

International Humanitarian Law and the Environment

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As its name shows, the objective of humanitarian law is the protection of human beings during armed conflicts. Although humanitarian law was born before the international recognition and proclamation of the whole of human rights, it is generally considered as a component of human rights law, applicable during armed conflicts, that is to say in exceptional situations or situations which should be exceptional. The language used in the most recent international instruments which form the core of international humanitarian law is significant. The four Geneva Conventions of 12 August 1949 speak respectively of the amelioration of the condition of the wounded and sick in armed forces in the field, of the condition of wounded, sick and shipwrecked members of armed forces at sea, of the treatment of prisoners of war, and of the protection of civilian persons in time of war. The two Protocols additional to the Geneva Convention, adopted on 8 June 1977, provide for the protection of victims of international and non-international armed conflicts.

It may be considered that the scope of humanitarian law has been expanded during the last decades to include activities which do not take place during such conflicts. The old saying *si vis pacem para bellum* has been used for centuries for justifying the preparation of war, including military training and the production of weapons. A strong trend appeared during the last decades to limit the production, stockpiling, testing and use of certain types of weapons (those of mass destruction, but also those such as chemical weapons and landmines that can cause indiscriminate effects on humans). It can be admitted that the limitation or the prohibition of such means of war is a part of humanitarian law; this also means a considerable extension of the field of human rights law.

Such an approach is even more significant when environmental aspects of humanitarian law are at stake. The distinction between peace and the existence of armed conflicts can be irrelevant when the impact on the environment is concerned: the production of chemical weapons or the testing of nuclear arms can have a major impact on the environment. Moreover, as was recognised by the International Court of Justice, at a general level the problem of nuclear weapons cannot be separated from humanitarian law. In its Advisory Opinion on the Legality of the Threat or Uses of Nuclear Weapons¹ the World Court unanimously agreed that "(a) threat of use of nuclear weapons should ... be compatible with ... the principles and rules of international humanitarian law, as well as with specific obligations under treaties and other undertakings which expressly deal with nuclear weapons".²

The expansion of humanitarian law by the partial incorporation of international obligations related to disarmament is reinforced by the growing awareness that de-

struction of the environment during armed conflicts can be utterly harmful to persons to be protected. A series of such considerations have thus motivated another expansion of humanitarian law. Destruction of the environment can be considered as directly threatening human life and health, environmental modification techniques can be used as means of warfare and even if hostile military activities have no immediate impact on humans their long-term consequences on the environment can represent a danger for future generations.

Here again, it is necessary to recall the Advisory Opinion of the International Court of Justice on the Legality of the Threat or Use of Nuclear Weapons. Several arguments submitted by the 28 States participating in the proceedings pointed out that any use of nuclear weapons would be unlawful according to international environmental law. Specific references were made to various international treaties as well as to Principle 1 of the 1972 Stockholm Declaration and Principle 2 of the 1992 Declaration of Rio de Janeiro. In contrast, some States argued that international environmental law principally applied in times of peace. The Court itself recognised that "the use of nuclear weapons would cause a catastrophe for the environment", the latter representing "not an abstraction but ... the living space, the quality of life and the very health of human beings, including generations unborn".³ Given this, the Court held that States must take environmental considerations into account in assessing what is necessary and proportionate in the pursuit of military objectives. Thus, according to the Court, while no specific provision prohibits the use of nuclear weapons, important environmental factors are properly taken into account in the context of the principles and rules of the law applicable in armed conflict. In 1997, in the case of the Gabcikovo Nagymaros Project, the Court reiterated the same opinion, stressing again "the great significance that it attaches to respect for the environment, not only for States but also for the whole of mankind" and quoted the relevant paragraph of its former Advisory Opinion.⁴

In sum, international environmental law, like human rights law, must be taken into account in determining the rules of armed conflict under humanitarian law. It may be added that obligations flowing from the general rules of international environmental law and of certain international conventions aiming at environmental protection apply in armed conflicts.⁵

In agreement with the above considerations, the present study includes three parts. First, international rules providing direct protection of the environment during armed conflicts will be described. Second, humanitarian norms protecting victims of armed conflicts from the consequences of environmental destruction will be studied. Third, some rules concerning the prohibition of the production and/or elimination of specific weapons will be summarised. ▀

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I. Direct protection of the environment

