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## Environmental Law of Armed Conflict

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## **Environmental Law** **Of Armed Conflict**

### **INTRODUCTION**

“Modern armaments can dissipate their destructive energy or introduce their destructive agents on the land or in the sea, in the air or in the space above it. The ecosystems at risk may be either terrestrial or oceanic and either arctic, temperate or tropical. The terrestrial ones may be continental or insular, either forest, grassland or desert, the oceanic ones may be estuarine, littoral (near shore), over the continental shelves or within ocean basins. Damage may be inflicted either directly or indirectly and range from subtle to dramatic.”<sup>1</sup>

There is renewed evidence that warfare involves conflicts not only between the combatants, but also between man and nature. The ability of modern warfare to devastate the natural environment has become ever more obvious: animal species become extinct, forests become deserts, fertile farmland becomes a minefield, water becomes contaminated and native vegetation disappears.

Attacks on the environment become more savage as technology develops. Environmental destruction has become an inevitable result of modern warfare and military tactics. The nuclear, chemical, and biological weapons that emerged during the late twentieth century present threats to life itself; but short of that apocalypse, modern weapons can cause or hasten a host of environmental disasters, such as deforestation and erosion, global warming, desertification, or holes in the ozone layer. The devastating effects of military weapons on the environment is reflected throughout the history of the

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<sup>1</sup> Westing and Lumsden (1979:8), quoted in Cassady B. Craft & Suzette R. Grillot, *Conventional Arms Control and the Environment: Mitigating the Effects of War*, paper prepared for the Symposium: ARMS AND THE ENVIRONMENT: PREVENTING THE PERILS OF DISARMAMENT 4 (Dec. 9-10, 1999) Tulsa, Oklahoma [hereinafter Craft & Grillot].

twentieth century, in World War I, World War II, the Korean and Vietnam wars, the Cambodian civil war, Gulf wars I and II, the Afghan civil war, and the Kosovo conflict.

The Science for Peace Institute at the University of Toronto estimates that 10 to 30 percent of all environmental degradation in the world is a direct result of the various militaries.<sup>2</sup> Military operations can affect land, air, wildlife, and water resources. A German report concluded that six to ten percent of the world's air pollution is a result of military activity, and that the world's military is also responsible for the emission of approximately two-thirds of all chlorofluorocarbon-113 released into the atmosphere.<sup>3</sup> In modern warfare, environmental destruction can be a primary means of threatening or defeating one's enemies. War itself can, and often does, mean war against the natural environment.

During Gulf War II, which was the most toxic war in history, Saddam Hussein threatened to pollute the Gulf with oil, and burn oil wells if other nations attempted to liberate Kuwait.<sup>4</sup> He carried out his threats after the beginning of the United Nations coalition<sup>5</sup> air raids. Iraq pumped crude oil into the Gulf, and set fire to Kuwaiti oil fields. Iraqi troops destroyed eighty to eighty five percent of Kuwait's 950 oil wells.<sup>6</sup> The daily release of heat from these wells was estimated to be about eighty six billion watts, equivalent to that of a five hundred-acre forest fire.<sup>7</sup> The fires burned about 4,600,000 barrels of oil daily. Smoke spread as far as 800 miles south of Kuwait.<sup>8</sup> The Iraqi military

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<sup>2</sup> SUZAN D. LANIER-GRAHAM, *THE ECOLOGY OF WAR: ENVIRONMENTAL IMPACTS OF WEAPONRY AND WARFARE* xxix (Walker & Company, 1993) [hereinafter LANIER-GRAHAM].

<sup>3</sup> *Id.*, at xxx.

<sup>4</sup> STEPHEN DYCUS, *NATIONAL DEFENSE AND THE ENVIRONMENT* 138 (University Press of New England, 1996) [hereinafter DYCUS].

<sup>5</sup> The International Coalition Member States in the United Nations Authorized Action Against Iraq in the Gulf War II are: Argentina, Australia, Bahrain, Bangladesh, Belgium, Canada, China, Czechoslovakia, Denmark, Egypt, France, Germany, Greece, Hungary, Italy, Kuwait, Morocco, Netherlands, New Zealand, Niger, Norway, Oman, Pakistan, Poland, Qatar, Saudi Arabia, Senegal, South Korea, Spain, Syria, United Arab Emirates, United Kingdom, and United States. In addition, Japan participated by sending medical assistance to Saudi Arabia. And Turkey allowed coalition air forces to take off from air bases on its land. See JOHN NORTH MOORE, *CRISIS IN THE GULF: ENFORCING THE RULES OF LAW* 399 (Oceana Publication, Inc., 1992).

<sup>6</sup> Donatella Lorch, *Burning Wells Turns Kuwait into Land of Oily Blackness*, N.Y. TIMES, Mar. 6, 1991, at A1, A15.

<sup>7</sup> Mark J.T. Caggiano, Comment, *The Legitimacy of Environmental Destruction in Modern Warfare: Customary Substance Over Conventional Form*, 20 B.C. ENVTL. AFF. L. REV. 479, 480-481 (1993) [hereinafter Caggiano].

<sup>8</sup> Bob Davis, *U.S. Scientists Play Down Effect of Fires in Kuwait, Angering Environmentalists*, WALL ST. J., June 25, 1991, at A3.

created what has been called “the worst man-made environmental disaster in history.”<sup>9</sup> The Kuwaiti government estimated the value of the lost oil at \$12 billion.<sup>10</sup> Some reports stated that at least 30,000 marine birds perished as a result of exposure to oil, and about 50% of the coral reefs on the eastern coast of Saudi Arabia was damaged or destroyed. Some of the annual flora in the region failed to set seeds because of the exposure to soot and oil mist.<sup>11</sup>

Moreover, massive environmental destruction was caused not only by deliberate military tactics, but by other activities related to war efforts. The United States military produced approximately 6 million used plastic bags weekly, from their “Meals Ready to Eat.” Soft drink cans and junk food cardboards were also disposed of in the desert.<sup>12</sup> About 40,000 km<sup>2</sup> areas of Kuwait, northeastern Saudi Arabia, and Southern Iraq were littered with solid waste from Gulf War II.<sup>13</sup> Solid wastes were generated mainly from destroyed military hardware (over 5000 Iraqi tanks and armored vehicles, over one million mines in Kuwait), residue of explosives and ammunitions (over 80,000 tons of bombs were dropped and about 120,000 tons of ammunition used), and sanitary residues (over 4 million tons of wastes from humans).<sup>14</sup> Solid wastes generated during Gulf War II still pose a serious threat to land resources in the war zone.

