

# Journal of Environmental and Sustainability Law

---

Missouri Environmental Law and Policy Review  
Volume 14  
Issue 2 *Spring 2006*

---

Article 3

2006

## Protection of the Environment During Armed Conflict

Roman Reyhani

Follow this and additional works at: <https://scholarship.law.missouri.edu/jesl>



Part of the [Environmental Law Commons](#)

---

### Recommended Citation

Roman Reyhani, *Protection of the Environment During Armed Conflict*, 14 Mo. Envtl. L. & Pol'y Rev. 323 (2006)

Available at: <https://scholarship.law.missouri.edu/jesl/vol14/iss2/3>

This Article is brought to you for free and open access by the Law Journals at University of Missouri School of Law Scholarship Repository. It has been accepted for inclusion in Journal of Environmental and Sustainability Law by an authorized editor of University of Missouri School of Law Scholarship Repository. For more information, please contact [bassettcw@missouri.edu](mailto:bassettcw@missouri.edu).

# PROTECTION OF THE ENVIRONMENT DURING ARMED CONFLICT

Roman Reyhani\*

## I. INTRODUCTION

The environment is generally not considered a high priority during armed conflict. International law, however, has provided a number of protections for the environment in times of war. This article addresses the various Conventions and Protocols that shield the environment from destructive weapons and discusses the differences between them. The article also considers national and international enforcement and implementation measures enacted to uphold those protections.

The International Court of Justice (“ICJ”) has declared that the “environment is under daily threat” and that it “is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn.”<sup>1</sup> It went on to state that,

The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.<sup>2</sup>

The impact of climate change has placed increased emphasis on environmental protection. In the highly charged theatre of armed conflict, limitations have been created to stabilize our wheezing climate. According to the ICJ in the *Nuclear Weapons Case*, “[s]tates must take environmental

---

\* The author would like to express his thanks to Professor Nico Schrijver of Leiden University for his assistance with this article.

<sup>1</sup> International Court of Justice, Advisory Opinion: Legality of the Threat or Use of Nuclear Weapons (July 8, 1996), available at <http://www.icj-cij.org/icjwww/icasess/iunan/iunanframe.htm> (follow “Advisory Opinion” hyperlinks) [hereinafter Advisory Opinion].

<sup>2</sup> *Id.*

considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives.”<sup>3</sup> In light of this judgement, this article will outline the extent to which the environment is protected during armed conflict by direct and indirect laws, as well as their implementing mechanisms. Although this article will approach the issue primarily from the standpoint of environmental law, regard will also be given to the relevant principles of international humanitarian law.

## II. DIRECT TREATY LAW

### A. *The ENMOD Convention 1976*

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (“ENMOD Convention”) was adopted by the United Nations General Assembly in 1976 and opened for signature in 1977.<sup>4</sup> This treaty prohibits the use of environmental modification techniques as a weapon during a conflict.<sup>5</sup> It was inspired by the outrage over U.S. defoliation campaigns in the Vietnam War and the fear that technology was reaching a point where it could be used to unleash disastrous environmental changes as a weapon in war.<sup>6</sup> Article I of the Convention provides:

Each State Party to this Convention undertakes not to engage in military or any other hostile use of the environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party.<sup>7</sup>

---

<sup>3</sup> Advisory Opinion, *supra* note 1. This case involved the ICJ weighing the compatibility of the threat or use of nuclear weapons against the various relevant principles and rules of international law.

<sup>4</sup> Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, G.A. Res. 31/72, art. 1, ¶ 1, Annex, U.N. GAOR, 31st Sess., Supp. No. 39, U.N. Doc A/31/39 (Dec. 10, 1976) [hereinafter ENMOD Convention].

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

## ENVIRONMENTAL PROTECTION DURING ARMED CONFLICT

This Article also requires that Parties undertake “not to assist, encourage or induce any State, group of States or international organization to engage in [such] activities.”<sup>8</sup>

Article II stipulates that the term ‘environmental modification techniques’ used in Article I:

refers to 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.<sup>9</sup>

This Article includes a number of important elements. First, the action requires intent.<sup>10</sup> Second, it must manipulate a natural process.<sup>11</sup> A non-exhaustive list illustrating the types of natural processes covered by this treaty were outlined in an Understanding that was attached to the ENMOD Convention.<sup>12</sup> These include “earthquakes; tsunamis; an upset in the ecological balance of a region; changes in weather patterns (clouds, precipitation, cyclones of various types and tornadic storms); changes in climate patterns; changes in ocean currents; changes in the state of the ozone layer; and changes in the state of the ionosphere.”<sup>13</sup>

Third, Article I contains the threshold criteria, requiring that the alleged violation be either “widespread, long-lasting or severe.”<sup>14</sup> If one of these requirements is met, the military necessity exception is not available.<sup>15</sup>

---

<sup>8</sup> *Id.* ¶ 2.

