

Protection of the natural environment in time of armed conflict

by Antoine Bouvier¹

"The deterrence of, and response to, environmental attacks are new dimensions to national security challenges".²

I. INTRODUCTION

Since the early 1970s, the steady deterioration of the natural environment has given rise to widespread awareness of man's destructive impact on nature.

This awareness of the vital importance for humanity of a healthy environment and the determined efforts of numerous environmental protection agencies have led over the years to the adoption of a large body of laws for the protection and preservation of the natural environment.

Concern for the environment — and the codification of rules for its preservation — first emerged at national level.

It led to the adoption of abundant legislation for the protection of the environment as such or of its various components (such as water, air and forests). Many States also adopted *constitutional* rules protecting the natural environment.³

¹ The views expressed here are those of the author alone and do not necessarily reflect those of the ICRC.

² "Conduct of the Persian Gulf conflict, an interim report to Congress", Department of Defense, Washington, July 1991, p. 11.

³ A list of the States that have introduced such rules into their constitutions can be found in Schwartz, Michelle, "Preliminary Report on Legal and Institutional Aspects of the Relationship between Human Rights and the Environment", Geneva, August 1991, p. 11.

However, States and specialized agencies realized fairly rapidly that purely national environmental policies were inadequate in view of the magnitude and the transnational nature of many environmental problems, and that it was essential to adopt *international rules*.

Environmental protection, or conservation, was therefore placed on the agenda of many institutions active in the field of international law. Their efforts have resulted in the adoption of a substantial and constantly growing body of rules, known as *international environmental law*. These rules cover a wide range of issues, including the prevention of environmental damage and the promotion of international cooperation in dealing with its effects.

It would be impossible here to examine in detail all the rules of international environmental law (which, of course, were conceived mainly for application in peacetime). We shall therefore mention only the two fundamental principles underpinning that law.

The first principle is *the obligation for States to avoid causing environmental damage beyond their borders*.

This principle has been affirmed in several legal decisions.⁴ It is also expressly mentioned in various international treaties⁵ and many other legal texts.⁶

The second principle is *the obligation for States to respect the environment in general*. Like the first principle, it is set forth in various treaties and bilateral, regional and international agreements.⁷

Environmental protection was later raised in the more specific context of *international human rights law*. It is now recognized that personal growth and happiness — fundamental human rights — cannot be achieved in a severely damaged environment.⁸ The *right to a healthy natural environment* is thus gaining increasingly wide acceptance as a fundamental human right. It is expressly provided for

⁴ See “La protection de l’environnement en temps de conflit armé”, *European Communities*, Brochure 54 110/85 slnd, pp. 17-18.

⁵ See, for example, the Convention on the Law of the Sea of 10 December 1982, Art. 194, para. 2.

⁶ See, for example, Principle No. 21 of the Declaration of Stockholm adopted on 16 June 1972 by the United Nations Conference on the Human Environment. For a summary of the proceedings of the Conference, see *IRRC*, No. 141, December 1972, pp. 683 and following, and *IRRC*, No. 137, August 1972, pp. 468 and following.

⁷ For a list of these texts, see “La protection de l’environnement en temps de conflit armé”, *op. cit.*, pp. 25-30.

⁸ For a more detailed discussion of this problem, see Schwartz, *op. cit.*, pp. 4-11.

in various international treaties,⁹ other legal texts and the constitutions of many States.¹⁰

At this point in our review of provisions for the protection of the environment in peacetime, it should be mentioned that environmental protection has also been a major concern of the International Red Cross and Red Crescent Movement, as demonstrated by various resolutions¹¹ and numerous studies.¹²

The emphasis placed on environmental protection during the most recent work on the codification of *international humanitarian law* (IHL) was both a natural and a logical development. It was *natural* because the trends that shape the legal rules applicable in peacetime often influence the development of the law of war, and *logical* in view of the extremely serious environmental damage caused by certain methods and means of modern warfare. Section II of this article contains a summary of the major rules of IHL for the protection of the environment in wartime.