A. Basic rules, their application and their interpretation

Before discussing the specific rules of humanitarian law which are relevant for environmental protection, it must be recalled that four basic principles govern the law of war: necessity, proportionality, discrimination and humanity. The principle of necessity asks whether the potential target, weapon or tactic is necessary in order to achieve a legitimate military advantage. The principle of proportionality requires that even if an action is necessary, the expected military advantage outweighs the anticipated collateral damage to civilian objects and non-combatants. According to the principle of discrimination the chosen weapon or tactic has to sufficiently discriminate between military objects and civilian objects or between combatants and non-combatants. Finally, and underlying the first three principles, the principle of humanity requires that armies use the minimal force necessary to achieve the enemy's submission.⁶

It may be held that the first international instruments concerning environmental protection against military activities are related to the testing of nuclear arms. The Antarctic Treaty, adopted at Washington on 1 December 1959 prohibits "any nuclear explosions in Antarctica".⁷ It was followed by the Moscow Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water of 5 August 1963,⁸ according to which the Contracting Parties undertake to prohibit, to prevent and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control, in the atmosphere; beyond its limits, including outer space; or under water, including territorial waters or high seas; "or in any other environment". The very fact that in both instruments the prohibition of nuclear explosions concerns inhabited areas stress their environmental character while, at the same time, they also tend to protect human life and health. Several years ago, the Comprehensive Nuclear Test-Ban Treaty of 10 October 1996 expanded the prohibition to any nuclear test explosion or any other nuclear explosion (Article 1), noting in its Preamble that this treaty could contribute to the protection of the environment.⁹

Rules respecting armed conflicts have evolved rapidly since the end of the 1960s, a period which can be considered as having progressively created and spread environmental awareness and, as a consequence, international en-

vironmental law. All the non-binding declarations with a global character, which expressed the common concern of humanity, linked environmental protection to the prohibition or regulation of military activities. According to the Declaration of the UN Conference on the Human Environment, adopted in Stockholm on 16 June 1972:

Man and his environment must be spared the effects of nuclear weapons and other means of mass destruction. States must strive to reach prompt agreement, in the relevant organs, on the elimination and complete destruction of such weapons (Principle 26).

Several months later, the UNESCO Convention of 16 November 1972 for the Protection of the World Cultural and Natural Heritage took a concrete step forward in a limited area, that of the elements of the World Heritage which can be considered as pertaining to the environment. According to its Article 6(3):

Each State Party to this Convention undertakes not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage referred to in Articles 1 and 2 situated on the territory of other States parties to this Convention.

A formally non-binding text, the World Charter for Nature, adopted by the UN General Assembly on 28 October 1982¹⁰ proclaimed ten years later that "(n)ature shall



Vincent van Gogh: "Le Tronc", April-May 1888 (ink drawing)

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be secured against degradation caused by warfare or other hostile activities" (Principle 5).

The most important progress in this field was the inclusion of two provisions expressly mentioning environmental protection in the first Protocol Additional to the Geneva Conventions of 12 August 1949, adopted on 10

June 1977. Section I of Part III relating to methods and means of warfare proclaims the basic rules, recalling that in any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited. Consequently, it prohibits the employment of weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering. Article 35 paragraph 3 applies such principles to the environment:

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.

Article 55 of the Protocol reinforces this rule:

Protection of the natural environment

1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes the 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.¹¹

Such a breakthrough in the protection of the environment had important consequences which will be analysed later; the more so, since other international instruments also helped progress in the same direction. Several days before the adoption of the First Protocol to the Geneva Convention, on 18 May 1977, a Convention on the Prohibition of Military or Any Hostile Use of Environmental Modification Techniques was approved in Geneva.¹² In its Preamble, the Convention makes reference to the Stockholm Declaration and stresses that military or any other hostile use of environmental modification techniques could have effects extremely harmful to human activities. Article II determines the meaning of "environmental modification techniques" as any technique 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 those of outer space. According to Article I, each State Party undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party. States Parties shall also not assist, encourage or induce any State, group of States or international organisation to engage in activities contrary to this prohibition. Further, the Convention provides for exchange of relevant scientific and technological information and for consultation and co-operation among the Parties.

