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The Natural Environment in Times of Armed Conflict: A Concern for International War Crimes Law?

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Abstract

Article 8(2)(b)(iv), second alternative, of the Statute of the International Criminal Court lists as a war crime the launching of an attack that may cause excessive damage to the natural environment. The incorporation of this offence into the ICC Statute appears to be a great achievement, as it is the first time that such conduct has expressly been declared to entail individual criminal responsibility under an international treaty. It is, however, submitted that Article 8(2)(b)(iv), second alternative, of the ICC Statute, suffers from a serious lack of definition. In addition, the provision depends on an extremely high damage threshold which further complicates its application in practice.

Key words

Additional Protocol I; humanitarian law; ICC Statute; natural environment; war crimes

War has always had a negative impact on the natural environment. Nevertheless, legal protection of the natural environment presents a relatively modern concern of the international community.[1] It took the Vietnam War to realize the need for express regulation on what is still acceptable and what is not. By the early 1970s, the massive employment of chemical herbicides, the use of rome ploughs to clear large parts of jungle forest, systematic area bombardment (so-called cratering), and other like measures had left an estimated 10 per cent of South Vietnamese territory destroyed.[2] States reacted by agreeing on the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification

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1 On the development of international environmental protection law see K. Hulme, *War Torn Environment: Interpreting the Legal Threshold* (2004), 6–10.

2 See, e.g., S. M. Whitby, 'Anticrop Biological Weapons Programs', in M. Wheelis, L. Rósza, and M. Dando (eds.), *Deadly Cultures: Biological Weapons since 1945* (2006), 213 at 223.

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Techniques (ENMOD)[3] and, shortly thereafter, Articles 35(3) and 55 of Additional Protocol I.[4,5]

The Statute of the International Criminal Court (ICC)[6] now adds criminal liability for those who violate the prohibition. Article 8(2)(b)(iv), second alternative, ICC Statute, lists as a war crime in international armed conflict the intentional launching of an attack in the knowledge that such attack will cause widespread, long-term, and severe damage to the natural environment which would be clearly excessive in relation to the concrete and overall military damage anticipated. The inclusion of this war crime seems to evidence the preliminary climax of international legal protection. The natural environment finally seems to have been accepted into the category of goods that generally need preservation in times of war, an injury to which amounts to one of the most serious crimes of international concern.[7] Such a crime has yet never been prosecuted before either national or international courts.[8] But not only practice is missing. Article 8(2)(b)(iv), second alternative, of the ICC Statute also suffers from a lack of statutory definition. This article explores the way in which the provision could be interpreted, and the analysis reveals various difficulties that stand in the way of meaningfully applying the norm in practice.

1. General remarks on the interpretation of Article 8(2)(b)(iv), second alternative, of the ICC Statute

The wording of Article 8(2)(b)(iv), second alternative, of the ICC Statute largely derives from Article 35(3) and the second sentence of Article 55(1) of Additional Protocol I.[9] It has been suggested that the offence in the ICC Statute may allow for an

3 (1976) 1108 UNTS 151. According to Art. I(1) of the ENMOD, 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'. Art. II of the ENMOD explains what 'environmental modification technique' means, namely, '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 of outer space'. Attached to the ENMOD is an Understanding relating to Art. II, which lists on an illustrative basis the ecological phenomena that could be caused by environmental modification techniques. For details see Y. Dinstein, 'Protection of the Environment in International Armed Conflict', (2001) 5 *Max Planck Yearbook of United Nations Law* 524, at 525–30; M. N. Schmitt, 'Green War: An Assessment of the Environmental Law of International Armed Conflict', (1997) 22 *Yale Journal of International Law* 1, 82–5.

4 1977 Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts, 1125 UNTS 3.

5 See Schmitt, *supra* note 3, at 11–12.

6 1998 Rome Statute of the International Criminal Court, 2187 UNTS 3.

7 See Preamble, para. 8, Arts. 1 and 5 of the ICC Statute.

8 There are other war crimes provisions in the ICC Statute, besides Art. 8(2)(b)(iv), second alternative, which may cover certain aspects of environmental warfare, such as the prohibition of attacks against civilian objects in Art. 8(2)(b)(ii); the prohibition on destroying property of the enemy without military necessity in Arts. 8(2)(b)(xiii), (e)(xii); or the prohibition on using starvation of the civilian population as a method of warfare in Art. 8(2)(b)(xxv). An analysis of these provisions is beyond the scope of this article, which also cannot deal with the question of whether the prohibition in Art. 8(2)(b)(iv), second alternative, of the ICC Statute should be extended to non-international armed conflicts. For effective protection of the natural environment such an extension would certainly be desirable. For examples of destruction of the environment that have been condemned or prosecuted under other war crimes provisions in the past, see Hulme, *supra* note 1, at 3–4.

9 K. Dörmann, *Elements of War Crimes under the Rome Statute of the International Criminal Court: Sources and Commentary* (2003), 166.

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independent interpretation, possibly disengaged from the underlying humanitarian norms.[10] As a general proposition, however, this view must be rejected. Neither the ICC Statute nor the Elements of Crimes specify the requirements for the crime. Information as to how it should be interpreted is also not contained in the official preparatory works.[11] For further guidance the ICC will thus necessarily have to refer to Articles 35(3) and 55 of Additional Protocol I. Recourse to them is admissible under Article 21(1)(b) of the ICC Statute, which allows the ICC to apply, in addition to the Statute and the Elements of Crimes, where appropriate, other international treaties. It is further advised by the general rules of interpretation under the Vienna Convention on the Law of Treaties,[12] in particular Article 31(3)(c) thereof, which stipulates that the interpretation of an international treaty has to take into account any relevant rules of international law applicable in the relations between the treaty parties.[13]

2. The 'natural environment' as reference point

Article 8(2)(b)(iv), second alternative, of the ICC Statute does not require actual damage to the natural environment; the mere action of launching a potentially devastating attack suffices.[14] It is also not necessary that the natural environment be the direct target of attack. Article 8(2)(b)(iv), second alternative, of the ICC Statute primarily serves to cover attacks directed at military objectives, thereby (potentially) causing detrimental side effects to the natural environment. It has to be noted, however, that the underlying norms in Additional Protocol I do not link the protection of the natural environment to its status as a civilian object, as is the usual case for international humanitarian norms prohibiting damage.[15] The natural environment must therefore be spared from excessive harm even if it presents a military objective.[16] The reason for this is, first of all, that the distinction between military and civilian objects has a meaning only for as long as an armed conflict takes place. Articles 35(3) and 55 of Additional Protocol I, on the other hand, require damage extending over extensive periods of time, which will usually outlast an armed conflict.[17] Second, even states that object to being bound by Articles 35(3) and 55

10 E. Koppe, *The Use of Nuclear Weapons and the Protection of the Environment during International Armed Conflict* (2008), 203.

11 See, in particular, Official Records of the UN Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court, UN Doc. A/CONF.183/13 (1998), Vol. II, www.icc-cpi.int/legaltools/.

12 1969 Vienna Convention on the Law of Treaties, 1155 UNTS 331.

