarian law rather than relying exclusively on the exceptional threshold established by Additional Protocol I. Greater attention should also be given to environmental monitoring, the preservation of evidence, and appropriate remediation of conflict-related environmental damage. Effective implementation of the ICRC's Guidelines and Implementation Guidance, supported by national legislation and consistent military practice, offers an important pathway towards reducing avoidable environmental destruction. The protection of the natural environment is not merely an ancillary humanitarian concern; it is integral to civilian protection, respect for international law, and the restoration of the ecological foundations upon which sustainable post-conflict recovery depends.

REFERENCE

1) International Committee of the Red Cross (ICRC), Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary (ICRC 2020).
2) Obregón Gieseken, H and Murphy, V., 'The Protection of the Natural Environment under International Humanitarian Law: The ICRC's 2020 Guidelines' (2023) 105(924) International Review of the Red Cross 1181.
3) Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3, arts 35(3) and 55.

4) Protocol I, arts 48, 51(5)(b) and 57; Jean-Marie Henckaerts and Louise Doswald-Beck, Customary International Humanitarian Law, vol I: Rules (Cambridge University Press 2005), rules 43–45.
5) ICRC (supra)
6) Ibid; Henckaerts and Doswald-Beck (supra), rules 43–45.
7) ICRC, Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance (4 June 2026).
8) ICRC (supra)
9) International Committee of the Red Cross (ICRC), Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary (ICRC 2020); ICRC, Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance (4 June 2026).
10) Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 31; Geneva Convention II for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Members of Armed Forces at Sea (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 85; Geneva Convention III relative to the Treatment of Prisoners of War (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 135; Geneva Convention IV relative to the Protection of Civilian Persons in Time of War (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 287; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3.
11) Protocol I (supra), art 35(3).
12) Ibid, art 55.
13) Ibid, arts 48, 51(5)(b) and 57; Jean-Marie Henckaerts and Louise Doswald-Beck, Customary International Humanitarian Law, vol I: Rules (Cambridge University Press 2005), rules 43–45.
14) Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of Non-International Armed Conflicts (Protocol II) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 609, art 14.
15) Ibid, art 15.
16) Henckaerts and Doswald-Beck (supra).
17) Ibid, rule 43.
18) Ibid, rule 44.
19) Ibid, rule 45; ICRC (supra).
20) Protocol I (supra), arts 48 and 52(2).
21) Ibid, art 52(2); Henckaerts and Doswald-Beck (supra), rule 7.
22) Protocol I (supra), art 51(5)(b).
23) Ibid, art 57.
24) ICRC (supra), rules 5–8.
25) Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (adopted 10 December 1976, entered into force 5 October 1978) 1108 UNTS 151.
26) Ibid, arts I–II.
27) Ibid, arts I–II; Protocol I (supra), arts 35(3) and 55.
28) Rome Statute of the International Criminal Court (adopted 17 July 1998, entered into force 1 July 2002) 2187 UNTS 3, art 8(2)(b)(iv).
29) Ibid, art 8; see also art 22 on the principle of legality and strict construction of crimes within the Court's jurisdiction.
30) International Law Commission (ILC), Draft Principles on Protection of the Environment in Relation to Armed Conflicts, with Commentaries (2022), UN Doc A/77/10, chap VI.
31) Ibid.
32) UNGA Res 77/104, 'Protection of the Environment in Relation to Armed Conflicts' (7 December 2022) UN Doc A/RES/77/104.
33) ICRC, Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance (4 June 2026).
34) International Committee of the Red Cross (ICRC), Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, with Commentary (ICRC 2020).

35) ICRC, Protection of the Natural Environment in Armed Conflict under International Humanitarian Law: Implementation Guidance (4 June 2026).
36) Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field (adopted 12 August 1949, entered into force 21 October 1950) 75 UNTS 31; Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I) (adopted 8 June 1977, entered into force 7 December 1978) 1125 UNTS 3, arts 35(3) and 55.
37) Protocol I (supra), arts 35(3) and 55; Jean-Marie Henckaerts and Louise Doswald-Beck, Customary International Humanitarian Law, vol I: Rules (supra), rules 43–45.
38) ICRC (supra).
39) ICRC (supra); Henckaerts and Doswald-Beck (supra), rules 43–44.
40) International Law Commission (ILC), Draft Principles on Protection of the Environment in Relation to Armed Conflicts, with Commentaries (2022), UN Doc A/77/10, chap VI.
41) ICRC (supra).
42) ILC (supra).
43) Rome Statute of the International Criminal Court (adopted 17 July 1998, entered into force 1 July 2002) 2187 UNTS 3, art 8(2)(b)(iv).
44) Protocol I (supra), arts 48, 51(5)(b) and 57; Henckaerts and Doswald-Beck (supra), rules 43–44.
45) ICRC (supra).
46) ICRC (supra).
47) ILC (supra), principles concerning protected zones.
48) Convention on Certain Conventional Weapons (adopted 10 October 1980, entered into force 2 December 1983) 1342 UNTS 137; Protocol I (supra), arts 35(3) and 55.
49) Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (adopted 10 December 1976, entered into force 5 October 1978) 1108 UNTS 151, arts I–II.
50) Ibid, arts 48, 51(5)(b) and 57; Henckaerts and Doswald-Beck (supra), rules 43–44.
51) ICRC (supra), commentary to rules concerning environmental damage.
52) ENMOD Convention (supra), arts I–II.
53) Henckaerts and Doswald-Beck (supra), rules 43–45.
54) Ibid; ICRC (supra).
55) ILC, Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law, Report of the Study Group of the International Law Commission, UN Doc A/CN.4/L.682 (13 April 2006); ICRC (supra).
56) Legality of the Threat or Use of Nuclear Weapons (Advisory Opinion) [1996] ICJ Rep 226, paras 29–30.
57) ICRC (supra).
58) Ibid.

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