It is important to note that the Convention includes a non-compliance mechanism, which can be considered as an innovation in international environmental law. On the one hand it foresees the creation of a Consultative Committee of Experts which has the vocation to make appropriate findings of fact and provide expert views relevant to any problem raised in relation to the objectives or the

application of the Convention (Article V(2) and Annex). On the other hand, any State Party which has reason to believe that any other Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council. Such a complaint should include all relevant information as well as all possible evidence supporting its validity. Each State party has to co-operate in carrying out any investigation which the Security Council may initiate on the basis of the complaint. The Security Council informs the Parties of the results of the investigation. Each Party undertakes to provide or support assistance, in accordance with the provisions of the UN Charter, to any State which requests it, if the Security Council decides that such Party has been harmed or is likely to be harmed as a result of violation of the Convention (Article V(3)-(5)).

After such developments, the 1992 Declaration of Rio de Janeiro on Environment and Development was well founded to state that:

War is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and co-operate in its further development, as necessary.

It can be regretted that such statement was not followed by a corresponding chapter in Agenda 21, which only declares that "(m)asures in accordance with international law should be considered to address, in times of armed conflict, large-scale destruction of the environment that cannot be justified by international law". The formulation of this sentence can also be criticised: it only speaks of large-scale destruction of the environment, ignoring the durability of the damage, and admits that such destruction can be justified by international law.¹³

These rules raise a series of questions.

1. When should the Geneva rules be applied?

While the first Protocol to the 1949 Geneva Conventions establishes fundamental rules for the protection of the environment in international armed conflicts, the second Protocol omits to mention the problem of environmental degradation. This difference is essential and makes it necessary to answer the question of the definition of an international armed conflict.

Article 1 of the first Protocol determines the scope of this instrument by referring to the 1949 Geneva Conventions. According to its paragraph 2 the protocol "shall apply in the situations referred to in Article 2 common to those Conventions". This means that the Protocol "shall apply to all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, even if the state of war was not recognised by them" (Common Article 2(1) of the four Geneva Conventions of 1949).¹⁴ Furthermore, the Protocol applies, by reference, to the 1949 Geneva Conventions, "to all cases of partial or total occupation of the territory of a High Contracting Party, even if the said occupation meets with no armed resistance" (Article 2(2) of the Geneva Conventions). This means that the military forces which occupy a foreign territory must respect the provisions of the First

Protocol relating to the respect of the environment, even when there are no current hostilities on such territory.

The 1977 Protocols, however, had to take into account the decolonisation and the attempts of decolonisation that characterised the 30 years since the conclusion of the 1949 Geneva Conventions. Also, Article 1(4) of the First Protocol provides that its rules apply to:

armed conflicts in which peoples are fighting against colonial domination and alien occupation and against racist regimes in the exercise of their right of self-determination, as enshrined in the Charter of the United Nations and the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations.

The scope of this provision is not quite clear. It leaves the question open of whether the obligations resulting from it also apply to peoples – which are not Contracting Parties to the Protocol – fighting against established State authorities, or only to such authorities. Are insurgents who fight for the independence or the autonomy of a part of the territory of a State obliged to respect the environment, avoiding, for example, seeking refuge inside protected natural areas? One would be tempted to apply the criteria of Art. 1 of Protocol II which only includes “dissident armed forces or other organised armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerned military operations and to implement (the) Protocol”. Such a solution seems reasonable in spite of the difference in the scope of the two Protocols, the more so, since Article 1(2) of Protocol II excludes “situations of internal disturbances and tensions, such as riots, isolated and sporadic acts of violence and other acts of a similar nature, as not being armed conflicts”.

It is thus submitted that the environment must be respected in agreement with relevant international rules during periods of armed conflict by the adversaries when:

- two or more States Parties to Protocol I fight each other;
- peoples are fighting against colonial domination and alien occupation and against racist regimes, as far as they form organised armed groups exercising control over an adequate part of the territory.

2. Application by non-parties

The problem of the application of Protocol I and its provision concerning environmental protection when non-party states are involved in the conflict has a particular importance. Two situations are envisaged by common Article 2(3) of the four 1949 Geneva Conventions, which also determines the application of the First Protocol:

- a) If one of the States in conflict is not a party to the Protocol, “the Powers who are Parties thereto shall remain bound by it in their mutual relations”.
- b) They shall also be bound by the Protocol in relation to the State non-party if the latter accepts and applies its provisions.

These provisions can be interpreted as also concerning international intergovernmental organisations, which

formally are not parties to the Geneva Conventions and its protocols. In fact such organisations, namely UNO and NATO, agreed to apply the provisions of humanitarian law for the operations of their forces in peacekeeping missions.