Environmental damage in wartime is inevitable. Throughout history, war has always left its mark, sometimes extremely long-lasting, on the natural environment. Today some battlefields of the First and Second World Wars, to give only two examples, remain unfit for cultivation or dangerous to the population because of the unexploded devices (especially mines) and projectiles still embedded in the soil.¹³

The rules of IHL for the protection of the environment therefore aim not to prevent damage altogether, but rather to limit it to a level deemed tolerable. Unfortunately, there is reason to fear that the use of particularly devastating means of warfare (whose effects are often still unknown) could wreak such large-scale destruction as to render

⁹ See, for example, Art. 24 of the African Charter on Human and Peoples' Rights signed in Nairobi in June 1981, which states that: "All peoples shall have the right to a general satisfactory environment favourable to their development".

¹⁰ See note 3.

¹¹ Resolution No. XVII, 22nd International Conference, Teheran, 1973; and Resolution No. XXI, 23rd International Conference, Bucarest, 1977.

¹² See, for example, Domanska, Irena, "Red Cross and the problems of environment". *IRRC*, No. 131, February 1972, pp. 73-78; Vigne, Jacques, "The Red Cross and the human environment", *IRRC*, No. 183, June 1976, pp. 295-300; Schaar, Johan, *A Shade of Green: Environment Protection as Part of Humanitarian Action*, Henry Dunant Institute Working Paper No. 2:90, Geneva, 1990.

¹³ For more information see *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949*, Eds. Sandoz, Y., Swinarski, C., Zimmermann, B. Eds., ICRC, Martinus Nijhoff Publishers, Geneva, 1987, p. 410, para. 1443 and footnote 84.

illusory the protection afforded civilians under IHL. Indeed, severe environmental damage could seriously hamper or even prevent the implementation of provisions to protect the victims of armed conflict (the *wounded*, the *sick*, *prisoners of war* or *civilians*). For these reasons alone, respect for and compliance with the rules of IHL for the protection of the environment are crucial.

All these issues suddenly assumed new urgency during the conflict that set the Middle East ablaze in 1990-1991.

In the wake of that crisis, many questions were raised about the content and scope of and possible shortcomings in the rules of IHL for the protection of the environment in time of armed conflict. These questions were discussed at several meetings of experts in humanitarian law and environmental protection.¹⁴

In spite of the high level of the discussions, it proved impossible to reach any final conclusions because of the difficulty in establishing various basic data, such as a scientific assessment of the environmental damage caused by modern warfare¹⁵ and a thorough analysis of the content and limitations of the rules in force.

However, the following provisional conclusions were drawn:

- (a) the 1990-1991 Middle East conflict is too narrow a frame of reference for setting standards since environmental damage in wartime can take many forms;
- (b) certain issues should nevertheless be examined with a view to solving problems of interpretation of the rules in force and possibly filling loopholes in the law;
- (c) the rules of IHL currently in force could substantially limit environmental damage, providing they are correctly complied with and fully respected.

¹⁴ In particular, a symposium held on 3 June 1991 in London under the auspices of the *London School of Economics*, the *Centre for Defence Studies* and *Greenpeace International*, to assess the need for a fifth Geneva Convention; a meeting of experts convened in Ottawa by the Canadian government on 10-12 July 1991 and the Third Preparatory Committee of the United Nations Conference on Environment and Development (UNCED) held on 12 August - 4 September 1991.

¹⁵ Such an assessment is extremely difficult to make since environmental damage can take many forms and some of its effects are not immediately evident. For a partial assessment of the damage caused by the 1990-1991 Gulf war, see "On impact, modern warfare and the environment, a case study of the Gulf war", *Greenpeace International*, London, 1991; "Some lessons to be learned from the environmental consequences of the Arabian Gulf war", *WWF International*, May 1991 (document distributed to the Second UNCED Preparatory Committee); "Environmental assessment of the Gulf crisis", Doc. A/conf./151/PC/72, a report considered by the Third UNCED Preparatory Committee.

II. RULES OF LAW FOR THE PROTECTION OF THE ENVIRONMENT IN TIME OF ARMED CONFLICT

Most of the customary rules, treaty provisions and general principles for the protection of the environment in time of armed conflict are mentioned below, and the most important are discussed in some detail.

It should be pointed out here that, although the concept of the environment as it is understood today did not emerge until the 1970s, many of the general rules and principles of IHL (often dating much further back) contribute to protecting the environment in wartime.