13 Provided that the state parties have not agreed on a different understanding as regards a specific crime, such an 'interpretation in conformity with general international law' is accepted also in the field of international criminal law; see *Prosecutor v. Tadić*, Judgement, Case No. IT-94-1-A, A.Ch., 15 July 1999, para. 287; K. Ambos, *Der Allgemeine Teil des Völkerstrafrechts* (2002), 381; K. Kittichaisaree, *International Criminal Law* (2001), 45; G. Werle, *Principles of International Criminal Law* (2005), margin nos. 160–1.

14 Dörmann, *supra* note 9, at 162.

15 See, e.g., Art. 52 of Additional Protocol I, which prohibits attacks on civilian objects.

16 M. Bothe, 'The Protection of the Environment in Times of Armed Conflict. Legal Rules, Uncertainty, Deficiencies and Possible Developments', (1991) 34 *German Yearbook of International Law* 54, at 56; Koppe, *supra* note 10, at 151. But see W. D. Verwey, 'Protection of the Environment in Times of Armed Conflict: In Search of a New Legal Perspective', (1995) 8 LJIL 7, at 13, with regard to Art. 55 of Additional Protocol I.

17 See section 3.2., *infra*.

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of Additional Protocol I concede that the natural environment may not be directly attacked in case it amounts to a civilian object.[18] One problem states seem to have with these particular provisions is thus that they protect the natural environment regardless of its status. Furthermore, it deserves mention that Articles 35(3) and 55 of Additional Protocol I are not limited to the enemy environment, but likewise cover damage in the territory of the party to whom the perpetrator belongs.[19] The same should be assumed with regard to Article 8(2)(b)(iv), second alternative, of the ICC Statute.

Questions arise as to the meaning of the term 'natural environment'. Quite obviously, this is a reference to the environment in the ecological sense of the word.[20] Under international law, there is as yet no single accepted definition of the notion 'environment'. Usually it describes a whole complex of non-living (abiotic) as well as living (biotic) factors that act upon an organism or ecological community and ultimately determine its form and survival.[21] International environmental treaties have consistently recognized elements such as flora and fauna, air, soil, water, vegetation, habitat, forests, marine living resources, ecosystems, organisms, climate, and agriculture as belonging to the 'environment'. Even humans and man-made structures, particularly those of cultural and historical value, are sometimes included within the definition.[22]

As regards Article 8(2)(b)(iv), second alternative, of the ICC Statute, the main issue is whether the add-on 'natural' leads to a restriction in the scope of the crime. This expression has also been transferred from Articles 35(3) and 55 of Additional Protocol I. One might consider it to exclude any part of nature that is artificially modified, created, or cultivated in some other way by humans. At first sight, Additional Protocol I would appear to support such a conclusion. Article 54 of Additional Protocol I protects foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations, and supplies and irrigation works from harm if these objects are indispensable for the survival of a civilian population. Article 56 of Additional Protocol I, in addition, outlaws attacks on works and installations containing dangerous forces, namely dams, dykes, or nuclear electrical generating stations.

These two provisions should, however, not be interpreted as narrowing Articles 35(3) and 55 of Additional Protocol I. Although Articles 54 and 56 of Additional

18 J. B. Bellinger III and W. J. Haynes II, 'A US Government Response to the International Committee of the Red Cross Study Customary International Humanitarian Law', (2007) 89 *International Review of the Red Cross* 443, at 455.

19 See Dinstein, *supra* note 3, at 540; Hulme, *supra* note 1, at 78; A. Kiss, 'Les Protocoles additionels aux Conventions de Genève de 1977 et la protection de biens de l'environnement', in C. Swinarski (ed.), *Studies and Essays on International Humanitarian Law and Red Cross Principles in Honour of Jean Pictet* (1984), 181 at 187–8.

20 With regard to Arts. 35(3) and 55 of Additional Protocol I, see S. Witteler, *Die Regelungen der neuen Verträge des humanitären Völkerrechts und des Rechts der Rüstungsbegrenzung mit direktem Umweltbezug. Waffenwirkung und Umwelt II* (1993), 365. On the natural science concept of environment, see, e.g., A. Eisermann et al., in H. Spieker (ed.), *Naturwissenschaftliche und völkerrechtliche Perspektiven für den Schutz der Umwelt im bewaffneten Konflikt. Waffenwirkung und Umwelt III* (1996), 3 at 7–12.

21 See Hulme, *supra* note 1, at 13 with references.

22 Ibid., at 12. Critically as to the inclusion of humans, see Witteler, *supra* note 20, at 368–9.

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Protocol I address the modified or artificially created environment, they regulate the matter only in part. They do not concern all artificially created or modified environments, nor do they exempt the covered objects from the protection provided to civilian objects in general[23] or to the 'natural environment' in particular under Articles 35(3) and 55 of Additional Protocol I. Accordingly, the notion of 'natural environment' must be understood broadly. It refers to all ecological conditions in which humans naturally live, including artificially created, modified, or otherwise reclaimed nature.[24] This interpretation corresponds to the understanding that the 'environment' does not merely concern a collection of certain elements of nature or simply an organism's surrounding, but describes the process of interaction between all animate and inanimate factors, which together influence and determine the biological life of people.[25]

3. The threshold of 'widespread, long-term and severe damage'

The essential element of Article 8(2)(b)(iv), second alternative, of the ICC Statute is the so-called damage threshold, which is worded in the same way as in Article 35(3) and the second sentence of Article 55(1) of Additional Protocol I. Since negative effects on the natural environment by the conduct of warfare cannot be completely avoided, only exceptionally grave consequences are prohibited, namely widespread, long-term, and severe damage. The conjunctive 'and' signifies that these three conditions must be met cumulatively. In this respect, Additional Protocol I and the ICC Statute differ from Article I of the ENMOD, the latter of which encompasses damage having widespread, long-lasting, or severe effects on the natural environment, alternatively. The difference is justified by the argument that the ENMOD is limited to intentionally inflicted harm, whereas Articles 35(3) and 55 of Additional Protocol I, as well as Article 8(2)(b)(iv), second alternative, of the ICC Statute extend to incidental damage that may be expected from acts of warfare.[26]

For the purposes of the ENMOD, an Understanding to the treaty defines 'widespread' to encompass damage in an area on the scale of several hundred square kilometres; 'long-lasting' to mean the lasting of damage for a period of months, or approximately a season; and 'severe' to apply to damage involving serious or

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23 In particular Art. 52 of Additional Protocol I.

24 See ILC Draft Code of Crimes against the Peace and Security of Mankind, (1991) 43(2) *Yearbook of the International Law Commission* 94, at 107, para. 4: 'The words "natural environment" should be taken broadly to cover the environment of the human race and where the human race develops, as well as areas the preservation of which is of fundamental importance in protecting the environment. These words therefore cover the seas, the atmosphere, climate, forests and other plant cover, fauna, flora and other biological elements.' See also Dinstein, *supra* note 3, at 534; Kiss, *supra* note 19, at 186; C. Pilloud and J. Pictet, in Y. Sandoz, C. Swinarski, and B. Zimmermann (eds.), *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (1987), para. 2126. For more details with regard to Additional Protocol I see H. Spieker, *Völkergewohnheitsrechtlicher Schutz der natürlichen Umwelt im internationalen bewaffneten Konflikt. Waffenwirkung und Umwelt I* (1992), 381–392; Witteler, *supra* note 20, at 366–72.