Depleted Uranium (DU) was used in weapon ammunition for the first time by the coalition during Gulf War II in 1991. It is estimated that the United States Army fired about 14,000 high-caliber shells containing DU during the war.<sup>15</sup> According to the British Atomic Energy Authority, about “forty tons of this type of projectile are scattered near the Iraqi-Kuwaiti borders, and no more than ten percent of these ammunitions have

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<sup>9</sup> Michael Ross, *Experts Blame Saudis, Kuwaitis as Spell, Oil Fires Go Unchecked*, L.A. TIMES, Apr. 12, 1991, at A10 [hereinafter Ross, *Experts Blame*].

<sup>10</sup> Caggiano, *supra* note (7) at 480-481.

<sup>11</sup> Makram A. Gerges, *On the Impacts of the 1991 Gulf War on the Environment of the Region: General Observations*, 27 MARINE POLLUTION BULL. 305, 306 (1993).

<sup>12</sup> LANIER-GRAHAM, *supra* note (2) at 66.

<sup>13</sup> MOHAMMAD SADIQ, JOHN C. MC CAIN Eds., *THE GULF WAR AFTERMATH: AN ENVIRONMENTAL TRAGEDY* 183 (Kluwer Academic Publishers, 1993) [hereinafter SADIQ & MCCAIN].

<sup>14</sup> *Id.*, at 183.

<sup>15</sup> Dr. Siegwart-Horst Guenther, *How D.U. Shell Residues Poison Iraq, Kuwait, and Saudi Arabia*, in *METAL OF DISHONOR: DEPLETED URANIUM, HOW THE PENTAGON RADIATES SOLDIERS & CIVILIANS WITH DEPLETED URANIUM WEAPONS* 168 (ROSALIE BERTELL ET AL. EDS., 1997) [hereinafter Guenther].

yet been detected.”<sup>16</sup> An American lieutenant colonel was quoted in an official report as saying: “[t]he explosions spread DU penetrators [...] throughout the north compound. The fires produced billowing black and white clouds of smoke that ... drifted ... towards Kuwait City ... I personally handled over two dozen rods or pieces of rods [of DU]. Most of them had a black sooty or powdery coating over them...there would be as many as 50 soldiers ‘on line’ sweeping down a cleared area of very small debris, sand and dust [...]”<sup>17</sup> DU is used to strengthen weapons because it is sixty five percent denser than lead.<sup>18</sup> It is flammable and can penetrate even “steel-armored tanks.”<sup>19</sup> However, DU is a real threat to human health and the environment. For example, since uranium is a heavy metal it can be toxic if it enters the body and lodges in the kidney.<sup>20</sup> Studies have shown that contact with DU projectiles leads to leukemia, anemia, birth defects, and other serious maladies.<sup>21</sup> One British company refused a contractual project to remove poisonous uranium from the Kuwaiti region because of the fear that its staff would be exposed to great risk.<sup>22</sup> Land resources of the war region were adversely affected. However, because Kuwait, Saudi Arabia, and Iraq lack the technology and expertise to fully determine the environmental impact of the war, and because it is difficult, if not impossible, to accurately assess the harm to the natural environment, damage to the land resources may not be repaired for several decades, if indeed at all.

Similarly, in the Kosovo conflict, the North Atlantic Treaty Organization (NATO)<sup>23</sup> also used depleted uranium as a component in ammunition. NATO said that the United States A-10 aircraft fired 31,000 rounds of ammunition containing DU during the 1999 air strikes against Serbia,<sup>24</sup> creating a danger not only to the people, but also to

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<sup>16</sup> Eric Hoskins, *Depleted Uranium Shells Make the Desert Glow*, in METAL OF DISHONOR: DEPLETED URANIUM, HOW THE PENTAGON RADIATES SOLDIERS & CIVILIANS WITH DEPLETED URANIUM WEAPONS 164 (ROSALIE BERTELL ET AL. EDS., 1997).

<sup>17</sup> Alexander Nicoll, *Pressure Mounts for Broader Studies into Effects on Health*, FIN. TIMES, Jan. 18, 2001, at 2 [hereinafter Nicoll].

<sup>18</sup> Gina Kolata, *Fray in Europe Over Uranium Draws Doubters*, N.Y. TIMES, Jan. 13, 2001, A6 [hereinafter Kolata, *Fray in Europe*].

<sup>19</sup> *Id.*, at A6.

<sup>20</sup> *Id.*, at A1, A6.

<sup>21</sup> Guenther, *supra* note (15) at 167.

<sup>22</sup> *Id.*, at 168.

<sup>23</sup> NATO is a regional military alliance created in 1949 for the collective defense of North America and Western Europe.

<sup>24</sup> James Blitz & Alexander Nicoll, *Italy Calls For NATO Probe into Uranium Rounds*, FIN. TIMES, Jan. 4, 2001, 2 [hereinafter Blitz & Nicoll].

the environment of the entire Balkans. “A-10s were the anti-tank weapon of choice in the 1991 Gulf War, because they carry a GAU-8/A Avenger 30 millimeter seven-barrel cannon capable of firing 4,200 rounds of ammunition per minute.”<sup>25</sup> John Catalinotto, a spokesperson from the Depleted Uranium Education Project of the International Action Center, said “DU is used in alloy form in shells to [enable them to] penetrate targets. As the shell hits its target, it burns and releases uranium oxide into the air. The poisonous and radioactive uranium is most dangerous when inhaled, [because it will continue to] release radiation [throughout] the life of the [exposed] person.”<sup>26</sup> Moreover, inhaling uranium 238<sup>27</sup> can cause lung cancer, or lymphoma.<sup>28</sup> In 1999, six Italian soldiers died after serving in Kosovo and Bosnia.<sup>29</sup> As a consequence, Italian Prime Minister Giuliano Amato declared that his government will call for NATO to investigate “the Balkans syndrome” and assume responsibility for its actions.<sup>30</sup> Moreover, in France, four soldiers who served in the Balkans are being treated for leukemia.<sup>31</sup> Paul Lannoye, the leader of the parliament’s Green Group, said: “EU governments and NATO must be accountable...It is not acceptable to say that we should wait and establish a link between the weapons and illnesses before action is taken.”<sup>32</sup> Consequently, the European parliamentarians called for “a moratorium on the use of DU weapons until the health risks are clearer.”<sup>33</sup>

Even more significant is the fact that NATO forces bombed petrochemical and other chemical plants and factories, thus releasing tons of toxic substances such as

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<sup>25</sup> A statement by the International Action Center, a group that opposes the use of (DU) weapons. *Radioactive Weapons Used by U.S./NATO in Kosovo*, available at <<http://www.iacenter.org/duyug.htm>>, (last visit Apr. 1, 1999).

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

<sup>27</sup> Dr. Frank von Hippel, a physicist who is a professor of public and international affairs at Princeton University said that depleted uranium is left “when the more highly radioactive uranium 235 has been removed from its more abundant atomic cousin, uranium 238 [which] is very weakly radioactive.” See Kolata, *Fray in Europe*, *supra* note (18) at A1.