3. The interpretation of the existing treaty provisions

Differences in the drafting of the treaties prohibiting certain environmental harm also raise questions. A common criticism of both Article 35(3) and Article 55 of Protocol I is that the threshold which prohibits only “widespread, long-term and severe damage” to the environment is too high to provide any real protection during armed conflicts. It must be stressed in this regard that the conjunctive “and” contributes to keep such thresholds high, since it requires the existence of all three components of the damage. The subsequent Geneva Convention of 10 October 1980 on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects¹⁵ used, however, this formulation in its Preamble.

The Convention on Military or any Other Hostile Environmental Modification Techniques (ENMOD) uses the same qualifications but speaks of “effects” instead of “damage”. The Conference of the Committee of Disarmament under whose auspices ENMOD was negotiated, transmitted to the UN General Assembly an Understanding on Article 1 of ENMOD which stated that “widespread” means an area on the scale of several hundred square kilometres; “severe” involves serious or significant disruption to human life, natural or economic resources or other assets, and “long-term” means effects extending beyond a season. It must also be underlined that Article 1 of ENMOD uses the disjunctive “or” which means that one of the three consequences justifies the prohibition of using environmental modification techniques. Thus, on the one hand, this definition affords greater protection to the environment than does Protocol I, which considers “long-term” in terms of decades rather than seasons. In addition, the Protocol I Conference clearly stated that its terms must be interpreted in accordance with the meaning specified in Protocol I, and not in light of similar terms contained in other instruments such as ENMOD.¹⁶ On the other hand, while Article 1(1) prohibits military or any other hostile use of environmental modification techniques *having* the specific effects, Protocol I also prohibits methods or means of warfare *which are intended, or may be expected* to cause widespread, long-term and severe damage to the natural environment (Article 35(3)). The other provision of Protocol I relating to the protection of the environment, Article 55, uses the same language. The prevention of potential harm to the environment raises the question of whether the precautionary principle, proclaimed 15 years after the adoption of the two instruments in the 1992 Rio Declaration has to be applied here. When compared to the language of Principle 15 of that Declaration (“where there are threats of serious or irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”), that used in Protocol I can

be considered as less restrictive, speaking not of irreversible but only of long-term damage although it adds the term "widespread" to the definition. One can thus consider that in a way, like other formulations used in different international instruments,¹⁷ the respective provisions of Protocol I are an early expression of the precautionary principle and should be interpreted in the light of the evolution of that principle.

B. UN practice

The Gulf War raised substantial questions about environmental protection during armed conflicts and the applicable law on the subject. In January 1991, the Iraqi military occupying Kuwait opened valves at several oil terminals and pumped large quantities of crude oil into the Persian Gulf. Subsequent Allied bombing of the terminals halted the flow of oil. Other oil slicks were apparently caused by damage to tankers and oil-storage facilities. During the conflict, Iraqi soldiers also set fire to over 700 well-heads in Kuwait and damaged others by explosive charges, sending oil spilling onto the desert. Oil refineries, oil gathering stations, and power and water desalination plants were also damaged or destroyed.

At the beginning of the Gulf conflict, UNEP's Governing Council expressed concern over the destruction of the environment. The Global Resources Information Database of UNEP conducted an extensive preliminary assessment of the impact of the oil spill on the coastal waters of Kuwait and Saudi Arabia.

The UN Security Council reacted to Iraqi actions in Resolution 687 which affirmed that Iraq:

is liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources, or injury to foreign Governments, nationals and corporations, as a result of Iraq's unlawful invasion and occupation of Kuwait (para.16).

Paragraph 18 of the Resolution created a fund for the payment of such claims and established a commission to administer the fund. A portion of the export sales of Iraqi oil is used for the fund. The UN Compensation Commission established its procedures regarding claims in a series of decisions. Decision 7 provides that payments are to be made available by the Commission with respect to direct environmental damage and the depletion of natural resources, including losses or expenses resulting from:

- abatement and prevention of environmental damage, including expenses directly related to fighting oil fires and stemming the flow of oil in coastal and international waters;
- reasonable measures already taken to clean and restore the environment, or future measures which can be documented as reasonably necessary to clean and restore the environment;
- reasonable monitoring and assessment of the environmental damage for the purpose of evaluating and abating harm and restoring the environment;
- depletion of or damage to natural resources.