A. General principles

The most important general principle of humanitarian law in the present context is the one according to which *the right of the Parties to the conflict to choose methods or means of warfare is not unlimited*. This basic principle, which was first set forth in the Declaration of St. Petersburg in 1868, has been frequently reiterated in IHL treaties, most recently in Protocol I of 1977 additional to the Geneva Conventions (Art. 35, para. 1).

The rule of *proportionality* is another basic principle of IHL which underlies many of its provisions.¹⁶ Like the first principle mentioned, it clearly applies as well to protection of the environment in time of armed conflict.¹⁷

B. Treaties affording the environment indirect protection

First of all the term “indirect protection” of the environment should be defined. Until the early 1970s IHL was “traditionally [...] anthropocentric in scope and focus”.¹⁸ Indeed, IHL texts adopted

¹⁶ See, for example, Protocol I of 1977, Art. 35, para. 2; Art. 51, para. 5(b) and Art. 57, para. 2(a) and (b).

¹⁷ On the principle of proportionality in relation to the protection of the environment in time of armed conflict, see Bothe, Michael, “War and environment”, in *Encyclopaedia of Public International Law*, Instalment 4, p. 291.

¹⁸ See “Note on the current law of armed conflict relevant to protection of the environment in conventional conflicts”, p. 1, document prepared in the Office of the Judge Advocate General, Canadian Armed Forces, and distributed to participants at the Ottawa symposium (see note 14).

before then made no reference to the environment *as such* (the concept did not even exist at the time). Nevertheless various provisions relating, for example, to *private property* or the protection of the *civilian population*, afforded the environment some protection.

Such provisions are found in many international treaties and most of them have now become customary law. As it is impossible to review all the relevant instruments here, we shall focus on the major ones.

The importance of the general principles stated in the 1868 St. Petersburg Declaration has already been mentioned. The *Hague Convention respecting the Laws and Customs of War on Land* (Convention No. IV of 1907) reaffirms and expands on those principles¹⁹. Its annexed *Regulations* contain a provision, namely, Art. 23 para. 1(g), that illustrates perfectly the aforementioned anthropocentric approach. This article, which states that it is forbidden “to destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war”, is one of the earliest provisions for the protection of the environment in armed conflict.

Several treaties that limit or prohibit the use of certain *means of warfare* also contribute to the protection of the environment in armed conflict. These are as follows:

- *the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases and of Bacteriological Methods of Warfare*, adopted in Geneva on 17 June 1925;
- *the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction*, adopted on 10 April 1972;
- *the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May be Deemed to be Excessively Injurious or to Have Indiscriminate Effects*, adopted on 10 October 1980.

The 1980 Convention is of particular interest for at least two reasons:

¹⁹ See Art. 22 of the *Regulations* annexed to the Convention which states that: “The right of belligerents to adopt means of injuring the enemy is not unlimited”.

- First of all, it sets up a mechanism whereby it may be revised or amended (Art. 8). The adoption of an additional protocol relating to the protection of the environment could therefore be envisaged.
- Secondly, certain of its provisions, in particular those concerning the use of *mines, booby-traps and other devices* (Protocol II) and *incendiary weapons* (Protocol III), contribute directly and specifically to the protection of the environment in time of armed conflict.²⁰

Another treaty, namely, the *Geneva Convention relative to the Protection of Civilian Persons in Time of War* (Fourth Convention of 12 August 1949), in particular Article 53 prohibiting the destruction of real or personal property, provides minimum protection of the environment in case of enemy occupation.

C. Treaties affording the environment specific protection

Two treaties are of major importance:

- the *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques* (“ENMOD” Convention adopted by the United Nations on 10 December 1976);
- *Protocol I of 1977 additional to the Geneva Conventions of 1949*.

1. Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques

This Convention was adopted under United Nations auspices, largely in response to the fears aroused by the use of methods and means of warfare that caused extensive environmental damage during the Viet Nam War.²¹ It prohibits “military or any other hostile use of

²⁰ For a discussion of these provisions, see Goldblat, Jozef, “The mitigation of environmental disruption by War: Legal Approaches”, in Westing, A., (ed), *Environment hazards of war*, Oslo, London, pp. 53-55.