<sup>28</sup> *Id.*, at A6.

<sup>29</sup> Italy was the largest participant in the peace-keeping operations in Kosovo, Bosnia, and Albania in the 1990s after the U.S. See Blitz & Nicoll, *supra* note (24) at 2.

<sup>30</sup> *Id.*, at 2.

<sup>31</sup> Ralph Atkins & Dan Bilefsky, *U.S. Envoy Called in Over Uranium Weapons*, FIN. TIMES, Jan. 18, 2001, at 2.

<sup>32</sup> *Id.*, at 2.

<sup>33</sup> *Id.*, at 2.

chlorine, ethylene dichloride, and vinyl chloride into the air, water, and ground.<sup>34</sup>

According to information received by the Balkans Task Force in August of 1991, some 93 bombs had been located and exploded by NATO. Some number of unexploded bombs remain in the deep waters of the Adriatic Sea,<sup>35</sup> and perhaps elsewhere as well.

Similarly, the conflict in Bosnia-Herzegovina, which began in April 1992 and ended in November 1995, caused environmental damage estimated at twenty to seventy billion US dollars.<sup>36</sup> An estimated 300,000 hectares of land sustained environmental degradation, raw sewage flowed into surface waters because of the destruction of waste collection equipment during the war,<sup>37</sup> and water sanitation services deteriorated to the point where chemical, bacteriological, and biological surface water contamination can be observed in both urban and rural areas.<sup>38</sup>

Even without armed conflict, military bases often generate considerable amounts of hazardous wastes, such as explosives, solvents, acids, and spent fuel that can contaminate the surrounding soil, water, and air. For example, at several bases in Germany, underground sources of drinking water have been contaminated with “spilled jet fuel and trichloroethylene from U.S. military operations.”<sup>39</sup>

In the Philippines, the departure of the American military exposed the extent of hazardous waste contamination at the U.S. bases there. The U.S. General Accounting Office reported in January 1992<sup>40</sup> that untreated chemical and heavy metal wastes had been discharged into the air, the ground, and into Subic Bay from Subic Bay Naval and Clark Air Force Bases.<sup>41</sup> A report by the World Health Organization in May 1993 found

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<sup>34</sup> Kenneth Friedman, *War Effects on the Environment*, 1999, available at <<http://www.suite101.com/article.cfm/environment/19141>>, (last visit Oct. 10, 1999).

<sup>35</sup> *The Kosovo Conflict: Consequences for the Environment and Human Settlements* 8 (United Nations Environment Programme and United Nations Center for Human Settlements, 1999) [hereinafter *The Kosovo Conflict: Consequences for the Environment*].

<sup>36</sup> Stuart Thompson, *Status of the Environment in Bosnia and Herzegovina: A Current Assessment*, 12 GEO. INT'L. ENV'T'L. L. REV. 247, 256 (1999) [hereinafter Thompson].

<sup>37</sup> Federal Ministry of Physical Planning and Environment of Bosnia and Herzegovina, *State of the Environment Report: Bosnia and Herzegovina: Soil: Causes of Soil Destruction*, (1998), available at <<http://www.grida.no/prog/cee/enrin/htmls/bosnia/soe/soil/presure.htm>>, (last visit Nov. 10, 2000).

<sup>38</sup> Thompson, *supra* note (36) at 257.

<sup>39</sup> John M. Broder, *Pollution “Hot Spots” Taint Water Sources*, L.A. TIMES, June 18, 1990, at 16.

<sup>40</sup> U.S. Gen. Accounting Office, *GAO/NSIAD-92-51 Military Base Closures: U.S. Financial Obligation in the Philippines* (1992)[hereinafter Gen. Accounting Office].

<sup>41</sup> *Id.*

a potential risk of pollution at Subic Bay.<sup>42</sup> Similarly, local citizens complain that U.S. military operations “monopolize fertile farmlands in Guam, threaten bird sanctuaries in Japan, and fill the air with jet noise in Germany.”<sup>43</sup>

Serious environmental and health effects can result from non-hostile military operations, even by accident. Three American soldiers died and fifty were wounded in an accidental explosion near the U.S. military camp at Doha, Kuwait on July 11, 1991, when some of the ammunition detonated.<sup>44</sup> A statement from the Joint Information Bureau in Dahrhan, Saudi Arabia reported that “we know it was not due to hostile action or sabotage.”<sup>45</sup> The explosion resulted in the release of radioactive and toxic dust which might cause cancer, or respiratory, kidney and skin disorders.<sup>46</sup> Further, Dr. Charles Phelps, the provost at the University of Rochester and a member of an Institute of Medicine Committee, reported that uranium-238 was leaching into the soldiers’ kidneys, and “they had very high levels of uranium salts in their urine.”<sup>47</sup>

Some political and military leaders have already recognized the threat to the environment from war and other military operations. For example, Colonel Ken Cornelius, an Air Force officer on the staff of the Assistant Secretary of Defense for the Environment, asserted: “If we’re going to break things and kill people, and that’s what war’s about, if push comes to shove, that’s what we’re there to do. I can’t think of too much that’s more damaging to the environment than the war.”<sup>48</sup> Kofi Annan, Secretary General of the United Nations, stated that “Peace is understood not just as the absence of conflict, but as a phenomenon encompassing economic development, social justice, environmental protection, democratization, disarmament, and respect for human

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<sup>42</sup> See, M. Victoria Bayoneto, Note, *The Former U.S. Bases in the Philippines: An Argument for the Application of U.S. Environmental Standards to Overseas Military Bases*, 6 FORDHAM ENVTL. L.J. 111, 112 (1994) [hereinafter Bayoneto].

<sup>43</sup> DYCUS, *supra* note (4) at 73.

<sup>44</sup> *Three G.I.’s Killed in Explosion Near A U.S. Camp in Kuwait*, N.Y. TIMES, July 24, 1991, § A, at 7, ¶ 1, Foreign Desk, Available in LEXIS, News Group File, Beyond Two Years, [hereinafter *Three G.I.’s Killed*].

<sup>45</sup> *Id.*

<sup>46</sup> Edward Ericson, *Recycling the Army Way: The Pentagon Uses Radioactive Waste as Armor and Bullets*, E/The Environmental Magazine, (Mar., Apr. 1997) available at <[http://www.emagazine.com/march-april\\_1997/0397curr\\_army.html](http://www.emagazine.com/march-april_1997/0397curr_army.html)>, (last visit Dec. 12, 1999), see also, Kathleen Sullivan, *Troops Exposed to Toxic Depleted Uranium in Gulf War Weapons*, THE AUSTIN-AMERICAN STATESMAN, Jan. 10, 1998, News, at A3, Available at LEXIS, News Group File, Beyond Tow Years.