25 Hulme, *supra* note 1, at 13; J. de Preux, in Sandoz et al., *supra* note 24, at para. 1451.

26 Werle, *supra* note 13, at margin no. 1044; S. Oeter, in D. Fleck (ed.), *The Handbook of International Humanitarian Law* (2008), no. 403, para. 4; W. A. Solf, in M. Bothe, K. J. Partsch, and W. A. Solf, *New Rules for Victims of Armed Conflicts: Commentary on the Two 1977 Protocols Additional to the Geneva Conventions of 1949* (1982), 347.

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significant disruption or harm to human life, natural and economic resources, or other assets.[27] There has been some discussion as to whether the formulations in Article I of the ENMOD and Articles 35(3) and 55 of Additional Protocol I may be understood synonymously.[28] Two factors suggest a similar interpretation: the wording of the prohibitions is almost identical and both treaties were negotiated at approximately the same time and in the same place (Geneva). Nevertheless, automatic recourse to the Understanding to the ENMOD for the purposes of interpreting Articles 35(3) and 55 of Additional Protocol I is not appropriate. The Understanding to the ENMOD itself points out that its definition 'is intended exclusively for this Convention and is not intended to prejudice the interpretation of the same or similar terms if used in connexion with any other international agreement'.[29] When Additional Protocol I was negotiated, delegations made it clear that the Understanding to the ENMOD should not be relevant in this context.[30] Various states expressly upheld that position on signature of the Protocol,[31] and it seems to be common ground today.[32]

The same must apply *mutatis mutandis* to Article 8(2)(b)(iv), second alternative, of the ICC Statute, thus raising the question what parameters are to be employed here. It should be noted that it is the damage threshold, in particular, which, according to some authors, deserves an independent interpretation under the ICC Statute.[33] However, as already indicated, the expression 'widespread, long-term and severe damage' is defined nowhere in the ICC Statute. Furthermore, although modern international environmental law seems to have lowered the standards once set in Articles 35(3) and 55(1) of Additional Protocol I, the exact scope of recent developments is hard to grasp.[34] Since Article 8(2)(b)(iv), second alternative, of the ICC Statute borrows from the language in Additional Protocol I, it is submitted that the norms therein serve as an important reference point for interpretation in order to ensure at least some legal certainty.

Having said this, it is nevertheless difficult to avoid the conclusion that the damage threshold was left without appropriate specification also by the drafters of Additional Protocol I. Some states have emphasized that the elements 'widespread', 'long-term', and 'severe' should not be applied according to their ordinary meaning, possibly given by a lay person, but must be interpreted in consistency with the 'general feeling during the discussions' at the Diplomatic Conference in Geneva, which negotiated Additional Protocol I between 1974 and 1977.[35] However, with some exception as to the criterion 'long-term', the Protocol's preparatory works do

27 Understanding Relating to Article I, www.icrc.org/ihl.nsf/WebART/460–920013?OpenDocument.
28 See Witteler, *supra* note 20, at 252–3 with further references.
29 Understanding, *supra* note 27.
30 For references see Witteler, *supra* note 20, at 377.
31 For references see ibid., at 325–6.
32 Bothe, *supra* note 16, at 57; A. Bouvier, 'Protection of the Natural Environment in Time of Armed Conflict', (1991) 31 *International Review of the Red Cross* 567, at 575–6; Dinstein, *supra* note 3, at 541–2; Kiss, *supra* note 19, at 189; de Preux, *supra* note 25, at para. 1454; Witteler, *supra* note 20, at 253.
33 See Koppe, *supra* note 10, at 203 with references also from the International Law Commission.
34 Hulme, *supra* note 1, at 99; Schmitt, *supra* note 3, at 22–36.
35 Hulme, *supra* note 1, at 89 with references.

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not contain much concrete evidence as to how the state parties have understood the damage threshold.[36]

3.1. Widespread damage

The term 'widespread' refers to the necessary geographical scope of damage to the natural environment. There seems to be general support for taking this as an absolute rather than a relative criterion. As a rule, then, the relation between the geographical dimension of the damage and the overall size of a state affected by it is irrelevant. One reason given for this interpretation is that otherwise states with small territories would enjoy greater protection than states with larger territories: if the size of an affected state were to matter, 'widespread' damage would have to be assumed sooner in smaller states and the obligations of states at war with each other might deviate from one another. In addition, an absolute understanding is conceived as improving the prohibition's practicability and providing for more accuracy in military decision-making processes.[37] Although this standard hypothetically leaves micro-states vulnerable to complete ecological destruction, it is arguably justified because the prohibition in Additional Protocol I aims at the protection of local and regional ecological systems. An independent ecological system may not necessarily be confined within the boundaries of a particular state.[38]

It is also generally accepted that the standard factor for measuring 'widespread' damage to the natural environment should be square kilometres. However, opinion differs significantly as to what the minimum requirement would be. According to some authors, damage spreading for well under several hundred square kilometres could suffice.[39] Another author sets the threshold higher, but points out that there is a substantial number of state parties to Additional Protocol I with territories smaller than 1,000 sq km. Based on the argument that Articles 35(3) and 55 of Additional Protocol I should not be interpreted in such a way as to deny those states any protection, this author suggests measuring on the basis of several hundred square kilometres; depending on the concrete situation, damage ranging between 500 and 1,000 sq km could imply a breach of the prohibition.[40] A third author mainly relies on the intention of the state parties to interpret Additional Protocol I differently from the ENMOD. This intention supposedly indicates that the threshold in Articles 35(3) and 55 of Additional Protocol I should be much higher than under the ENMOD and require at the very least several hundred square kilometres of damaged environment. Proposing that the drafters of the Protocol had in mind the scale of damage caused during the Vietnam War, which resulted in approximately 20,000 sq km in South

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36 According to the preparatory works of Additional Protocol I, the three elements of the threshold damage were 'extensively discussed'; see Hulme, *supra* note 1, at 91, who points out, however, that the participating delegations struggled to achieve an acceptable text. That author consequently doubts whether the three terms were 'ever given "true" meanings'. Ibid., at 89.

37 Witteler, *supra* note 20, at 380–2.

38 Ibid., at 384–5.

39 P. Antoine, 'International Humanitarian Law and the Protection of the Environment in Time of Armed Conflict', (1992) 32 *International Review of the Red Cross* 517, at 526; Dinstein, *supra* note 3, at 542; Y. Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (2004), 191.

40 Witteler, *supra* note 20, at 383–7.

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Vietnam being sprayed with chemical herbicides, the 'widespread' criterion here is assumed to require damage something in between that sufficient for the ENMOD and that caused in Vietnam.[41]

These three examples suffice to document how legal experts struggle in an attempt to provide the 'widespread' criterion with more precision. Although it is agreed that damage extending over several thousand square kilometres would be sufficient, views diverge as to whether damage below such magnitude can satisfy the element. More recent state practice seems to indicate that the standard set by the ENMOD of several hundred square kilometres may also apply within the framework of Additional Protocol I.[42] Exact numbers are, however, impossible to give.[43] In sum, the criterion remains quite vague.