²¹ For more background information on this treaty and the negotiations leading up to it, see *Commentary on the Additional Protocols*, *op. cit.*, p. 413, para. 1448; and Herczegh, Geza, “La protection de l’environnement naturel et le droit humanitaire, in *Studies and essays on international humanitarian law and Red Cross principles in honour of Jean Pictet*, Swinarski, C., ed., ICRC, Martinus Nijhoff Publishers, Geneva, The Hague, 1984, p. 730.

environmental modification techniques having widespread, longlasting or severe effects as the means of destruction, damage or injury to any other State Party” (Art. 1).

The term “environmental modification techniques” refers to “any technique for changing — through the deliberate manipulation of natural processes — the dynamics, composition or structure of the Earth [...]” (Art. 2).

2. Protocol I additional to the Geneva Conventions of 1949

Protocol I contains two articles pertaining specifically to the protection of the environment in time of armed conflict.

The draft protocols submitted by the ICRC to the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts (CDDH) made no reference to the environment. The two articles in question were introduced at the Conference itself, showing the growing awareness of the importance of respect for the environment that emerged in the early 1970s.²²

- (a) *Article 35, para. 3*, stipulates that “it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment”.

This article, pertaining to methods and means of warfare, protects the *environment as such*.

- (b) *Article 55* provides that:

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

2. Attacks against the natural environment by way of reprisals are prohibited”.

²² Concerning the origin and legislative background of these provisions, see Kiss, Alexander, “Les Protocoles additionnels aux Conventions de Genève de 1977 et la protection des biens de l’environnement”, *Etudes et essais sur le droit international humanitaire...*, *op. cit.*, p. 182 and following; Herczegh, p. 726 and following; Goldblat, *op. cit.*, p. 50 and following; *Commentary on the Additional Protocols, op. cit.*, pp. 411-412, paras. 1444-1447; and Bothe/Solf/Partsch, *New Rules for Victims of Armed Conflicts*, Martinus Nijhoff Publishers, The Hague, 1982, p. 344.

It should be noted that this article — which is intended to *protect the civilian population* against the effects of hostilities — is found within the broader context of protection of *civilian objects*, which is the subject of Part IV, Chapter III, of Protocol I (Arts. 52-56).

Article 55 does more than merely restate Article 35, para. 3. It establishes a general obligation to protect the environment during the conduct of hostilities, but that obligation is directed to the protection of civilians, whereas Article 35, para. 3, aims to protect the environment as such.²³

As a logical extension, Article 55 prohibits reprisals against the natural environment in that they would penalize humanity as a whole.

Protocol I contains further provisions contributing indirectly to environmental protection in time of conflict,²⁴ such as Articles 54 (“Protection of objects indispensable to the survival of the civilian population”) and 56 (“Protection of works and installations containing dangerous forces”).

3. Link between the provisions of Protocol I and the rules of the Convention on the prohibition of the use of environmental modification techniques (“ENMOD”)

These two treaties prohibit different types of environmental damage. While Protocol I prohibits recourse to *environmental warfare*, i.e. the use of methods of warfare likely to upset vital balances of nature, the “ENMOD” Convention prohibits what is known as *geophysical warfare*, which implies the deliberate manipulation of natural processes and may trigger “hurricanes, tidal waves, earthquakes, and rain or snow”.²⁵

Far from overlapping, these two international treaties are complementary. However, they give rise to tricky problems of interpretation stemming in particular from the fact that they attribute different

²³ On the relationship between these two articles and on their role in the Protocol as a whole, see also Herczegh, *op. cit.*, pp. 729-730; Kiss, *op. cit.*, pp. 184-186; *Commentary on the Additional Protocols*, *op. cit.*, p. 414, para. 1449 and p. 663, para. 2133; Bothe/Solf/Partsch, *op. cit.*, pp. 344-345. Our comments are also based on a report (to be published) presented on 8 June 1991 by Paul Fauteux at a symposium in Paris on the legal aspects of the Gulf crisis. We are grateful to the author for having provided us with a copy of the report.

²⁴ See Bothe, *op. cit.*, p. 292; Kiss, *op. cit.*, p. 186; *Commentary on the Additional Protocols*, *op. cit.*, pp. 630-675, paras. 1994-2183.