<sup>47</sup> Kolata, *Fray in Europe*, *supra* note (18) at A6.

<sup>48</sup> LANIER-GRAHAM, *supra* note (2) at 12.



rights.”<sup>49</sup> The countries of the world must recognize that peace has many pillars in addition to the mere prevention of conflicts. One of these pillars is environmental protection, so that people can live without the threat of contaminated water, polluted air, or toxin-laden soil.

There is often no way to measure environmental loss in dollar amounts, and the loss is often irreversible. Even though experts have found methods to calculate the monetary costs of environmental destruction, money alone cannot return the original animal or plant life, clean water, or remove all the traces of pollutants. In ecological terms, reparations are inadequate after armed conflict has already caused that kind of damage. Thus, the focus of world leaders must be on preventing environmental destruction before, or even during, armed conflict.

This study is not the first and, it is hoped, not the last on this controversial issue. The purpose of this study is to provide an overarching analysis of the legal aspects of warfare in which the environment is a direct or indirect victim of the armed conflict. This thesis evaluates the impact of armed conflict on civilians as well as the environment, and classifies environmental harm into three distinct phases: harm caused during preparation for armed conflict, harm caused during armed conflict, and harm caused following armed conflict. The study will examine applicable international humanitarian rules which encompass elements of environmental protection, classify those rules, identify aspects of the law of war relevant to environmental concerns, and examine national and international environmental rules that deal with this subject.

This thesis explains the law of the environment during armed conflicts in five parts:

\* Part One, “General Background of Armed Conflict,” focuses on the nature of armed conflict, including international and national disputes, civil war, and the problem of applying international legal duties to internal belligerents, the impact of armed conflict on civilians, and the environmental impact of preparing for, engaging in, and recovering from armed conflict.

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<sup>49</sup> Kristi L. Bergemann, *Nuclear Weapons and International Environmental Law: Peace Through Responsibility*, *The International Environmental Law of War and Peace*, “Kofi Annan, Secretary General of the United Nations, in the opening of The International Day of Peace, 1997” available at <<http://www.eckerd.edu/academics/intlaw/warandpeace99.html>>, (last visit Feb. 10, 2000).

\* Part Two, “Environmental Protection in International Humanitarian Law,” examines the definition of international humanitarian law (IHL), focusing particularly on the environmental protection provisions in the IHL and its current inadequacy as a tool to protect the natural environment.

\* Part Three, “The Environmental Law Rules,” will examine relevant provisions of environmental law, and investigate environmental law rules relevant to armed conflicts in the national, comparative, and international levels.

\* Part Four deals with “Enviro-Humanitarian Rules,” and explores the Articles of Armament Conventions, a main source of enviro-humanitarian rules. This section examines the deficiencies of those rules in the environmental protection framework.

\*Part Five, “The Responsibility of Warfare Environmental Damage,” will examine the system of responsibility for environmental damage resulted from military activities in peacetime and in times of armed conflicts. This part explores two levels of responsibility in the international and internal systems.

\*Part Six, “The Recommendations” in which some recommendations and proposals will be presented to better advance the environmental protection and to reduce warfare environmental damage. The recommendations are grouped according to the concerned party. Some recommendations are directed to the international community, others are directed to national societies and the last group of recommendation is directed to non-governmental organizations.

## **Part I:**

### **General Background of Armed Conflict**

#### ***A-The Nature of Armed Conflict***

Conflict is a congenital characteristic of mankind and a notable aspect of international relations. There is no specific definition of armed conflict acceptable to all international experts. As a result, most of the argument about armed conflict focuses on moralistic or pragmatic explanations of human nature.<sup>50</sup> For example, Forest L. Griebes, an international theorist, identifies four characteristics of the nature of conflict: “First, human conflict is a fact of modern social life and is likely to remain so for the indefinite future. Second, the abolition of war is a dream. Third, theories of Armageddon are likely to be not only empty but even dangerous, and fourth, wars may be inevitable but nuclear war is unthinkable.”<sup>51</sup> On the other hand, John Spanier, a political scientist, observes that “human beings may well be alike, in spite of their different languages, clothing, and manner. But politics starts where the commonalities of humanity stop, and it starts here because of the different interests, values, ideologies, and histories of the many nation-states. All want peace-but only on their terms.”<sup>52</sup>

An armed conflict can be defined, very simply, as any disagreement involving the use of weapons between two or more, national such as civil wars, or international parties such as international armed conflicts. A weapon, in turn, can be defined as an “instrument used or designed to be used to injure or kill someone.”<sup>53</sup> The International Criminal Tribunal for the former Yugoslavia defined armed conflict as follows:

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<sup>50</sup> JEFFREY M. ELLIOT & ROBERT REGINALD, THE ARMS CONTROL, DISARMAMENT, AND MILITARY SECURITY DICTIONARY 14 (Clio Press Ltd., 1989).

<sup>51</sup> FOREST L. GRIEVES, CONFLICT AND ORDER: AN INTRODUCTION TO INTERNATIONAL RELATION 92-95 (Houghton Mifflin, 1977)[hereinafter GRIEVES].

<sup>52</sup> JOHN SPANIER, GAMES NATIONS PLAY 568 (Congressional Quarterly Press, 1987) [hereinafter SPANIER].

<sup>53</sup> BRYAN A. GARNER ED. BLACK’S LAW DICTIONARY 1587 (7<sup>th</sup> ed, 1999).

[A]n armed conflict exists whenever there is a resort to armed force between States or protracted armed violence between governmental authorities and organized armed groups or between such groups within a State.<sup>54</sup>

The Permanent Court of International Justice was the first to use the expression in the SS. Wimbledon Case, when it referred to “the rights consequent upon neutrality in an armed conflict.”<sup>55</sup>

Later, in 1949, the four Geneva Conventions for the Protection of War Victims, declared that the scope of the Conventions extended to “all cases of declared war or of any other armed conflict [...]”<sup>56</sup> Those definitions suggest that parties can engage in armed conflicts even without declaring war on each other.

One expert on the laws of war has observed that “human beings fight to the death. They kill members of their own species, where wolves do not. It is not our lack of humanity, but our lack of animality that causes our troubles.”<sup>57</sup> There are various causes of war. The 1925 Conference on the Cause and Cure of War identified over 250 sources of war, classified as political, economic, social, and psychological.<sup>58</sup>

Those causes certainly include:

- 1- a nation’s belief that war will achieve some kind of national victory,
- 2- intolerance of differences in religious or other belief systems,
- 3- military capability, particularly the possession of weapons of mass destruction,<sup>59</sup>

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<sup>54</sup> The Prosecutor v. Dusko Tadic, Case No. IT-94-1-AR72, Oct. 2, 1995, 35 I.L.M. 32, para. 70 [hereinafter Prosecutor v. Tadic].