3.2. Long-term damage

The notion 'long-term' refers to the temporal dimension of ecological damage. It is probably this element which differs most significantly from the prohibition under the ENMOD. As will be recalled, Article I of the ENMOD employs the expression 'long-lasting', which the Understanding defines as lasting for a period of months or approximately a season. When signing Additional Protocol I, several states declared that they understand 'long-lasting' to mean something different from 'long-term'.[44] The same is spelled out in current national military handbooks and penal codes.[45] It is therefore agreed that 'long-term' in Articles 35 and 55 of Additional Protocol I requires an independent interpretation.[46]

As a starting point one should look at the second sentence of Article 55(1) of Additional Protocol I, which speaks of methods and means of warfare intended or expected to cause widespread, long-term, and severe damage to the natural environment and 'thereby prejudice the health or survival of the population'. The provision notably refers only to 'the population', instead of the normally employed expression 'civilian population'.[47] This implies that 'long-term' means damage extending over such long periods of time as to make any distinction drawn in times of armed conflict between combatants and the civilian population redundant.[48] Consequently, the criterion is understood to denote a period of years, possibly decades.[49] Negative ecological effects, which disappear within the usual period of natural regeneration, as for example, by the turn of seasons, are not covered.[50] It is unclear whether there is a fixed minimum time value. According to one author, damage lasting for more

41 Hulme, *supra* note 1, at 92–3.
42 Ibid., at 93 (Hulme still contends that this was not the threshold intended in 1977); Schmitt, *supra* note 3, at 71–2.
43 See also Witteler, *supra* note 20, at 387.
44 For references see Solf, *supra* note 26, at 347–8; Witteler, *supra* note 20, at 325–6.
45 For references see J.-M. Henckaerts and L. Doswald-Beck, *Customary International Humanitarian Law* (2005), II/1, ch. 14, paras. 163–187.
46 *Supra* note 32.
47 See, e.g., Additional Protocol I, Art. 51.
48 Dinstein, *supra* note 3, at 532; Dinstein, *supra* note 39, at 183; Kiss, *supra* note 19, at 190.
49 Dinstein, *supra* note 3, at 542; Kiss, *supra* note 19, at 190; de Preux, *supra* note 25, at paras. 1452, 1454; Solf, *supra* note 26, at 346; Witteler, *supra* note 20, at 390.
50 For details see Witteler, *supra* note 20, at 389–95. See also de Preux, *supra* note 25, at paras. 1452, 1454.

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than two years could in some cases already qualify as 'long-term'.[51] In contrast, the drafters of Additional Protocol I even referred to a 'scale of decades, twenty or thirty years as being a minimum'.[52]

In any event, the threshold set is high. And it is obvious that problems arise from it. The condition of the natural environment is never static, but exposed to various factors. In densely populated areas in particular, change may be quite dramatic over time, thus making it difficult to establish a causal link with combat actions that were conducted during an armed conflict years previously.[53] Problems of this kind multiply if one takes into account the fact that Articles 35(3) and 55 of Additional Protocol I and also Article 8(2)(b)(iv), second alternative, of the ICC Statute do not require actual harm to the natural environment. As regards military conduct in the field, the expectation of dispensing with any conduct that may come within the ambit of the prohibition is certainly justified. From the perspective of international criminal law, which is concerned with establishing individual responsibility after the fact, however, the matter is not easy to resolve. One central question is how and at what point in time the Prosecutor or the ICC would be able to evaluate harm to the natural environment as being of so great an extent as to call for the initiation of criminal proceedings. Interestingly, the report of the Review Committee for the Prosecutor of the International Criminal Tribunal for the former Yugoslavia, on the subject of NATO's responsibility for damage caused during the 1999 Kosovo conflict, doubted whether accurate assessments may yet be practicable.[54] Similar concerns were raised by members of the International Law Commission when drafting the Code of Crimes against the Peace and Security of Mankind.[55] Even if one assumed that particularly grave effects on the natural environment could reasonably be assessed from the conduct in question, it remains open whether a person once convicted for a violation of Article 8(2)(b)(iv), second alternative, of the ICC Statute should be granted review of the judgment if the assessment eventually turns out to be erroneous. Such a scenario may be disregarded as theoretical, but it suggests that the ICC will be rather cautions in applying the provision.

3.3. Severe damage

The criterion 'severe' describes an intensity independent of the local and durational aspect of the damage.[56] This element refers to harm that jeopardizes or destroys the viability of whole ecosystems.[57] According to the drafters of Additional Protocol I, severe damage to the natural environment 'would be likely to prejudice, over long

51 Witteler, *supra* note 20, at 395.
52 Hulme, *supra* note 1, at 94; Solf, *supra* note 26, at 346; for more details and references see Witteler, *supra* note 20, at 394–5.
53 For details, see Witteler, *supra* note 20, at 391–2. See also de Preux, *supra* note 25, at paras. 1452, 1454.
54 ICTY, Final Report to the Prosecutor by the Committee Established to Review the NATO Bombing Campaign against the Federal Republic of Yugoslavia of 14 June 2000, www.un.org/icty/pressreal/nato061300.htm, para. 17.
55 ILC Draft Code of Crimes against the Peace and Security of Mankind, *supra* note 24, at 107, para. 5.
56 Witteler, *supra* note 20, at 397.
57 Hulme, *supra* note 1, at 97; Witteler, *supra* note 20, at 397.

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term, the continued survival of the civilian population or would risk causing it major health problems'.[58] The population might be that of today or future generations. As the employment of both 'survival' and 'health' indicates, actions are also prohibited which leave a population alive but lead to serious health problems, possibly passing from one generation to another. Damage covered could include congenital, mutagenic, teratogenic, or carcinogenic defects induced in humans by environmental factors, some of which have resulted from the repeat spraying of the herbicide Agent Orange during the Vietnam War.[59] It is not necessary that the entire population of, for example, a state be affected. Harm (potentially) caused to the local population of a targeted area is sufficient.[60] Unlike the ENMOD, the prohibition under Additional Protocol I does not cover effects on economic or other assets.[61]

The concentration on negative consequences for humans may be explained by the fact that the second sentence of Article 55(1) of Additional Protocol I requires ecological damage to result in the endangerment of a population's health or survival. Some experts have criticized this concept as too narrow, arguing that at least Article 35(3) of Additional Protocol I concerns the protection of the natural environment as such because that provision does not contain any reference to humans.[62] This reasoning may be transferred to Article 8(2)(b)(iv), second alternative, of the ICC Statute. Consequently, the prohibition could include changes in an ecosystem that destroy flora and fauna without necessarily harming humans. One example would be the causing of mutagenic effects in animal species. For damage of this kind to be considered 'severe' it would generally have to affect the viability or health of the ecosystem as a whole, although it could be taken into account if damage is caused to particularly valuable, endangered, or rare species or areas of natural heritage.[63]

3.4. The cumulative standard and the notion of 'damage'

As has been shown, 'widespread', 'long-term', and 'severe' each come with an internal threshold. In addition, the three elements must be fulfilled cumulatively and they must in total amount to damage to the natural environment. These requirements raise further issues.