The word "direct" limits the extent of liability for en-

vironmental damage, excluding indirect and remote harm. It appears that the two terms "environmental damage" and "depletion of or damage to natural resources" were included to provide comprehensive relief, in order to ensure that components of the natural environment having no commercial value as well as those primarily commercial in nature would be encompassed in the claims process.¹⁸

On its part the UN General Assembly adopted on 25 November 1992 a resolution¹⁹ affirming that environmental considerations constitute one of the elements to be taken into account in the implementation of the principles of the law applicable in armed conflicts. It condemned the destruction of hundreds of oil-well heads and the release and waste of crude oil into the sea, noting that the existing provisions of international law prohibit such acts. It stressed that destruction of the environment not justified by military necessity and carried out wantonly, is clearly contrary to existing international law.

Before the military operations of the Gulf War, on 21 September 1990, the General Assembly of the International Atomic Energy Agency adopted a resolution recognising that attacks or threats of attack on nuclear facilities devoted to peaceful purposes could jeopardise the development of nuclear energy and emphasised the need for the Security Council to act immediately, should such a threat or attack occur.²⁰

Less than one year later, in May 1991, the UNEP Governing Council recommended that governments consider identifying weapons, hostile devices and ways of using such techniques that would cause particularly serious effects on the environment and consider efforts in appropriate forms to strengthen international laws prohibiting such weapons, hostile devices and ways of using such techniques.²¹

The UN General Assembly supported such views with its own resolution 45/58J of 4 December 1990, in which it expressed its conviction of the need to prohibit armed attacks on nuclear installations. Another Resolution, already cited, adopted on 25 November 1992, invited the International Committee of the Red Cross (ICRC) to report on activities undertaken by the Committee and other relevant bodies with regard to the protection of the environment in times of armed conflict.

The ICRC report calls for application of the Martens clause²² which states that in cases not covered by specific provisions, civilians and combatants remain under the protection and authority of the principles of international law derived from established customs, from the principles of humanity and from the dictates of public conscience. It finds this clause indisputably valid in the context of environmental protection during times of armed conflict. In addition, the ICRC advocates applying the precautionary principle to the protection of the environment and the protection of natural reserves. It calls for the drafting of guidelines for military manuals and instructions and stresses that the law or armed conflict must take technical developments of weapons and their effects into account. These tasks will be discussed in the conclusions of the present article. ■

II. Indirect protection of the environment during armed conflicts by protecting humans

Various treaty provisions which tend to protect humans have an indirect effect on the safeguarding of the environment or of its components. Protocol I to the 1949 Geneva Conventions provides for the general protection of civilian objects which shall not be the object of attack or reprisals (Art. 52). Objects indispensable to the survival of the civilian population, such as crops, livestock, agricultural areas for the protection of foodstuffs, drinking water installations and supplies and irrigation works, shall not be attacked, destroyed, removed or rendered useless for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party. They shall not be made the object of reprisals (Article 54 (2)(4)). Protocol II, concerning non-international armed conflicts, contains a comparable, although simplified, provision (Art. 14). Very clearly, such prohibitions can also mean indirect protection for the environment or for some of its components.

Another approach which has a particular importance for the safeguarding of the environment is the protection of works and installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations. They shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population. Other military objectives located at or in the vicinity of these works or installations shall not be made the object of attack if such attack may cause the release of dangerous forces from the works or installations and consequent severe losses among the civilian population. It is prohibited to make any such works or installations the object of reprisals. The special protection ceases only when the works and installations are used for other than their normal function and in regular, significant and direct support of military operations and if such attack is the only feasible way to terminate such support. In order to facilitate the identification of the objects protected, the Parties to the conflict may mark them with a special sign described by Protocol I, being understood that the absence of such marking in no way relieves any party to the conflict of its obligations (Article 56). The two articles of the Protocol which follow list the precautionary measures which have to be taken by both sides to spare the civilian population, civilians and civilian objects (Article 57): it can be considered that such provisions constitute an early formulation of the precautionary principle.

Corresponding provisions are included in a simplified form in Protocol II concerning the protection of works and installations containing dangerous forces (Article 15).