<sup>55</sup> S.S. Wimbledon (Brit., Fr., It., Jap., v. Ger.), 1923 P.C.I.J. (ser. A) No.1, at 24.

<sup>56</sup> Geneva Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, art. 2, Aug. 12, 1949, 6 U.S.T. 3114 [hereinafter Geneva Convention (I)]; Geneva Convention (II) for the Amelioration of the Condition of Wounded, Sick and Shipwrecked Member of Armed Forces at Sea, art. 2, Aug. 12, 1949, 6 U.S.T. 3217 [hereinafter Geneva Convention (II)]; Geneva Convention (III) Relative to the Treatment of the Prisoners of War, art. 2, Aug. 12, 1949, 6 U.S.T. 3516 [hereinafter Geneva Convention (III)]; Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War, art. 2, August 12, 1949, 75 U.N.T.S. [hereinafter Geneva Convention (IV)].

<sup>57</sup> DAVID W. ZIEGLER, WAR, PEACE, AND INTERNATIONAL POLITICS 114 (Little, Brown, 1987).

<sup>58</sup> In 1925, Carrie Chapman Catt organized the National Conference on the Cause and Cure of War. *See*, NANCY F. COTT, THE GROUNDING OF MODERN FEMINISM, 94-95, 258 (1987); *see also*, GRIEVES, *supra* note (51) at 101.

<sup>59</sup> Despite the disastrous effects of the mass destruction weapons, such as the nuclear weapons, they may deter war. French President Jacques Chirac stated that nuclear weapons are not combat weapons and that France will coordinate in a nuclear deterrence policy with its European neighbors. Further, during the Gulf War II, the U.S. government deterred Iraq from using its mass destruction weapons by threatening to use its nuclear weapons. However, the U.S. continues to hold nuclear weapons for deterrence and self-defense.

- 4- the absence of peaceful mechanisms to settle conflicts, and
- 5- chaos, disorder, or other emergencies within a given nation.

Although the history of war is as old as the history of humanity, since the middle of the 20<sup>th</sup> century, war has carried with it the possibility of apocalypse. Winston S. Churchill, the former British Prime Minister, at the end of World War I, even before the development of nuclear arms, said that: “mankind has got into its hands for the first time the tools by which it can unfailingly accomplish its own extermination.”<sup>60</sup>

Modern warfare also presents unprecedented threats to the environment. A significant example of using the environment as a weapon in armed conflict occurred in the Gulf War II, 1990-1991, when Iraqi President Saddam Hussein ordered his troops to invade Kuwait on August 2, 1990. Hussein claimed that Kuwait overproduction of oil in violation of the Organization of Petroleum Exporting Countries (OPEC) quotas, and the removal of \$ 2.4 billion worth of Iraqi crude oil by “slant drilling” into the Rumaila oil field, in addition to the long-running historical dispute over the dependency of Kuwait to Iraq were the reasons for the Iraqi invasion to Kuwait.<sup>61</sup> The Iraqi armed forces deliberately released crude oil into the Gulf, and set fire to Kuwaiti oil fields.<sup>62</sup> As a consequence, the Gulf War II was termed an “eco-war”<sup>63</sup> and Iraq’s actions described as “environmental terrorism.”<sup>64</sup>

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See, Jill M. Sheldon, *Nuclear Weapons and the Laws of War: Does Customary International Law Prohibit the Use of Nuclear Weapons in all Circumstances?* 20 FORDHAM INT’L. L.J. 181, 193, 195-96 (1996) [hereinafter Sheldon]; see also, William M. Arkin, *Calculated Ambiguity: Nuclear Weapons and the Gulf War*, WASH. Q. 3, 5 (Autumn 1996).

<sup>60</sup> SPANIER, *supra* note (52) at 34.

<sup>61</sup> THE UNITED NATIONS AND THE IRAQ-KUWAIT CONFLICT 1990-1996 at 14, U.N. Doc. DPI/1770, U.N. Sales No. E.96.I.3 (1996).

<sup>62</sup> Shilpi Gupta, Note, *Iraq’s Environmental Warfare in the Persian Gulf*, 6 GEO. INT’L ENVTL. L. REV. 251, 252 (1993)[hereinafter Gupta].

<sup>63</sup> Richard Lacayo, *A War Against the Earth*, TIME, Feb. 4, 1991, at 28 [hereinafter lacayo].

<sup>64</sup> Andrew Rosenthal, *Bush Calls Gulf Oil Spill A “Sick” Act by Hussein*, N.Y. TIMES, Jan. 26, 1991, L5.

## ***B- Civil War and the Problem of Applying International Legal Duties to Internal Belligerents***

Traditional International Humanitarian Law (“IHL”) classifies civil wars into three categories: “rebellion, insurgency, and belligerency.”<sup>65</sup> Rebellions are “small-scale, localized conflicts which are usually solved with police measures.”<sup>66</sup> An insurgency “is a conflict that lies somewhere between a rebellion and a state of belligerency.”<sup>67</sup> On the other hand, a state of belligerency may be declared when four conditions are met: “first, there must exist within the State an armed conflict of a general (as distinguished from a purely local) character; secondly, the insurgents must occupy and administer a substantial portion of national territory; thirdly, they must conduct the hostilities in accordance with the rules of war and through organized armed forces acting under a responsible authority; fourthly, there must exist circumstances which make it necessary for outside States to define their attitude by means of recognition of belligerency.”<sup>68</sup>

Most of the armed conflicts in the world are internal. Since 1945 internal armed conflicts (civil wars) have been more numerous than international wars, and even many international wars had their roots in civil wars. For example, the wars involving Israel and Arabic nations developed out of hostilities between the Jewish and Arab people living in Palestine during the last years of the British mandate.<sup>69</sup> International law has historically treated internal armed conflict as a matter of national jurisdiction, to be determined by the people of the concerned State.<sup>70</sup> Generally, international law simply does not address civil wars and revolutions, and thus has no rules to prohibit or restrain such internal conflicts. Significantly, the United Nations Charter Article 2 (4) prohibits the use of force in international relations, but says nothing about the use of force in civil

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<sup>65</sup> L. OPPENHEIM, INTERNATIONAL LAW 249-50 (H. Lauterpacht 7<sup>th</sup> ed., 1952). See also, Robert W. Gomulkiewicz, *International Law Governing Aid to Opposition Groups in Civil War: Resurrecting the Standards of Belligerency*, 63 WASH. L. REV. 43, 46 (1988).

<sup>66</sup> Boals, *The Relevance of International Law to Internal War in Yemen*, in THE INTERNATIONAL LAW OF CIVIL WAR 303, 313 (RICHARD A. FALK ED., 1971).

<sup>67</sup> *Id.*, at 313-14.