It is unclear how the three elements relate to each other. Articles 35(3) and 55(1) of Additional Protocol I as well as Article 8(2)(b)(iv), second alternative, of the ICC Statute suggest a strict standard with no room for flexibility. Members of the International Law Commission have, however, indicated that there is an interconnection between 'long-term' and 'severe'.[64] Other experts maintain that

58 Witteler, *supra* note 20, at 399. In the same direction Kiss, *supra* note 19, at 190.
59 Hulme, *supra* note 1, at 96, 98.
60 Dinstein, *supra* note 3, at 532–3; Hulme, *supra* note 1, at 97.
61 Hulme, *supra* note 1, at 97.
62 Dinstein, *supra* note 3, at 531–2; Hulme, *supra* note 1, at 78, 96.
63 Dinstein, *supra* note 39, at 182; Hulme, *supra* note 1, at 96–8. See also Witteler, *supra* note 20, at 397–8, who also argues that damage of the magnitude required by the accumulation of the three criteria will usually also harm humans; ibid., at 399–400. Critically as to this approach, P. J. Richards and M. N. Schmitt, 'Mars Meets Mother Nature: Protecting the Environment during Armed Conflict', (1998–9) 28 *Stetson Law Review* 1047, at 1085–6.
64 For references see Hulme, *supra* note 1, at 99.

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all three criteria must be established individually.[65] Under this latter approach it is doubtful whether the prohibition covers conduct which at first impact causes serious harm to a large area, while over time significant damage remains only in certain vulnerable pockets. Having in mind the rapid changes that the environment may undergo as years pass by, such a scenario would not be uncommon.[66]

The notion of 'damage' generally implies a (lasting) negative effect.[67] This appears to establish a relatively clear standard, but it, too, causes several problems in the context at issue. First of all, given that modern environmental law has come to prohibit harmful activities in the absence of proof of specific damage to the environment, Articles 35(3) and 55(1) of Additional Protocol I have been criticized for relying on an outdated concept of environmental protection.[68] The incorporation of this concept into Article 8(2)(b)(iv), second alternative, of the ICC Statute meets the same criticism, although it might be argued that as far as international criminal law is concerned, the notion of damage ensures legal certainty and limits criminal liability to particularly grave violations.

However, even on that basis, the damage requirement provides more for doubts than answers. Suffice it to mention only a few: since life can take many forms, it is unlikely that combat action will ever completely destroy it in the affected area. Some process of regeneration will usually begin in the aftermath of a damaging incident. What changes induced by the conduct of warfare may then be considered 'damage' has not so far been extensively studied from a legal point of view. Questions raised concern, *inter alia*, whether it should be taken into account if negative effects could be reversed or averted (although at high financial cost), or whether destruction of the original ecosystem would still amount to damage if it prompted growth of a different viable flora and fauna or usability of the area for other purposes, such as agriculture.[69] Apart from that, the extent of damage, in particular its severity, depends on a complex interplay between various factors present in the affected area.[70] Potential perpetrators, to whom Article 8(2)(b)(iv), second alternative, of the ICC Statute is addressed, will often not be familiar with these, especially if they have no background in natural sciences.[71]

4. The criminal conduct of 'launching an attack'

The criminal conduct in Article 8(2)(b)(iv), second alternative, of the ICC Statute is described as 'launching an attack', while Article 35(3) and the second sentence of

65 Ibid.; Witteler, *supra* note 20, at 401.

66 On this problem and others relating to it see P. Lehnes, 'Probleme der eindeutigen Ermittlung von Ausdehnung, Dauer und Schwere einer Umweltschädigung', in Spieker, *supra* note 20, 23 at 30–9.

67 For details on the concept of damage see Eisermann et al., *supra* note 20, at 13–19; Hulme, *supra* note 1, at 17–40.

68 Bothe, *supra* note 16, at 57–8 with further references; Verwey, *supra* note 16, at 14.

69 Lehnes, *supra* note 66, at 46–53; Witteler, *supra* note 20, at 403.

70 Witteler, *supra* note 20, at 392.

71 According to the Elements of Crimes relating to Art. 8(2)(b)(iv) ICC Statute, num. 3, the perpetrator must positively know at the time of launching the attack that it will cause widespread, long-term, and severe damage to the natural environment. As to problems related to such a standard, see Verwey, *supra* note 16, at 11–12.

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Article 55(1) of Additional Protocol I refer to the employment of 'methods and means of warfare'. The scope of the latter expression is not exactly clear; it is assumed that it refers to specific acts of warfare. Nevertheless, that notion is relatively flexible and does not require concentrating on isolated combat actions or even the use of a single weapon, missile, or bomb. It allows for embracing a number of different incidents, stretched out over time and place, where similar conduct has a detrimental impact on the natural environment, provided that the activity in whole presents itself as a tactic of warfare.[72]

In contrast, an 'attack' is understood to mean a specific military operation, which is limited in time and space.[73] Although this definition is also not limited to isolated acts of warfare, such as the single bombardment of an area of land, it seems doubtful whether tactics of warfare, which only prove to be such over considerable periods of time, would be covered by it. Article 35(3) and the second sentence of Article 55(1) of Additional Protocol I seem wide enough to apply, for example, to the massive employment of chemical herbicides, albeit their selective use in particular military operations will most likely not be sufficient to cause widespread, long-term, and severe damage to the natural environment.[74] Such an interpretation within the framework of Article 8(2)(b)(iv), second alternative, of the ICC Statute might overstretch the ordinary meaning of 'attack'.

5. The relationship of Article 8(2)(b)(iv), second alternative, of the ICC Statute to particular weapons

One reason for incorporating the high damage threshold into Articles 35(3) and 55 of Additional Protocol I was that states did not want to see typical battlefield damage covered.[75] An example often mentioned as not falling under the prohibition is the destruction caused in France during the First World War.[76] This leaves non-conventional modes of warfare, especially weapons of mass destruction, as primary targets of the prohibition. Since Article 8(2)(b)(iv), second alternative, of the ICC Statute even requires a specific attack to be capable of causing widespread, long-term, and severe damage to the natural environment, this assumption applies all the more so here. While it can safely be assumed that the ICC Statute in general covers weapons of mass destruction,[77] there might be a problem with applying Article 8(2)(b)(iv), second alternative, to them.

72 Hulme, *supra* note 1, at 79–80; Witteler, *supra* note 20, at 411–12; Kiss, *supra* note 19, at 187.

73 See *Prosecutor v. D. Milosević*, Case no. IT-98-29, Judgement, T.Ch. III, 12 December 2007, para. 943; Oeter, *supra* note 26, at no. 444.

74 See also Hulme, *supra* note 1, at 79–80, who points out that states in their condemnation of the Iraqi actions in the 1990–1 Gulf conflict did not refer to each act of oil spillage or oil-well fire, but to the tactic as a whole; see also Schmitt, *supra* note 3, at 83–4, with regard to the ENMOD.

75 Hulme, *supra* note 1, at 97; Witteler, *supra* note 20, at 394.

76 Final Report to the Prosecutor, *supra* note 54, at para. 15; R. Arnold, in O. Triffterer (ed.), *Commentary on the Rome Statute of the International Criminal Court: Observers' Notes, Article by Article* (2008), Art. 8, margin no. 60; Schmitt, *supra* note 3, at 71.