An echo of such provisions can be found in a treaty codifying certain principles and rules of international law, Article 29 of the UN Convention on the Law of Non-navigational Uses of International Watercourses (New York, 21 May 1997):

International watercourses and related instal-

lations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflicts and shall not be used in violation of those principles and rules.²³

An important contribution of Protocol II to humanitarian law is its Article 17(1) concerning the forced movement of civilians. Ordering such displacement for reasons related to the conflict is prohibited unless the security of the civilians involved or imperative military reasons so demand. Should such displacements have to be carried out, all possible measures must be taken in order that the civilian population may be received under satisfactory conditions of shelter, hygiene, health safety and nutrition. A second paragraph in the same clause adds that civilians shall not be compelled to leave their own territory for reasons connected with the conflict. The importance of such provisions must be stressed in the light of civil wars too frequently obliging large population groups to become "environmental refugees" and causing tremendous problems for the environment in the areas where they try to find a safer place to live.

III. Arms control and disarmament

The two Nuclear Test Ban Treaties of 1963 and of 1996, already mentioned, are naturally related to the efforts of the international community to control arms and to enhance disarmament. Although other treaties aiming at the same objective could be listed, only two of them are discussed here because of their particular significance for environmental protection.

The Geneva Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indirect Effects, of 10 October 1980²⁴ (already mentioned) reaffirms principles and objectives of and obligations assumed under earlier treaties. Its Preamble also recalls 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. It thus uses the language of Article 35(3) of the First Protocol of 1977. One of the Protocols to the 1980 Convention provides for a general restriction of the use of mines (Articles 3-5) and the obligation to record the location of mine fields (Article 6). Another Protocol prohibits making forests or other kinds of plant cover the object of attack by incendiary weapons (Article 2(4)).

Another important instrument concerning this realm is the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction, signed in Paris on 13 January 1993.²⁵ Its preamble recalls two former treaties: the Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, signed in Geneva on 17 June 1925²⁶ and the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, signed at London, Moscow and Washington on 10 April 1972.²⁷

The 1993 Paris Convention contains far-reaching provisions on control of national chemical production facilities and international verification of state obligations. Contracting States must destroy all chemical weapons and all production facilities within ten years of the agreement's entry into force. Each State party must provide access to any chemical weapons destruction facility for the purpose of on-site systematic verification and monitoring.

The treaty covers all toxic chemicals and their precursors, listed in three schedules or annexes. Schedule 1 chemicals, including all nerve and mustard gases now in existence, cannot be produced in excess of ten kilograms per year and must be produced at a single, specially designated facility. Schedules 2 and 3 include chemicals which can be used for both civilian and military purposes. States may produce these chemicals without production limits, but any production of schedule 2 chemicals above a range from one kilogram to one ton triggers a reporting obligation in regard to the producing facility. In addition, there may be on-site inspections. For schedule 3 chemicals, States are required to submit reports for each facility that produces amounts over various limits, ranging from 30 to 200 tons per year.

The Convention provides for reporting and verification procedures to the civilian chemicals industry. Each State Party had to submit to the Organisation for the Prohibition of Chemical Weapons established by the Convention (Art. VIII) a declaration on its ownership or possession of chemical weapons as well as a general plan for destruction, closure, or conversion of any chemical weapons production facility it owns or possesses or that is within its jurisdiction or control. It also has to provide to the Technical secretariat, for each of its chemical weapons destruction facilities, the plant operations manuals, the safety and

verification procedures include on-site inspections and monitoring on-site instruments.

The Convention includes some specific obligations regarding the environmental implications of the destruction of chemical weapons. Article VIII(3) provides that:

(e)ach State Party, during the implementation of its obligations under this Convention, shall assign the highest priority to ensuring the safety of people and to protecting the environment, and shall co-operate as appropriate with other States parties in this regard.

This provision corresponds to Article IV(10), which specifies such obligations: during transportation, sampling, storage and destruction of chemical weapons, the highest priority shall be assigned to ensuring the safety of people and to protecting the environment. Agents should not be eliminated through dumping in water, land burial, or open-air burning. Old chemical weapons (*i.e.*, those produced before 1925 and produced between 1925 and 1946 which have deteriorated to such an extent that they can no longer used as chemical weapons) are to be treated as toxic waste under national and international regulations (Annex on Implementation and Verification, Part IV(B), paragraph B.6).