<sup>9</sup> *Id.*

<sup>10</sup> YORAM DINSTEIN, *THE CONDUCT OF HOSTILITIES UNDER THE LAW OF INTERNATIONAL ARMED CONFLICT* 178 (Cambridge University Press 2004).

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> ENMOD Convention, *supra* note 4, ¶ 1.

<sup>15</sup> Susana Pimiento Chamorro & Edward Hammond, *Addressing Environmental Modification in Post-Cold War Conflict*, in *THE SUNSHINE PROJECT* (2001), available at <http://www.edmonds-institute.org/pimiento.html>.

Fourth, Article I also requires that the environmental modification technique be for military or hostile purposes.<sup>16</sup> Peaceful and non-hostile uses are expressly outside the scope of the Convention.<sup>17</sup> Provided no damage or injury results from such techniques, it would be permitted, for example, to initiate fog dispersal in order to facilitate aircraft takeoffs and landings or clear enemy targets from an area to be bombed.<sup>18</sup>

It is generally undisputed that the Convention applies to armed conflicts between state parties, however, its application to the situation in which a state party attacks a non-state party is still unclear. Various interpretations exist, including the restrictive view that the ENMOD's applicability should only be amongst state parties to provide an incentive for ratification and avoid the situation in which a state would gain the benefits of ENMOD without having to abide by its rules.<sup>19</sup> In support of this view proposals were rejected during drafting that the Convention apply as an *erga omnes* obligation.<sup>20</sup> An alternative interpretation allows limited protection to non-state parties in situations where they have been encouraged or assisted by state parties to undertake actions that contravene the Convention. Such a situation would be a violation of Article I(2) of the Convention and could result in an action against the state party. Areas outside the jurisdiction of all states, such as the high seas, are generally considered to be outside the scope of the Convention unless there is an effect on a state party's activities (e.g., shipping).<sup>21</sup>

The ENMOD provisions have likely reached the status of customary international law.<sup>22</sup> This law is made up of two elements: state practice and the conviction that such practice reflects, or amounts to, law or is required by social, economic or political exigencies.<sup>23</sup> The military manuals of some states, including Israel, South Korea, and New Zealand,

---

<sup>16</sup> *Id.*

<sup>17</sup> ENMOD Convention, *supra* note 4, art. 3, ¶ 1.

<sup>18</sup> J. A. Cohan, *Modes of Warfare and Evolving Standards of Environmental Protection under the International Law of War*, 15 FLA. J. INT'L L. 481, 520-21 (2003).

<sup>19</sup> See Chamorro & Hammond, *supra* note 15; DINSTEIN, *supra* note 10.

<sup>20</sup> See DINSTEIN, *supra* note 10, at 180-81.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.* at 181.

<sup>23</sup> ANTONIO CASSESE, INTERNATIONAL LAW 156 (Oxford University Press, 2d ed. 2005).

## ENVIRONMENTAL PROTECTION DURING ARMED CONFLICT

indicate that it applies to state parties.<sup>24</sup> Indonesia, which is not party to the Convention, applies the treaty principles in its military manual.<sup>25</sup> Furthermore, the ENMOD rule has been included in the *Guidelines on the Protection of the Environment in Times of Armed Conflict*, a document that the United Nations General Assembly invited all States to disseminate widely.<sup>26</sup> The U.S. stated the Convention reflected “the international community’s consensus that the environment itself should not be used as an instrument of war.”<sup>27</sup> State practice has also supported this.<sup>28</sup> In addition, during a debate at the meeting of the General Assembly’s Sixth Committee in 1991, Sweden referred to the destruction of the environment by the Iraqi forces in the First Gulf War as being “an unacceptable form of warfare in the future.”<sup>29</sup> Canada supported this view, stating that “the environment as such should not form the object of direct attack.”<sup>30</sup>

Regardless of whether the ENMOD provisions have achieved official customary status, a general consensus exists against the use of the environment as a weapon.<sup>31</sup>

### B. Additional Protocol I 1977

Additional Protocol I 1977 to the Geneva Convention of 1949 also came into force in 1977.<sup>32</sup> As with the ENMOD Convention, these rules were inspired by the environmental devastation of the Vietnam War. The

---

<sup>24</sup> JEAN-MARIE HENCKAERTS & LOUISE DOSWALD-BECK, *I CUSTOMARY INTERNATIONAL HUMANITARIAN LAW* 155 (Cambridge University Press 2005).