77 France has submitted an official interpretative declaration to the ICC Statute, according to which the Statute does not apply to nuclear weapons; www.icc-cpi.int/legaltools/. This position may be explained against the background of a vigorous controversy that evolved during negotiations on the Statute as to whether or not to include a special war crime prohibiting the use of nuclear weapons as such. Since the delegations at the

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Although far from uncontested, the majority opinion among legal experts is that the drafters of Additional Protocol I intended this treaty to regulate only the use of conventional weapons. Despite the fact that there is nothing in the Protocol's text to support such a finding, one assumes that a 'nuclear weapons consensus' was adopted together with it, which has at least exempted nuclear weapons from the ambit of the Protocol.[78] Besides that, several state parties, including the nuclear powers France and the United Kingdom, have formulated reservations or so-called interpretative declarations to the Protocol, stating that it only applies to conventional weapons and does not regulate, in particular, the use of nuclear weapons.[79] These declarations have not been expressly rejected by any other party,[80] thus implying their tacit acceptance.[81]

It should be noted that both the 'nuclear weapons consensus' argument and the reservations and interpretative declarations allude to a limitation of Additional Protocol I to the use of 'conventional weapons'. The counterpart of this term – 'weapons of mass destruction' – relates not only to nuclear, but to biological and chemical weapons alike.[82] One should therefore assume that the latter are also meant to be outside the scope of the Protocol. This understanding finds support in the introduction to the draft articles for the Additional Protocols, which was presented by the International Committee of the Red Cross (ICRC) in June 1973 and is often relied on by those who advocate a 'nuclear weapons consensus':

Rome Conference in 1998 could not reach an agreement on this issue, it was finally decided also to drop provisions that would have explicitly criminalized the use of biological and chemical weapons, which some states regarded as the 'poor man's weapons of mass destruction'; see H. von Hebel and D. Robinson, 'Crimes within the Jurisdiction of the Court', in R. S. Lee (ed.), *The International Criminal Court: The Making of the Rome Statute: Issues, Negotiations, Results* (1999), 79 at 116; P. Kirsch and J. T. Holmes, 'The Rome Conference on an International Criminal Court: The Negotiating Process', (1999) 93 AJIL 2, at 7–8. As a result, the ICC Statute does not contain any express reference to these three categories of weapon. Nevertheless, their complete exemption from the scope of the Statute cannot be concluded from that. As the preparatory works clearly show, debates at the Rome Conference always focused on the prohibition of biological, chemical, and nuclear weapons per se, i.e. relating to 'means of warfare'. The question of whether other provisions in the Statute should be applicable to them was apparently never discussed; there is at least no official proof of such a discussion. It can therefore not be assumed that biological, chemical, or, in particular, nuclear weapons were excluded. See also the declarations made by Egypt, New Zealand, and Sweden to the ICC Statute, www.icc-cpi.int/legaltools/.

78 See, e.g., R. R. Baxter, 'Modernizing the Law of War', (1977) 78 *Military Law Review* 165, at 179; Solf, *supra* note 26, 188–92; F. Kalshoven, 'Arms, Armaments and International Law' (1985-II) 191 RCADI 183, at 283; H. Meyrowitz, 'Stratégie Nucléaire et Droit de la Guerre', (1979) 83 *Revue Général de Droit International Public* 905, at 934–5; Oeter, *supra* note 26, at no. 433; Pilloud and Pictet, *supra* note 24, at para. 1858. But see H. Fischer, *Der Einsatz von Nuklearwaffen nach Art. 51 des I. Zusatzprotokolls zu den Genfer Konventionen von 1949. Völkerrecht zwischen humanitärem Anspruch und militärpolitischer Notwendigkeit* (1985), 145–6, 154–5; K. Ipsen, in B. Bothe, K. Ipsen and K.J. Partsch, 'Die Genfer Konferenz über humanitäres Völkerrecht. Verlauf und Ergebnisse', (1978) 38 *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht* 1, at 43; Witteler, *supra* note 20, 329–32.

79 See reservation by France to Additional Protocol I of 11 April 2001, para. 2, reservation by United Kingdom of 28 January 1998 lit. (a); as well as the 'interpretative declarations' by Belgium, Canada, Germany, Italy, Spain, at www.icrc.org/ihl.nsf/WebSign?ReadForm&id=470&ps=P.

80 But see the declarations by Ireland and the Holy See to Additional Protocol I, at www.icrc.org/ihl.nsf/WebSign?ReadForm&id=470&ps=P.

81 On the question whether the reservations may be invalid for reason of incompatibility with the object and purpose of Additional Protocol I, see Ipsen, *supra* note 78, at 43–4.

82 L. C. Green, 'The Environment and the Law of Conventional Warfare', (1991) 29 *Canadian Yearbook of International Law* 222, at 228.

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> Problems relating to atomic, bacteriological and chemical warfare are subjects of international agreements or negotiations by governments and in submitting these Draft Protocols the ICRC does not intend to broach these problems.[83]

Regardless of whether this statement was actually intended by the ICRC to exclude the issue from Additional Protocol I completely, it is clear that any admission to the states was not limited to nuclear weapons, but encompassed biological and chemical weapons as well. Paradoxically, even proponents of the 'nuclear weapons consensus' are willing to apply the Protocol to chemical herbicides, reasoning that it was precisely the employment of these weapons during the Vietnam War which gave the impetus for introducing the environmental protection in Articles 35(3) and 55.[84] Other arguments put forward in favour of this position include the suggestion that biological and chemical herbicides should not be considered weapons of mass destruction,[85] and the now universal condemnation of biological and chemical weapons, which seems to imply that, at least today, no state would seriously oppose an application of Additional Protocol I to these means of warfare.[86] As already said, due to the 'attack' element, Article 8(2)(b)(iv), second alternative, of the ICC Statute seems to have little relevance for chemical or biological herbicides, thus essentially putting the focus on nuclear weapons.

Here the question arises as to how the said limitations imposed on the underlying treaty norms influence the application of Article 8(2)(b)(iv), second alternative, of the ICC Statute. While this provision is by no means the only one in the ICC Statute which is based on Additional Protocol I, the matter appears especially problematic here. Many of the other crimes were universally accepted long before Additional Protocol I was adopted. It is therefore accepted – even by the nuclear powers – that the controversy surrounding the Protocol's scope does not affect their application to nuclear weapons under customary international law.[87] Since the obligation to interpret the ICC Statute in conformity with general international law may also be discharged by reference to customary international law,[88] the ICC may in most circumstances disregard restrictions relating to Additional Protocol I.[89]

Unfortunately, Article 8(2)(b)(iv), second alternative, of the ICC Statute does not belong to this category of crimes. When Additional Protocol I was adopted in 1977, Articles 35(3) and 55 were considered innovative.[90] They are thus among the primary targets of the 'nuclear weapons consensus' and respective reservations. Whether the prohibition on causing widespread, long-term, and severe damage to the natural environment has by now acquired the status of customary international law is

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83 Solf, *supra* note 26, at 188–9.
84 Ibid., at 348.
85 Koppe, *supra* note 10, at 172–4.
86 Hulme, *supra* note 1, at 97.
87 Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion of 8 July 1996, [1996] ICJ Rep. 226, at 259–60, para. 86.
88 See R. Jennings and A. Watts (ed.), *Oppenheim's International Law* (1992), I, 275 n. 21.
89 One example is the crime of directing attacks against the civilian population in Art. 8(2)(b)(i) of the ICC Statute.
90 See Dinstein, *supra* note 3, at 534; Kalshoven, *supra* note 78, at 283.