Conclusions

The multiplication of international instruments approaching from different sides the problem of environmental harm during conflicts, present or potential, raises the question of whether for this part of international law fundamental principles should not be determined in a systematic way. Such an attempt has been undertaken by a non-official text, the Draft International Covenant on Environment and Development prepared in the framework

of the Commission on Environmental Law of IUCN - The World Conservation Union, the expert group, which started its work in 1989 and issued a second updated version in 2000. Its aim is to restate international environmental law rules resulting from treaty and customary law, adding some new elements in conformity with the present state of the requirements of the protection of the environment and of sustainable development.

Article 32 of the Draft Covenant entitled Military and Hostile Activities includes five paragraphs. Paragraph 1 can be considered as an attempt of codification of existing international rules:

Parties shall protect the environment during periods of armed conflict. In particular, Parties shall:

- (a) observe, outside areas of armed conflict, all national and international environmental rules by which they are bound in times of peace;
- (b) take care to protect the environment against avoidable harm in areas of armed conflict; —



Adrien van Ostade: "The Angler" (etching)

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medical plans, the laboratory operations, quality assurance, and control manuals, and environmental permits that have been obtained (Annex to the Convention on Implementation and Verification, Part IV(A), paragraph 32). The

- (c) not employ or threaten to employ methods or means of warfare which are intended or may be expected to cause widespread, long-term, or severe harm to the environment and ensure that such means and methods of warfare are not developed, produced, tested, or transferred; and
- (d) not use the destruction or modification of the environment as a means of warfare or reprisal.

It can be noted that the proposed provisions only intend to limit rather than eliminate the environmental damage caused by armed conflicts. An important innovation is that they do not differentiate between international and non-international armed conflicts, although paragraph 2 of the Draft Article encourages the States "to ... establish rules and measures to protect the environment during non-international armed conflict". Another interesting feature is that they limit derogation to general rules, whether national or international, to areas of armed conflict. Applying the provision of common Article 2(2) of the 1949 Geneva Conventions relating to partial or total occupation of the territory of a State, this means that the authority of occupation shall apply the national environmental legislation of its adversary on the occupied territories. Such consideration is complemented by subparagraph (b) which imposes the positive obligation to protect the environment against avoidable harm in areas of armed conflict, instead of simply asking parties to abstain from employing methods or means of warfare harmful to the environment.

The third subparagraph reproduces the formulation of ENMOD by using the word "or", not "and", thus rejecting the restrictive formulation of Protocol I Articles 35(3) and 55(1). Its second part expands the scope of traditional humanitarian law in the sense of the last part of the present study, by adding the obligation of ensuring that means and methods of warfare which harm the environment "are not developed, produced, tested or transferred". Such obligation is larger than those resulting from the ENMOD Convention, since it also includes other methods and means than environmental modification techniques. Finally, the last subparagraph constitutes a synthesis between the ENMOD Convention and Article 55(2) of Protocol I while enlarging their scope in the same way as for the preceding subparagraph, by including all destruction and modification of the environment.

The third paragraph of Article 32 of the Draft Covenant is intended to provide protection to sites and installations of particular importance:²⁸

All Parties involved in an armed conflict shall take the necessary measures to protect natural and cultural sites of special interest, in particular sites designated for protection under applicable national laws and international treaties, as well as potentially dangerous installations, from being subject to attack as a result of armed conflict, insurgency, terrorism or sabotage. Military personnel shall be instructed as to the existence and location of such sites and installations.

The part of the provision concerning measures "to protect natural and cultural sites of special interest" derives from existing international law, namely the Hague

Convention of 14 May 1954 for the Protection of Cultural Property in the Event of Armed Conflict²⁹ and Article 6(3) of the UNESCO World Heritage Convention. It is to be noted that it also includes cultural property, thus enlarging the scope of the protection, which can be explained by the desire of the drafters to propose an instrument not only related to the environment, but also to development. The sites to be protected can be designated by international, and also by national laws.

- Potentially dangerous installations are also to be protected. This corresponds to the obligation established by Article 56 of Protocol I.
- The proposal prohibits attack not only as a result of armed conflict – including civil war – but also insurgency, terrorism or sabotage. This part of Article 32 seems to anticipate the future development of international humanitarian law, and shows the path which should be followed.
- The instruction of military personnel as to the existence and location of sites and installations to be protected is a necessary condition of the protection. It should be developed in different countries by the drafting of guidelines for military manuals and instructions, as proposed by the ICRC Report to the UN Secretary General responding to the UN General Assembly Resolution of 25 November 1992.