<sup>25</sup> *Id.*

<sup>26</sup> *Id.*

<sup>27</sup> *Id.*

<sup>28</sup> See PENAL CODE § 104 (2001) (Est.).

<sup>29</sup> HENCKAERTS & DOSWALD-BECK, *supra* note 24, at 156.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I), art. 51, ¶ 4(c), June 8, 1977, available at

<http://www.un.org/children/conflict/keydocuments/english/genevaconvention4.html> [hereinafter Protocol I].

Protocol provides direct protection for the environment during armed conflict in two provisions.<sup>33</sup>

Article 35(3) prohibits state parties to use methods or means of warfare causing "widespread, long-term and severe damage to the natural environment."<sup>34</sup> This Article deals with situations in which "damage to the natural environment is produced by the intentional [use] of method[s] or means of warfare" and where such consequences are foreseeable.<sup>35</sup>

The second provision builds on this. Article 55(1) provides that:

Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health and survival of the population.<sup>36</sup>

This Article is a governing principle that requires that the effects or repercussions of permitted actions do not result in escalating or otherwise producing the prohibited "widespread, long-term and severe damage to the natural environment."<sup>37</sup> Article 55(2) further stipulates the protection by prohibiting attacks against the natural environment by way of retaliation against enemies.<sup>38</sup>

These provisions are binding on states parties to the Protocol.<sup>39</sup> It is unclear, however, whether these provisions are considered to be part of customary international law. There is ample evidence showing that it has reached customary international law status, as causing such damage to the environment has been expressly prohibited in many state military

---

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*; Cohan, *supra* note 18, at 502.

<sup>35</sup> Cohan, *supra* note 18, at 503-04.

<sup>36</sup> *Id.* at 502.

<sup>37</sup> *Id.* at 504.

<sup>38</sup> Protocol I, *supra* note 32, art. 55(2).

<sup>39</sup> *See* Protocol I, *supra* note 32.

## ENVIRONMENTAL PROTECTION DURING ARMED CONFLICT

manuals<sup>40</sup> and legislated as an offense in a number of states.<sup>41</sup> Before the ICJ in the *Nuclear Weapons Cases*, states argued that they considered Articles 35(3) and 55 to be customary, and that any party to a conflict must observe them, “or must avoid using methods or means of warfare that would destroy or could have disastrous effects on the environment.”<sup>42</sup> The United States also stated that “US practice does not involve methods of warfare that would constitute widespread, long-term and severe damage to the environment.”<sup>43</sup> The three criteria in Article 35(3) were also reflected in the war crimes provisions of the Rome Statute.<sup>44</sup>

There is also considerable practice negating the customary status of these Protocol provisions. In the *Nuclear Weapons* case, the United Kingdom and the United States both argued against the customary status of the Articles and the Court itself appeared to consider the rule not being of customary law.<sup>45</sup> Furthermore, the Final Report of the Committee Established to Review the NATO Bombing Campaign Against the Federal Republic of Yugoslavia stated that Article 55 of Additional Protocol I “may . . . reflect current customary law.”<sup>46</sup>

A major difficulty in establishing the customary status of these Protocol provisions are the positions of France, the United Kingdom, and the United States.<sup>47</sup> They have persistently objected to these rules forming customary law as they apply to nuclear weapons.<sup>48</sup> Each state has indicated through military manuals or reservations to the Protocol upon ratification that the rules apply to them only in regards to conventional

---

<sup>40</sup> These states include: Argentina, Australia, Canada, Germany Kenya, New Zealand, Russia, Togo, United Kingdom, and the United States. HENCKAERTS & DOSWALD-BECK, *supra* note 24, at 152, n.52.