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a matter of debate. Some legal experts argue for it, while others reject it.[91] The International Court of Justice in its advisory opinion in the nuclear weapons case apparently assumed Articles 35(3) and 55(1) of Additional Protocol I only to bind state parties.[92] The United States also claims that the prohibition has never developed into international custom because certain 'specially affected states' (including the United States) still object to being bound by it.[93] As far as nuclear weapons are concerned, France and the United Kingdom have consistently shared this negative attitude. Even proponents of a customary prohibition, such as the authors of the influential ICRC study on customary international humanitarian law, therefore concede that these three states are to be regarded as persistent objectors, meaning that the presumed customary norm will not apply to them in the case of their use of nuclear weapons.[94]

For the ICC there thus exists a dilemma. Although Article 8(2)(b)(iv), second alternative, of the ICC Statute is worded in general terms, the underlying norms might be narrowed. The extent of this possible restriction is clear under neither treaty nor customary law: Articles 35(3) and 55 of Additional Protocol I may not apply at all to nuclear weapons for reasons of a general 'nuclear weapons consensus' or in any case may not extend to state parties that have formulated a reservation. Similarly, there may be no customary equivalent, or the presumed customary norm may not cover the use of nuclear weapons or in that context at least not bind persistent objector states such as France, the United Kingdom, and the United States.[95]

One could circumvent this problem by arguing simply that Article 8(2)(b)(iv), second alternative, of the ICC Statute has established a new prohibition, which is completely detached from Additional Protocol I. For reasons given earlier, however, such a proposition would be open to criticism. How the ICC, then, is supposed to deal with the matter cannot be answered for certain; the question certainly touches on fundamental issues concerning the ICC Statute's nature and aims.

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91 Supporting an acceptance under customary international law: Henckaerts and Doswald-Beck, *supra* note 45, I, 152; Werle, *supra* note 13, at margin no. 1042; cautiously, Final Report to the Prosecutor, *supra* note 54, para. 15: 'may . . . reflect current customary law'; similarly, C. G. Guldahl, 'The Role of Persistent Objection in International Humanitarian Law', (2008) 77 *Nordic Journal of International Law* 51, at 79–80; Oeter, *supra* note 26, at no. 403, para. 5; rejecting a customary norm, Dinstein, *supra* note 3, at 534; Green, *supra* note 82, at 232; Koppe, *supra* note 10, at 224–35; Schmitt, *supra* note 3, at 76.

92 According to the ICJ, 'States must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives'. *Nuclear Weapons* Advisory Opinion, *supra* note 87, at 242, para. 30. However, immediately thereafter it is stated that Arts. 35(3) and 55 of Additional Protocol I, in particular, 'are powerful restraints for all the States *having subscribed to these provisions*'. Ibid., at 242, para. 31 (emphasis added).

93 Bellinger and Haynes, *supra* note 18, at 455–60.

94 Henckaerts and Doswald-Beck, *supra* note 45, I, at 154–5. According to the doctrine of persistent objection, states which do not wish to be bound by an emerging rule of customary law must persistently and openly oppose that rule from the time of its formation. If these conditions are met, the state is not bound by the rule in question. For more details see Guldahl, *supra* note 91, at 53–5, who argues that in this particular context, France, the United Kingdom, and the United States should rather be considered 'specially affected states' and, as a result, it should be concluded that there is no customary norm at all as far as the use of nuclear weapons is concerned. Ibid., at 82–3.

95 It should be noted that the legitimacy of the doctrine of persistent objection in general, and particularly its applicability to international humanitarian law, is a matter of debate. This discussion is, however, beyond the scope of this article. See Guldahl, *supra* note 91, at 55–62, 83–6 with further references.

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On the one hand, the ICC Statute was established as a mostly self-contained legal regime. In this spirit, Article 21 of the ICC Statute spells out a hierarchy of law to be applied before the ICC, putting the Statute in first position. Other international treaties as well as customary international law shall only be applied where 'appropriate'. Furthermore, according to Article 12(1) of the ICC Statute, any state party automatically accepts the jurisdiction of the Court with respect to the crimes contained in the Statute. Last but not least, Article 120 of the ICC Statute prohibits outright reservations to the Statute. All this provides a powerful argument for disregarding any restriction imposed on the prohibition in Article 8(2)(b)(iv), second alternative, of the ICC Statute under Additional Protocol I or customary international law, at least in relation to states that have ratified the Statute.[96] Not only was the provision itself adopted without any sign of limitation; the state parties were also fully aware that reservations to the ICC Statute are impermissible. Granting certain members a special status because they reject being bound by the underlying humanitarian norm would undermine equal application of the Statute. It would also provide states with the opportunity of introducing limitations to the Statute through the back door.

On the other hand, the requirement to interpret the ICC Statute in conformity with general international law has been explicitly incorporated into Article 8(2)(b) of the ICC Statute, the opening clause of which stipulates that all crimes in this section are serious violations of the laws and customs of war 'within the established framework of international law'.[97] The state parties have refrained from clearly taking a stand as to whether Article 120 or Article 21 of the ICC Statute allows (or even requires) the ICC to disregard restrictions on underlying humanitarian norms. In particular, there is no indication that the state parties intended to interpret Article 8(2)(b)(iv), second alternative, of the ICC Statute differently from Articles 35(3) and 55 of Additional Protocol I or customary international law. For these reasons it is doubtful whether the ICC would apply Article 8(2)(b)(iv), second alternative, of the ICC Statute to nuclear weapons without hesitation.

6. The principle of proportionality as an additional material element

In contrast to Articles 35(3) and 55 of Additional Protocol I, Article 8(2)(b)(iv), second alternative, of the ICC Statute requires the application of the principle of proportionality. Accordingly, the damage expected must be clearly excessive in

96 This position seems to be taken by M. Cottier, in Triffterer, *supra* note 76, Art. 8, margin no. 180, who dismisses the suggestion of any relevance of reservations to the Geneva Poison Gas Protocol with regard to Art. 8(2)(b)(xviii) of the ICC Statute. However, the Geneva Poison Gas Protocol seems to be a special case. Many of the original reservations, according to which the treaty obligations ended if other states first violated the prohibition, have been withdrawn in the meantime. It can therefore be argued that the prohibition of chemical weapons now exists unconditionally under customary international law; see Henckaerts and Doswald-Beck, *supra* note 45, I, at 259–63.