<sup>68</sup> H. LAUTERPACHT, RECOGNITION IN INTERNATIONAL LAW 176 (University Press, 1947) [hereinafter LAUTERPACHT].

<sup>69</sup> Michael B. Akehurst, *Civil War*, in 3 ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW: USE OF FORCE. WAR AND NEUTRALITY PEACE TREATIES 88 (RUDOLF DOLZER ET AL. EDS., 1982) [hereinafter Akehurst].

wars. Article 2 (4) of the United Nations Charter states that “[a]ll Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.”<sup>71</sup> Nevertheless, since the end of the Cold War it appears that customary international law has softened its prohibition against intervention in internal armed conflict, and has started to acknowledge the necessity of humanitarian intervention in such conflicts.<sup>72</sup> That recognition is reflected in the Statutes of the ICRC, which require the ICRC<sup>73</sup> to help the victims of armed conflicts, regardless of whether they are victims of international or internal armed conflicts.<sup>74</sup> Further, Boutros Boutros Ghali, Secretary General of the U.N., suggested that civil wars “are no longer inherently domestic in scope. They disrupt stable international order and peaceful global existence because nations are generally too interdependent and prefer egocentric isolationism.”<sup>75</sup>

International humanitarian law defines civil war as a non-international armed conflict occurring in the territory of a nation, involving the armed forces of that nation and dissident or other organized armed groups which exercise control over part of the territory.<sup>76</sup> However, in recent years, internal armed conflicts have broken out with increasing frequency. Internal conflicts, often threaten the environment even more than international armed conflict, because they often last for long periods and the armed forces of the involved parties often deplete natural resources in order to continue their fight.

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<sup>70</sup> David Wippman, *Change Continuity in Legal Justification for Military Intervention in Internal Conflicts*, 27 COLUM. HUM. RTS. L. REV. 425, 435 (1995-96) [hereinafter Wippman].

<sup>71</sup> CHARTER OF THE UNITED NATIONS, art 2 (4), June 26, 1945 1 U.N.T.S. XVI [U.N. CHARTER].

<sup>72</sup> Humanitarian intervention will be discussed later in the next few pages.

<sup>73</sup> The ICRC is an “impartial, neutral and independent organization whose exclusively humanitarian mission is to protect the lives and dignity of victims of war and internal violence and to provide them with assistance. It directs and coordinates the international relief activities conducted by the Movement in situations of conflict. It also endeavors to prevent suffering by promoting and strengthening humanitarian law and universal humanitarian principles. Established in 1863, the ICRC is at the origin of the International Red Cross and Red Crescent Movement.” THE INTERNATIONAL COMMITTEE OF THE RED CROSS, FORUM: WAR AND WATER, The Cover Page (ICRC Publications, 1998) [hereinafter FORUM: WAR AND WATER].

<sup>74</sup> THE STATUTES OF THE INTERNATIONAL COMMITTEE OF THE RED CROSS, art. 4 (1) (d) Jul. 20, 1998, 324 INT’L REV. RED CROSS 537-543 (1998) [hereinafter ICRC Statutes]; see also, Denise Plattner, *The Protection of Displaced Persons in Non-International Armed Conflicts*, 291 INT’L REV. RED CROSS 567, 577 (1992).

<sup>75</sup> The Responsibility of the Security Council in the Maintenance of International Peace and Security, UN SCOR, 47<sup>th</sup>, Sess., 3046<sup>th</sup> mtg. at 9-10, UN Doc. S/PV.3046(1992).

<sup>76</sup> Protocol II to the Geneva Conventions of August 12, 1949 Relevant to the Protection of Victims of Non-International Armed Conflicts, art. 1 (1), U.N. Doc. A/32/144 (15 Aug. 1977) [hereinafter Additional Protocol (II)].

Despite the obvious threat posed by situations of civil war, none of the IHL rules explicitly provide for prevention of their environmental effects. Nevertheless, since the adoption of the Additional Protocol II,<sup>77</sup> civil wars have been subject to IHL rules. The 1977 Additional Protocol II to the Geneva Conventions specifically provides some environmental protection during internal armed conflicts,<sup>78</sup> although less than during international conflicts. As Additional Protocol II lacks provisions comparable to Article 35 (3),<sup>79</sup> and Article 55<sup>80</sup> of Additional Protocol I, which deal with the environmental protection in international armed conflicts, a proposal was made at the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts (CDDH) to introduce into Protocol II a provision analogous to Articles 35, and 55 of Protocol I, but the idea was rejected.<sup>81</sup>

In international armed conflicts, the rules of neutrality<sup>82</sup> provide a clear criterion for distinguishing between lawful and unlawful help given to a belligerent State by a neutral State; yet such rules are not as clear with regard to internal conflicts.<sup>83</sup> However, it is sometimes hard to distinguish between international and internal armed conflict. For example, when foreign armed forces intervene in a conflict at the request of a government or rebel forces, and become involved in internal armed conflict, both internal

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<sup>77</sup> *Id.*

<sup>78</sup> The concept of environmental protection is defined in Articles 14 and 15 of Protocol II. Article 14, entitled the “Protection of Objects indispensable to the survival of the civilian population,” prohibits attacks against “foodstuffs, agricultural areas for the production of foodstuffs, crops, life stock, drinking water installations and supplies and irrigation works.” Article 15 prohibits any attack against “installations containing dangerous forces...if such attack may cause the release of such forces.”

<sup>79</sup> Article 35 (3) states that “It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.” Additional Protocol (I) to the Geneva Conventions of August 12, 1949, and Related to the Protection of Victims of International Armed Conflicts, art. 35 (3), June 8, 1977, 1125 U.S.T.S. [hereinafter Additional Protocol (I)].

<sup>80</sup> Article 55 states that “1. Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population. 2. Attacks against the natural environment by way of reprisals are prohibited.” *Id.* art. 55.

<sup>81</sup> Antoine Bouvier, *Protection of the Natural Environment in Time of Armed Conflict*, 285 INT’L. REV. OF THE RED CROSS 567, 576 (1991) [hereinafter Bouvier, *Protection of the Natural Environment*].

<sup>82</sup> The Hague Convention (V) Respecting the Rights and Duties of Neutral Powers and Persons in Case of War on Land, Oct. 18, 1907, arts 19 & 31, in ICRC, International Humanitarian Databases, available at <<http://www.inrc.org>>, (last visit Feb. 20, 2001) [hereinafter The Hague Convention (V)].