<sup>41</sup> These states include: Australia, Azerbaijan, Belarus, Canada, Congo, Croatia, Germany, Netherlands, New Zealand, and the United Kingdom. HENCKAERTS & DOSWALD-BECK, *supra* note 24, at 152, n.53.

<sup>42</sup> *Id.* at 152.

<sup>43</sup> *Id.* at 153.

<sup>44</sup> See Rome Statute of the International Criminal Court, art. 8, ¶ 2(b)(iv), *opened for signature* July 17, 1998, U.N. Doc. A/CONF.183/9th [hereinafter Rome Statute].

<sup>45</sup> HENCKAERTS & DOSWALD-BECK, *supra* note 24, at 153-54.

<sup>46</sup> *Id.* at 154.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*



weapons, but not nuclear weapons.<sup>49</sup> It seems most likely therefore that the position of the ICRC in the Study on Customary International Humanitarian Law is the correct approach. It concluded that in light of such statements and practice, Article 35(3) and 55 are of customary nature only in regards to conventional weapons, but not nuclear weapons.<sup>50</sup>

### *C. Comparing and Contrasting ENMOD and Additional Protocol I*

ENMOD and Additional Protocol I have different applications, purposes, and thresholds, with no substantive overlap. Additional Protocol I focuses on the natural environment regardless of the weapon used.<sup>51</sup> On the other hand, the ENMOD Convention aims to prevent hostile use of environmental modification techniques.<sup>52</sup> The Protocol “protects the environment[,] the ‘environment as victim[,]’ whereas the ENMOD Convention protects the manipulation of the environment[,] the ‘environment as weapon[.]’”<sup>53</sup> Furthermore, the Protocol protects the environment from unintentional and incidental damage while the ENMOD Convention only protects against deliberate damage inflicted during the course of warfare.<sup>54</sup>

Second, the threshold of the two treaties differs.<sup>55</sup> The Protocol takes a cumulative approach, requiring a “widespread, long-term, *and* severe” effect on the environment.<sup>56</sup> The ENMOD Convention, however, requires only that the affect on the environment be “widespread, long-term, *or* severe.”<sup>57</sup> The Convention therefore has a broader application.

Third, the two treaties apply different meanings to the three threshold requirements, requiring that the affect on the environment be

---

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 154.

<sup>51</sup> See Protocol I, *supra* note 32.

<sup>52</sup> Philippe Antoine, *International Humanitarian Law and the Protection of the Environment in Time of Armed Conflict*, in A MANUAL OF INTERNATIONAL HUMANITARIAN LAWS 184, 192 (Naorem Sanajoaba ed., Regency Publications 2004).

<sup>53</sup> DINSTEIN, *supra* note 10, at 189.

<sup>54</sup> *Id.*

<sup>55</sup> *Id.*

<sup>56</sup> See Protocol I, *supra* note 32.

<sup>57</sup> ENMOD Convention, *supra* note 4.

“widespread, long-term, or severe.” The meaning of these terms in the ENMOD Convention were expanded in an Understanding adopted in 1984 during the Convention’s First Review Conference.<sup>58</sup> “Widespread” referred to a geographic area of several hundred square kilometres; “long-lasting” required the effect to last for a period of months, or over a season; and “severe” meant “serious or significant disruption or harm to human life, natural and economic resources or other assets.”<sup>59</sup> In contrast to the ENMOD Convention, no definitions for the terms were provided in the Protocol. Commentaries, however, have stated that it is generally understood that “widespread” referred to less than several hundred square kilometres, “long-term” referred to ten years or more, and “severe” required damage that would be likely to prejudice, over a long term, the continued survival of the civilian population or would risk causing major health problems.<sup>60</sup> Such differences in meaning are a reflection of the distinct purpose, nature, and application of both treaties.

Last, it is important to note that the Protocol applies only during armed conflict, whereas the ENMOD Convention applies during peacetime and/or armed conflict.

Despite such differences in these treaties, they are in many ways complementary by dealing with different areas of the law.

### III. INDIRECT TREATY LAW

A number of supplementary provisions provide indirect protection of the environment during armed conflict.

#### A. *Additional Protocol I*

Article 51 prohibits indiscriminate attacks, including such attacks “which employ a method or means of combat the effects of which cannot be limited as required by this Protocol.”<sup>61</sup>

---

<sup>58</sup> Chamorro & Hammond, *supra* note 15.