97 See also Elements of Crimes for Art. 8 ICC Statute, Introduction, para. 2.

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relation to the concrete and overall military damage anticipated.[98] Opinion among legal experts is divided as to whether the application of the proportionality principle here leads to a raised standard. Some authors think it highly unlikely that damage to the natural environment so severe as to fulfil the other requirements of Article 8(2)(b)(iv), second alternative, of the ICC Statute can ever be justified by military necessity.[99] This position surely deserves support. Nevertheless, the inclusion of the proportionality principle as an element of the crime suggests a theoretical possibility that even the gravest ecological damage may be outweighed by military advantages. Given the already high damage threshold this sends a dubious signal.[100] One reason for incorporating the threshold in Additional Protocol I was precisely to replace the proportionality principle. The prohibition in Articles 35(3) and 55(1) of the Protocol was meant to be absolute, so that no combat action should be allowed to reach the threshold of causing widespread, long-term, and severe damage to the natural environment, irrespective of whether it might appear proportional to other military aims.[101]

7. Conclusion

The inclusion in the ICC Statute of a special war crime concerning attacks that may cause excessive damage to the environment is certainly welcome. Although the environment is indirectly protected by other provisions, Article 8(2)(b)(iv), second alternative, of the ICC Statute expresses a special concern of the international community. The provision aims at preserving the environment in the long term, even after an armed conflict has ended. Furthermore, other norms do not cover all aspects of environmental warfare. Article 8(2)(b)(ii) of the ICC Statute, for example, depends on classifying the environment or parts of it as a civilian object in a particular combat situation. Likewise, not every act of warfare involving ecological consequences will qualify as an attack on civilians under Article 8(2)(b)(i) of the ICC Statute, even if it causes harm to humans.

Still, the way in which the crime has been drafted raises substantial concerns. First, Article 8(2)(b)(iv), second alternative, of the ICC Statute can be criticized for having borrowed from the language of Articles 35(3) and 55 of Additional Protocol I, thus following an outdated model of environmental protection without appropriately mirroring recent developments under general international law. Even more problematic is the fact that Article 8(2)(b)(iv), second alternative, of the ICC Statute might not comply with the *nullum crimen sine lege* principle. This principle, which is expressly stipulated in Article 22 of the ICC Statute, serves to ensure that potential perpetrators know in advance what conduct is forbidden. Lawmakers are therefore

98 Dörmann, *supra* note 9, at 166–7; Werle, *supra* note 13, at margin no. 1044.
99 Werle, *supra* note 13, at margin no. 1044 n. 590.
100 Critically also A. Cassese, *International Criminal Law* (2008), 96. For arguments in support of the proportionality principle see Schmitt, *supra* note 3, at 72–4.
101 Dinstein, *supra* note 3, at 536; Oeter, *supra* note 26, at no. 403, para. 3; Richards and Schmitt, *supra* note 63, at 1061–2.

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obliged to specify criminal provisions and courts shall apply them strictly.[102] It is admitted that a norm like Article 8(2)(b)(iv), second alternative, of the ICC Statute cannot pinpoint a particular standard. Since the effect that warfare has on the natural environment always depends on a great number of individual factors in the area affected, one cannot do without a certain amount of discretion. But Article 8(2)(b)(iv), second alternative, of the ICC Statute goes beyond what is necessary.

The scope of the provision can hardly be construed. The crime was left completely without definition in the ICC Statute; neither have the Elements of Crimes attempted to provide one. Even recourse to the underlying norms in Article 35(3) and the second sentence of Article 55(1) of Additional Protocol I proves unsatisfactory, as these provisions have also been left without meaningful refinement. In particular, it is not clear what the threshold of 'widespread, long-term, and severe damage' actually requires. For this reason alone, experts have been very critical as to the prohibition's applicability in practice.[103] Besides, scientific methods to ensure reliable evaluation do not seem to be available yet. With regard to criminal prosecution, this calls into question when a prima facie case against a particular person could be built. Article 8(2)(b)(iv), second alternative, of the ICC Statute here multiplies problems because it does not require actual results but at the same time demands that the perpetrator have definite knowledge that widespread, long-term, and severe damage to the natural environment could occur as a consequence of his or her act.

In any case, conduct would fall under Article 8(2)(b)(iv), second alternative, of the ICC Statute only if it meets an extremely high threshold: (potential) damage would have to extend over an area of several hundred, possibly several thousand, square kilometres, last a long time, possibly at least a decade or even more, and seriously prejudice the health of a population living in the affected area or endanger the viability of important flora and fauna. All these requirements have to be fulfilled cumulatively. International reactions to recent events of environmental warfare prove how hard it is to meet this standard. Not even the deliberate setting on fire of oil wells and the spilling of large quantities of oil into the Persian Gulf by Iraq during the Gulf War in 1990–1 were conclusively condemned for breaching the prohibition in Articles 35(3) and 55(1) of Additional Protocol I, because the damage inflicted was not considered to qualify as 'long-term'.[104]

Article 8(2)(b)(iv), second alternative, of the ICC Statute adds to the already high threshold two elements which further restrict the scope of the crime. Unlike Additional Protocol I, it refers to an 'attack'. In the usual sense of the word, this requires a specific combat operation, which most likely excludes tactics of warfare using conventional means or chemical or biological herbicides in order to destroy the natural environment systematically over an extended period of time. Whether acts such as those initially mentioned among the experiences of the Vietnam War would fall

102 V. B. Broomhall, in Triffterer, *supra* note 76, Art. 22, margin no. 11.

103 See, e.g., Lehnes, *supra* note 66, at 65; G. Plant, in G. Plant (ed.), *Environmental Protection and the Law of War: A 'Fifth Geneva' Convention on the Protection of the Environment in Time of Armed Conflict* (1992), 37, at 47–8.

104 See Dinstein, *supra* note 39, at 194; Green, *supra* note 82, at 232; Hulme, *supra* note 1, at 170–4; Richards and Schmitt, *supra* note 63, at 1055–61. As to the evaluation of environmental damage caused by NATO in Kosovo 1999, see Final Report to the Prosecutor, *supra* note 54, at paras. 14–25.

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under Article 8(2)(b)(iv), second alternative, of the ICC Statute thus seems doubtful. On the other hand, it is unclear whether under general international law the prohibition applies to the use of nuclear weapons. It is unlikely that states objecting to its relevance would agree on providing Article 8(2)(b)(iv), second alternative, of the ICC Statute with a different scope. Finally, the ICC Statute introduces the principle of proportionality as an element of the crime. Here, too, the Statute departs from the underlying norms in Additional Protocol I, which were meant as an absolute prohibition. Far from what has been suggested, the proportionality principle does not ensure more legal certainty.[105] Its contours are hard to describe and violations are even harder to establish.[106] Its employment within the framework of Article 8(2)(b)(iv), second alternative, of the ICC Statute also implies that even the gravest ecological damage may be justified by military necessity.

In sum, the form of Article 8(2)(b)(iv), second alternative, of the ICC Statute casts a number of doubts on the commitment to establish criminal responsibility for causing serious damage to the natural environment in practice. As the provision now stands, there is hardly a situation conceivable in which its requirements could be fulfilled.[107] In large part, this unfortunate fact already has its origin in Additional Protocol I. Not only have the state parties to the ICC Statute missed the chance for necessary clarifications, however, they have also narrowed the prohibition further. One could think that this is to serve the purpose of punishing only the most serious crimes of international concern. More daringly, it can be assumed that Article 8(2)(b)(iv), second alternative, of the ICC Statute merely pays lip service to environmental concerns, without creating the risk that anyone will be prosecuted for this particular offence.

105 But see Hulme, *supra* note 1, at 78.
106 Final Report to the Prosecutor, *supra* note 54, at paras. 19–22; Schmitt, *supra* note 3, at 55–61.
107 See also Final Report to the Prosecutor, *supra* note 54, para. 15: 'Consequently, it would appear extremely difficult to develop a *prima facie* case upon the basis of these provisions, even assuming they were applicable.'

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