Paragraph 4 of draft Article 32 provides that Parties shall take measures to ensure that persons are held responsible for the deliberate and intentional use of means or methods of warfare which cause widespread, long-term, or severe harm to the environment. It corresponds to a general requirement of international penal law.

The last paragraph of draft Article 32 does not concern directly international humanitarian law:

Parties shall ensure that military personnel, aircraft, vessels and other equipment and installations are not exempted in times of peace from rules, standards, and measures for environmental protection.

This provision is thus also related to times of peace. It is intended to regulate the significant environmental threat posed by military activities by placing it under the general regime of international environmental law. Sovereign immunity is generally recognised for such activities in an extensive way, since normally such immunity only precludes a litigant from pursuing a cause of action against a sovereign or a party with sovereign attributes, but does not exempt such entities from the duty to respect national or international law. Both the London Convention for the Prevention of (Marine) Pollution by Ships of 2 November 1973 (Article 3(3)) and the UN Convention on the Law of the Sea (Article 236) ask national authorities to require vessels with such immunity to comply as far as possible with the environmental provisions of each treaty, but do not speak of the respect of national legislation protecting the environment.

The result of the preceding proposals is that the entire problem of the protection of the environment must be replaced in the general context of international law. The *dicta* of the International Court of Justice, quoted at the begin-

ning of this article, show the way: human rights laws, humanitarian law and international environmental law must be considered as parties of a whole. Globalisation means not only global trade but also implies the need for a global approach to international law, the fundamental objectives of which must be clearly understood by now: the protection of human rights and the preservation of the biosphere.

Notes

¹ 8 July 1996, I.C.J. Reports, 1996, para 29 and UN Document A 51/218 (1996), reprinted in 35 International Legal Materials 809 and 1343.

² *Id.* at 36, para 105(2)(D).

³ Para 29.

⁴ Gabickovo-Nagymaros Project, Decision, 25 September 1997, I.C.J. Reports 1997, para 112.

⁵ See: Silja Vöneky, Die Fortgeltung des Umweltvölkerrechts in internationalen bewaffneten Konflikten, Doctoral dissertation, University of Heidelberg, June 1999.

⁶ See C.E. Bruch and J.N.E. Austin, The 1999 Kosovo Conflict: Unresolved Issues in Addressing the Environmental Consequences of War, 30 Environmental Law Reporter (2000), 10069, at 10070.

⁷ Art. V (1). International Environmental Law, Multilateral Treaties, ed. W.E. Burhenne, Kluwer, (further cited as EMUT) 959:91.

⁸ EMUT, 963:58.

⁹ EMUT, 996: 071.

¹⁰ Resolution 37/7.

¹¹ International Committee of the Red Cross, Protocols Additional to the Geneva Conventions of 12 August 1949, Geneva, 1977.

¹² EMUT, 977:33.

¹³ A/CONF.151/26 (1992), Paragraph 39.6.

¹⁴ Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, 12 August 1949, 75 UNTS 31. The three other Geneva Conventions of 1949 contain the same provision.

¹⁵ Reprinted in 19 I.L.M. 1523 (1980).

¹⁶ See: Kiss-Shelton, International Environmental Law, 2nd edition, Transnational Publishers, 2000, p. 562-563.

¹⁷ See: D. Freestone and E. Hey, Implementing the Precautionary Principle: Challenges and Opportunities, in The Precautionary Principle and International Law, the Challenge of Implementation, Kluwer, 1996, p. 249, at p. 259.

¹⁸ See Kiss-Shelton, 566-567.

¹⁹ Res. 47/37.

²⁰ IAEA GC (XXXIV RES/533 (21 Sept., 1990).

²¹ UNEP/GC.16/P.53 Part B, *Environmental Effects of Warfare* (May 1991).

²² See preamble, 1907 Hague Convention IV and Art. 1 of both Protocols of 1977.

²³ EMUT 997:39.

²⁴ Reprinted in 19 I.L.M., 1523 (1980).

²⁵ EMUT, 993 : 04.

²⁶ Reprinted in 14 I.L.M. 49 (1975).

²⁷ 1015 U.N.T.S., 163.

²⁸ The second paragraph of Article 32 only provides for further co-operation of Parties in order to further develop rules and measures to protect the environment during armed conflicts.

²⁹ 249 U.N.T.S. 214.