<sup>59</sup> *Id.*

<sup>60</sup> Y. Sandoz, C. Swinarski, B. Zimmermann, Commentary on the Additional Protocols of 8 June, 1977, to the Geneva Conventions of 12 August, 1949, at 416-417 (1987). See Antoine, *supra* note 52.

<sup>61</sup> Protocol I, *supra* note 32, art. 51, ¶ 4(c).

Article 54 protects objects indispensable to the survival of the civilian population, such as "foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, drinking water installations and supplies and irrigation works."<sup>62</sup>

Article 56 provides for the protection of works and installations containing dangerous forces, in particular "dams, dykes and nuclear electrical generating stations."<sup>63</sup> These are prohibited as the object of attack, even when considered military targets if such an attack may cause the release of dangerous forces and severe losses among the civilian population.<sup>64</sup> The Article does, however, provide narrow circumstances in which those named protected sites may legitimately be attacked, such as when the installations are used in regular, significant, and direct support of military operations and if such attack is the only feasible way to terminate such support.<sup>65</sup> This provision was adopted in response to accusations that during the Vietnam War U.S. forces had attacked dykes in order to induce catastrophic floods.<sup>66</sup>

*B. Protocol III annexed to the Convention on Conventional Weapons*

Article 2(4) states that:

It is prohibited to make forests or other kinds of plant cover the object of attack by incendiary weapons except when such natural elements are used to cover, conceal or camouflage combatants or other military objectives, or are themselves military objectives.<sup>67</sup>

This is a very limited provision, applying only to "forests or other kinds of plant cover" and granting protection not against attacks in general but only those by incendiary weapons. Furthermore, the protection afforded by the provision is not available if the enemy utilizes the forest for cover,

---

<sup>62</sup> *Id.* art. 54, ¶ 2.

<sup>63</sup> *Id.* art. 56.

<sup>64</sup> *Id.*

<sup>65</sup> *See id.* art. 56, ¶ (2)(a)-(c).

<sup>66</sup> *See* Antoine, *supra* note 52, at 193.

<sup>67</sup> DINSTEIN, *supra* note 10, at 187.

## ENVIRONMENTAL PROTECTION DURING ARMED CONFLICT

concealment or camouflage.<sup>68</sup> Consequently, provided the forest is used in military operations, it is a legitimate target. Even though this provision has a very narrow application, it is significant because it protects a specific portion of the environment from a particular type of weapon.<sup>69</sup>

### C. *The Chemical Weapons Convention 1993 ("CWC")*

The seventh paragraph of the CWC's preamble recognizes the prohibition of the use of herbicides in warfare, as embodied in agreements and relevant principles of international law.<sup>70</sup> Although the definition of a chemical weapon<sup>71</sup> under the CWC does not include herbicides, "the United States has 'formally renounced the first use of herbicides in time of armed conflict,' except within U.S. installations or around their defensive perimeters."<sup>72</sup> The reference to the prohibition of herbicides in agreements is assumed to be an allusion to the ENMOD Convention and Protocol I.<sup>73</sup> What is of greater importance however, according to Dinstein, is the reference to "relevant principles of international law" as this creates an "inescapable connotation" that the prohibition of herbicide use in armed conflict is now embodied in customary international law.<sup>74</sup>

### D. *Convention on the Law of the Sea 1982*

Despite containing no provision expressly protecting the marine environment against the consequences of an armed conflict, it can be

---

<sup>68</sup> *Id.*

<sup>69</sup> E. T. Jensen, *The International Law of Environmental Warfare: Active and Passive Damage During Armed Conflict*, 38 VAND. J. TRANSNAT'L L. 145, 174 (2005).

<sup>70</sup> Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Bacteriological and Toxin Weapons and on Their Destruction, *opened for signature* Jan. 13, 1993, G.A. Res. 39, pmb. ¶ 7, U.N. GAOR, 47th Sess., U.N. Doc. A/Res/47/39, 32 I.L.M. 800.

<sup>71</sup> *Id.*

<sup>72</sup> DINSTEIN, *supra* note 10, at 188 (quoting ANNOTATED SUPPLEMENT TO THE COMMANDER'S HANDBOOK ON THE LAW OF NAVAL OPERATIONS 477 (A.R. Thomas & James C. Duncan eds., 1999)).