²⁵ See *Commentary on the Additional Protocols*, *op. cit.*, pp. 416-417, para. 1454 and pp. 412-420, paras. 1447-1462; Kiss, *op. cit.*, p. 187; and Bothe, *op. cit.*, pp. 291-292.

meanings to identical terms, such as “widespread, long-term and severe”. To give but one example of such semantic difficulties, the definition of “long-term” ranges from several months or a season for the United Nations Convention to several decades for the Protocol.²⁶

Moreover, the conditions of being widespread, long-term and severe are *cumulative* in Protocol I, whereas each condition is *sufficient* in and of itself for the “ENMOD” Convention to apply.

There is a danger that such discrepancies might hamper the implementation of these rules. It is therefore to be hoped that the work currently being carried out in the field of environmental protection in wartime (see note 14) will lead to harmonization of the two treaties.²⁷

D. Protection of the environment in situations of non-international armed conflict

Despite the obvious threat posed by situations of non-international armed conflict, none of the rules of IHL applicable to such situations provide specifically for protection of the environment. A proposal was made at the CDDH to introduce into Protocol II a provision analogous to Article 35, para. 3, and Article 55 of Protocol I, but the idea was ultimately rejected.²⁸

However, the concept of environmental protection is not totally absent from Protocol II. Article 14 (“Protection of objects indispensable to the survival of the civilian population”), which prohibits attacks against “foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works”, and Article 15, which prohibits any attack against “installations containing dangerous forces [...] if such attack may cause the release of [such] forces”, unquestionably contribute to

²⁶ See *Commentary on the Additional Protocols*, *op. cit.*, pp. 415-416, para. 1452. On these differences of terminology, see also Kiss, *op. cit.*, p. 189.

²⁷ From the purely legal point of view, harmonization should not give rise to any major problems. The terms “long-lasting, widespread and serious” were not defined in the two treaties themselves and only a very approximate indication of their meaning was given in the proceedings of the Diplomatic Conferences that led to their signature. It should therefore be possible, as concluded by the experts in Ottawa (see note 14), to reach agreement on the meaning of these terms in accordance with the general rules of the law of treaties, in particular Arts. 31 and 32 of the 1969 Vienna Convention.

²⁸ See Kiss, *op. cit.*, p. 184 and Goldblat, *op. cit.*, p. 52.

protecting the environment in time of non-international armed conflict.

III. CONCLUSION

The destructive potential of the methods and means of warfare already in use or available in the world's arsenals today represents a threat to the environment of a magnitude unprecedented in the history of humanity. Special emphasis must therefore be placed on compliance with and constant development of the rules of IHL for the protection of the environment in time of armed conflict.

Unlike certain other authors,²⁹ we are not convinced of the need at present to revise all the provisions of IHL for the protection of the environment, although this would become indispensable should new means of warfare be introduced.

Certain issues nevertheless merit detailed study. In particular, attention should be paid — as at the London and Ottawa meetings³⁰ — to protection of the environment in time of non-international armed conflict and to the formulation of rules applicable between a State party to a conflict and a State not party thereto whose natural environment may be affected by the conflict. Further thought should also be given to the suggestion put forward by some experts that nature reserves should be declared demilitarized zones in the event of conflict.³¹

It is generally agreed that the rules of IHL currently in force (see section II above) could considerably limit environmental damage in warfare, providing they are correctly applied and fully respected. Therefore, rather than initiating a new and possibly unproductive codification process, a special effort should be made to ensure that these rules are adopted by as many States as possible.

It is of paramount importance to ensure implementation³² of and

²⁹ In particular, the promoters of the London symposium on a fifth Geneva Convention (see note 14).

³⁰ See note 14.

³¹ This suggestion was made at the CDDH, but was not adopted (see Kiss, *op. cit.*, p. 191 and *Commentary on the Additional Protocols, op. cit.*, p. 664, paras. 2138-2139).

³² Two implementation mechanisms of IHL could prove especially useful: (a) the obligation to "respect and ensure respect for" the provisions of IHL, set forth in Art. 1 common to the four Geneva Conventions of 1949 and Protocol I of 1977; and (b) the

respect for the existing rules, so that future generations will not be faced with insurmountable problems resulting from damage caused to the environment in time of conflict.

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International Fact-Finding Commission provided for in Art. 90 of Protocol I and set up on 25 June 1991 (on the Commission's role see Krill, Françoise, "The International Fact-Finding Commission", *IRRC*, No. 281, March-April 1991, pp. 190-207).