<sup>83</sup> Legality of the Threat or Use of Nuclear Weapons, International Court of Justice, Advisory Opinion, para. 89, General List No. 95, 1996 I.C.J. 226, 8 July 1996, 1996 WL 939337 (I.C.J.) [hereinafter Legality of the Threat or Use of Nuclear Weapons].



and international factors are involved. This intervention is known as “internationalized internal conflict,” and has occurred in places such as the Bosnian and Angolan armed conflicts.<sup>84</sup> As a rule, in a civil war, foreign States possess not only the right, but also the duty, to recognize the ‘belligerency’ of forces occupying a substantial part of a nation’s territory.<sup>85</sup>

However, according to the U.N. General Assembly’s Friendly Relations Resolution adopted on October 24, 1970,<sup>86</sup> “[e]very State has the duty to refrain from organizing, instigating or participating in acts of civil strife or terrorist acts in another State or acquiescing in organized activities within its territory directed towards the commission of such acts, when [such] acts involve a threat or use of force,” and that “no State shall organize, assist, foment, finance, incite or tolerate subversive, terrorist or armed activities directed towards the violent overthrow of the regime of another State, or interfere in civil strife in another State.”<sup>87</sup> Nonetheless, according to the right of counter-intervention,<sup>88</sup> rebels may receive foreign help from sympathetic States when the government is itself receiving international assistance.<sup>89</sup> For example, in 1979, following the Soviet intervention in Afghanistan, Saudi Arabia gave money to the rebels, and Egypt declared that she would provide military training for the Muslim rebels.<sup>90</sup> Moreover, according to the decision of the International Criminal Tribunal for the former

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<sup>84</sup> Ewen Allison, Robert K. Goldman, *Gray Areas in International Humanitarian Law*, in *CRIMES OF WAR: “WHAT THE PUBLIC SHOULD KNOW,”* 158 (ROY GUTMAN & DAVID RIEFF EDS., 1999) [hereinafter Allison & Goldman].

<sup>85</sup> EVAN LUARD, *CONFLICT AND PEACE IN THE MODERN INTERNATIONAL SYSTEM: A STUDY OF THE PRINCIPLES OF INTERNATIONAL ORDER* 124-25 (State University of New York Press, 1988) [hereinafter LUARD].

<sup>86</sup> Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States in Accordance with the Charter of the United Nations, 24 Oct, 1970, G.A.Res. 2625, U.N. GAOR, 25<sup>th</sup> Sess., Supp. No. 28, at 121, U.N.Doc. A/8028 (1971) [hereinafter U.N. General Assembly’s Friendly Relations Resolution].

<sup>87</sup> *Id.*

<sup>88</sup> This right is based on the right of self and collective defense adopted by Article 51 of the U.N. Charter, which reads “Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.” U.N. CHARTER, *supra* note (71) art. 51. See also, Oscar Schachter, *In Defense of International Rules on the Use of Force*, 53 U. CHI. L. REV. 113 (1986).

<sup>89</sup> Akehurst, *supra* note (69) at 89.

<sup>90</sup> *Id.*, at 89.

Yugoslavia (ICTY), in the *Dusko Tadic Case*,<sup>91</sup> international humanitarian law rules and principles apply to both international and internal armed conflicts.<sup>92</sup> The tribunal held that: “it had jurisdiction, regardless of the nature of the conflict, and that it need not determine whether the conflict is internal or international.”<sup>93</sup> Based on that conclusion, the tribunal has competence to apply IHL rules whenever there are severe violations of human rights in armed conflicts. Further, the status of the 1990 San Remo Declaration on the Rules of International Humanitarian Law Governing the Conduct of Hostilities in Non-International Armed Conflicts<sup>94</sup> attempts to impose humanitarian restrictions even on internal conflicts, in order to protect non-combatant civilian populations,<sup>95</sup> to avoid unnecessary suffering or injury,<sup>96</sup> to protect medical and religious personnel and medical units and transports,<sup>97</sup> to prohibit attacks on dwellings,<sup>98</sup> and to protect resources indispensable to the survival of the civilian population.<sup>99</sup> This Declaration, if applied rigorously, would extend to internal conflicts the humanitarian safeguards already imposed on international warfare. Moreover, even though the Declaration does not specifically address environmental damage, some of its language could apply to that issue. This is the case even though IHL principles are not applied word-for-word to internal armed hostilities.<sup>100</sup>

The United Nations, however, has been very hesitant to intervene in internal conflicts. The U.N. Charter asserts the principle of the sovereign equality of all the U.N.

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<sup>91</sup> *Prosecutor v. Tadic*, Oct. 2, 1995, 35 I.L.M. 32 (1996) *Dusko Tadic*, a Bosnian Serb, was charged with grave breaches of the Geneva Conventions, violations of the laws and customs of war, and crimes against humanity relevant to the torture and murder of Muslims at Karaterm and Trnopolje prison camps in northwestern Bosnia, during the summer of 1992. *Tadic* was found guilty by the trial chamber and received a twenty-year sentence. See in general, Michael P. Scarf, *International Decision: Prosecutor v. Tadic, Case No. IT-94-I-T*, (<http://www.un.org/icty/index.html>), *International Criminal Tribunal for Former Yugoslavia*, May 7, 1997, 91 AMER. J. INT'L. 718 (1997); Sean D. Murphy, *Developments in International Criminal Law: Progress and Jurisprudence of the International Criminal Tribunal for the Former Yugoslavia*, 93 AMER. J. INT'L. L. 57 (1999).

<sup>92</sup> *Prosecutor v. Tadic*, *supra* note (54) at para. 65.

<sup>93</sup> *Id.*, at para. 65.

<sup>94</sup> The Declaration on the Rules of International Humanitarian Law Governing the Conduct of Hostilities in Non-International Armed Conflicts, San Remo, Apr. 7, 1990, available at <<http://www1.umn.edu/humanrts/instree/1990a.htm>>, (last visit Dec. 10, 2000) [hereinafter San Remo Declaration].

<sup>95</sup> *Id.*, at A (1).

<sup>96</sup> *Id.*, at A (3).

<sup>97</sup> *Id.*, at A (5).

<sup>98</sup> *Id.*, at A (6).

<sup>99</sup> *Id.*, at A (7).

<sup>100</sup> Allison & Goldman, *supra* note (84) at 158.

members,<sup>101</sup> and therefore, that principle protects State sovereignty from external intervention. Nevertheless, the international community has accepted humanitarian intervention in cases of flagrant violation of human rights. According to customary international law, there are four exceptions to the principle of State sovereignty and non-intervention in a State's national affairs: "1) when a de jure government requests or consents to intervention, 2) when a group of States or a regional actor invokes a right to humanitarian intervention, 3) when a State acts in self-defense, and 4) when counter-intervention by a State offsets an illegal prior intervention by another state."<sup>102</sup> In these circumstances, the international community supports humanitarian intervention.<sup>103</sup> According to the U.N. Charter, Chapter VII, the Security Council, which is charged with the maintenance of the international peace and security, may ask all member states to apply sanctions against an aggressor.<sup>104</sup> Although the General Assembly can authorize such collective action,<sup>105</sup> any of the five Security Council members<sup>106</sup> can veto<sup>107</sup> such a resolution. Therefore, collective security cannot succeed unless the five major powers cooperate in action against aggressor States. With that cooperation, the U.N. Security Council has intervened in internal conflicts. It "has authorized military intervention to end repression of the Kurds in Iraq, famine in Somalia, ethnic cleansing in Bosnia, and genocide in Rwanda..."<sup>108</sup> On the other hand, the Security Council did not authorize military intervention to end ethnic cleansing in Chechnya, or to cease human rights violation in Gaza Strip, the West Bank, and Jerusalem.<sup>109</sup> The Security Council did not

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<sup>101</sup> U.N. CHARTER, *supra* note (71) art. 2 (1).