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

assumed that such protection exists in the context of the provisions with regard to pollution of the sea.<sup>75</sup>

*E. General Statements*

A further protection of the environment can be found in broad statements issued at international conferences. Principle 21 of the Stockholm Declaration of 1972 and Principle 2 of the Rio Declaration 1992 express the common conviction of states concerned that they have a duty "to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."<sup>76</sup>

Furthermore, principle 23 of the Rio Declaration states: the environment and natural resources of people under oppression, domination and occupation shall be protected.<sup>77</sup> Principle 24 states:

Warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.<sup>78</sup>

These statements are "a clear challenge for those States willing to embrace" them, and are often "quoted as authority for requiring compliance with various peacetime environmental rules during armed conflict."<sup>79</sup>

---

<sup>75</sup> THE HANDBOOK OF THE LAW OF VISITING FORCES 268 (Dieter Fleck ed., Oxford University Press 2001).

<sup>76</sup> United Nations Conference on Environment and Development, Rio de Janeiro, Braz., June 3-14, 1992, *Rio Declaration on Environment and Development*, Principle 2, U.N. Doc A/CONF.151/26 (June 13, 1992) [hereinafter Rio Declaration]; United Nations Conference on Human Environment, Stockholm, Swed., June 5-16, 1972, *Declaration of the United Nations Conference on the Human Environment*, Principle 21, U.N. Doc A/CONF.48/14 (June 16, 1972) [hereinafter Stockholm Declaration].

<sup>77</sup> Rio Declaration, *supra* note 76, Principle 23.

<sup>78</sup> Rio Declaration, *supra* note 76, Principle 24.

<sup>79</sup> Jensen, *supra* note 69, at 163.

## ENVIRONMENTAL PROTECTION DURING ARMED CONFLICT

The ICJ in the *Nuclear Weapons Case* made special note of the UN General Assembly Resolution on the Protection of the Environment in Times of Armed Conflict,<sup>80</sup> thereby affirming that environmental considerations must be taken into account in implementing the principles of law applicable in armed conflict.<sup>81</sup> The Resolution also upholds that “destruction of the environment, not justified by military necessity and carried out wantonly, is clearly contrary to existing international law.”<sup>82</sup>

These various conventions, conference statements and judicial rulings are a source of indirect protection for the environment. They provide a further extension of the directly applicable law laid out in the ENMOD Convention and the Additional Protocol I.

### IV. ENFORCEMENT AND IMPLEMENTATION

#### A. Existing Mechanisms

The existing enforcement mechanisms are primarily concerned with issues of state responsibility. Under the Additional Protocol I, Article 90 provides for the establishment of an international fact-finding commission with the ability to inquire into serious violations of the Geneva Conventions and the Protocol in order to facilitate restoration of the respect for the Conventions and Protocol.<sup>83</sup> The commission has, however, never been utilized largely because of a lack of support from state parties.<sup>84</sup>

Despite the ENMOD Convention not having any enforcement or remedial mechanisms, a possible means for resolution of disputes arising out of the Convention is for a state to make a formal complaint before the UN Security Council, which can in turn investigate and issue a report condemning the matter.

Although Iraq and Kuwait were not state parties to the ENMOD Convention, the environmental damage committed by Iraq during the First

---

<sup>80</sup> Advisory Opinion, *supra* note 1.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> Protocol I, *supra* note 32, art. 90, ¶ 2(c).

<sup>84</sup> P. K. Rakate & N. D. McDonald, *Desperate Measures? The Protection of the Environment through the Law of Armed Conflict*, 26 SAYIL 141 (2001).

Gulf War was addressed by the United Nations Security Council.<sup>85</sup> Iraq “had deliberately spilled between seven and nine million barrels of [Kuwaiti] oil into the Persian Gulf and set 508 oil well heads ablaze, 82 of which were damaged in a manner that caused oil to freely flow from them.”<sup>86</sup> In Resolution 687, the Security Council held Iraq liable for “any direct loss, damage, including environmental damage, and the depletion of natural resources” inflicted during the invasion of Kuwait.<sup>87</sup> The delegates, despite agreeing that international law was applicable, were unable to agree which law should apply.<sup>88</sup> The UN Compensation Commission was then established by the Security Council to administer any claims against Iraq.<sup>89</sup> Resolution 687 sets the precedent for future wars and acts as a deterrent for states, forcing states to take environmental factors seriously when engaging in armed conflict.<sup>90</sup>

A further existing machinery is the International Court of Justice. Relying on the *si omnes* clause, which provides for “respect and ensuring respect for” Geneva Law, commentators such as Rakate and McDonald argue that it could be construed as giving any third state an interest in environmental damage done during armed conflict, thereby broadening the scope of liability for offenders.<sup>91</sup> Utilizing such judicial mechanisms would strengthen the existing provisions.

### *B. Individual Criminal Responsibility*

Article 8(2)(b)(iv) of the Rome Statute of the International Criminal Court (“ICC”) includes as a war crime:

Intentionally launching an attack in the knowledge that such attack will cause . . . widespread, long-term and severe damage to the natural environment which would be clearly

---

<sup>85</sup> S.C. Res. 687, pmb. ¶ 8, U.N. Doc S/RES/687 (April 3, 1991).

<sup>86</sup> Michael N. Schmidt, *Humanitarian Law and the Environment*, 28 DENV. J. INT’L L. & POL’Y 265, 269 (2000).

<sup>87</sup> S.C. Res. 687, ¶ 16, U.N. Doc S/RES/687 (April 3, 1991).

<sup>88</sup> See Cohan, *supra* note 18, at 520-21.

<sup>89</sup> S.C. Res. 687, ¶ 18, U.N. Doc S/RES/687 (April 3, 1991).

<sup>90</sup> *Id.* at 488-89.

<sup>91</sup> See Rakate & McDonald, *supra* note 84, at 141.

excessive in relation to concrete and direct overall military advantage anticipated.<sup>92</sup>

Although much of this provision is modelled after Article 35(3) Additional Protocol I, there are a number of important differences which further limit the application of the ICC's provision. First, the statute requires both intention and knowledge of the outcome, instead of either intention or expectation as required by the Protocol.<sup>93</sup> This is an expected requirement as the crime is concerned with individual criminal responsibility. The *mens rea* of intent and knowledge must be proven, which, coupled with the subjectivity of the prohibition, would make the prosecution quite difficult.<sup>94</sup> Second, "the damage to the natural environment must be clearly excessive in relation to the military advantage anticipated."<sup>95</sup> This requires a consideration of the international humanitarian law principle of proportionality in which a balance must be struck between the military advantage anticipated and the damage to the natural environment as a civilian object, unless an element of the environment, such as a forest, is considered to be a military objective.<sup>96</sup> This provision has the same difficulty as the Protocol in that it could prove very difficult to substantiate that the three required criteria of "widespread, long-term and severe damage" have been met.<sup>97</sup>

### C. National Implementation

Arguably, the most effective means of addressing the protection of the environment during armed conflict is through the national implementation of such rules. International non-governmental organizations, such as the International Committee of the Red Cross ("ICRC") and Green Cross International, have made proposals for implementing existing international humanitarian law through military

---

<sup>92</sup> Rome Statute, *supra* note 44, art. 8, ¶ 2(b)(iv).

<sup>93</sup> See DINSTEIN, *supra* note 10, at 178.

<sup>94</sup> See Rakate & McDonald, *supra* note 84, at 141.

<sup>95</sup> DINSTEIN, *supra* note 10, at 186.

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*



manuals of the armed forces.<sup>98</sup> Green Cross International has advocated the dangers the environment faces including during armed conflict and argued that a 'culture of compliance' with humanitarian law is the best hope of its successful implementation.<sup>99</sup> It is far more effective if states themselves change their attitude and approach towards the environment, rather than *ex post facto* condemnation, political pressure, and prosecution of violations.<sup>100</sup>

## V. CONCLUSION

The demands of protecting our fragile environment will be one of the greatest challenges our society will meet in the coming centuries. The needs of the natural world must be considered in all aspects of human activity, including armed conflict and national security. These are not always competing interests, and in many ways are complementary and inter-dependent. Nevertheless, a fair balance must be drawn between the reality of military necessity and the need to ensure the survival of the human race and the other forms of life entrusted to us. The numerous conventions, protocols, conference statements, and resolutions provide a starting point for drawing the limits of armed conflict. However, if we are to seriously address environmental protection, it must come from a genuine desire within each individual State to actively ensure compliance with the rules of war as they relate to safeguarding the planet.

---

<sup>98</sup> See Rakate & McDonald, *supra* note 84, at 142.

<sup>99</sup> *Id.* at 142-143.

<sup>100</sup> *Id.* at 143.