<sup>102</sup> Wippman, *supra* note (70) at 446.

<sup>103</sup> Humanitarian intervention is: "the intervention in a state involving the use of force (U.N. action in Iraq and Somalia or the Economic Community of West African States (ECOWAS) action in Liberia and Sierra Leone) or threat of force (U.N. action in Haiti), where the intervenor deploys armed forces and, at the least, makes clear that it is willing to use force if its operation is resisted-as it attempts to alleviate conditions in which a substantial part of the population of a state is threatened with death or suffering on a grand scale." See, Christopher Greenwood, *Is there a Right to Humanitarian Intervention?* 49 THE WORLD TODAY 34 (1993); see also, Jeremy Levitt, *Humanitarian Intervention by Regional Actors in Internal Conflicts: and the Cases of ECOWAS in Liberia and Sierra Leone*, 12 TEMP. INT'L & COMP. L.J. 333, 335 (1998).

<sup>104</sup> U.N. CHARTER, *supra* note (71). art. 39.

<sup>105</sup> *Id.* art. 10.

<sup>106</sup> The U.N. five major powers are: The United States, the Soviet Union, Great Britain, China, and France.

<sup>107</sup> U.N. CHARTER, *supra* note (71) art. 27 (3).

<sup>108</sup> Wippman, *supra* note (70) at 462-63.

<sup>109</sup> A significant resolution, CGR2.CNV030, was adopted by the IUCN World Conservation Congress in Amman, Jordan 4-11 Oct. 2000 concerning the securing of the environment in Gaza Strip, the West Bank, and Jerusalem. Thus, that resolution recognized the danger to the environment as a result of Israeli-Palestinian hostilities.

deem these situations a threat to international peace and security, even though they caused thousands of casualties, and devastated the natural environment.

Thus, the U.N.'s participation in internal peacekeeping operations has been uneven. However, the U.N. Charter does provide a legal basis for humanitarian intervention in internal conflicts. The Charter gives regional organizations the first responsibility for resolving disputes,<sup>110</sup> as with the ECOWAS intervention in Liberia and Sierra Leone,<sup>111</sup> and the Inter-African Mission to Monitor the Implementation of the Bangui Agreements (MISAB) in the Central African Republic."<sup>112</sup> Similarly, the European Community has played a significant role in the Bosnia-Herzegovina mediation,<sup>113</sup> and the U.N. Secretary General has requested the assistance of the Organization of African Unity (OAU) in resolving the conflict in Somalia.<sup>114</sup> Based on these precedents, the U.N. could take a more active role with regard to internal conflicts.

There is ample reason for the U.N. to do so. Recent history abounds with bloody and destructive conflicts within States. For example, in the Rwandan civil war of 1990-1994, between Rwanda's two main ethnic groups, the Tutsi and Hutu,<sup>115</sup> more than 850,000 Rwandans were killed from April to July 1994 in Rwanda (formerly Ruanda) in east central Africa.<sup>116</sup> Similarly, in the Bosnian Civil War of 1992-1995, the predominantly Serbian federal army, shelled Croats and Muslims and carried out ethnic cleansing<sup>117</sup> and genocide in Sarajevo, the Capital of Bosnia. However, on December 14, 1995, the leaders of Bosnia, Croatia, and Serbia signed the "Dayton Peace Accords,"

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<sup>110</sup> U.N. CHARTER, *supra* note (71) art. 52 (3).

<sup>111</sup> See, S.C.Res. 866, UN Doc. S/RES/866 (Sept. 22, 1993).

<sup>112</sup> On January 31<sup>st</sup> 1997, the Heads of States of Gabon, Burkina Faso, Chad and Mali established MISAB to "maintain peace and security in the Central African Republic by monitoring the implementation of the Bangui Agreements and conducting operations to disarm the former rebels, the militia and all other unlawfully armed persons." See the Report of the Secretary General Pursuant to Resolution 1136 (1997) Concerning the Situation in the Central African Republic (CAR), 53<sup>rd</sup> Sess., UNSCOR, UN Doc. S/1998/61(1998).

<sup>113</sup> See, Report of the Secretary General on the Situation in Bosnia and Herzegovina, UN Doc. S/24333, at 4 (1992).

<sup>114</sup> See, Report of the Secretary General on the Situation in Somalia, UN Doc. S/24343, at 10 (1992).

<sup>115</sup> Tara Sapru, Comment, *Into the Heart of Darkness: The Case Against the Foray of the Security Council Tribunal Into the Rwandan Crisis*, 32 TEX. INT'L L.J. 329, 332-333 (1997).

<sup>116</sup> GEORGE CHILDS KOHN, DICTIONARY OF WARS 423 (Checkmark Books, 1999) [hereinafter KOHN].

<sup>117</sup> Ethnic cleansing will be discussed later in the Section of "The Impact of Armed Conflict on Civilian Populations."

which ended the civil war in Bosnia and Croatia only after about 250,000 people died and more than 3 million others became refugees.<sup>118</sup>

An internal armed conflict lasted for nine years following the Sierra Leone civil war of 1991. A rebel movement known as the Revolutionary United Front (RUF) sought to overthrow the republican government of Sierra Leone, and this civil war left 75,000 people killed and over a million others homeless.<sup>119</sup> The U.N. Security Council took action by adopting Resolution 1132 to ban the sale or supply of all petroleum, arms, and other ammunition to Sierra Leone in order to prevent the importing of arms into the war.<sup>120</sup> However, the RUF financed its military operations through the illegal trade of diamonds, so the U.N.'s intervention failed to stop the internal conflict. Internal conflict in Colombia resulted in particularly dramatic environmental damage. During the civil war there, dating back to the mid-1960s,<sup>121</sup> anti-government rebels exploded petroleum pipelines, spilled millions of barrels of crude oil into rivers, and contaminated drinking water supplies. Consequently, hundreds of aquatic fish were poisoned, forest fires caused severe air pollution, soil was sterilized, and riverside inhabitants were severely harmed. Moreover, even though the conflict itself took place within Colombia's borders, the environmental impact extended far beyond the Colombian borders to Venezuela.<sup>122</sup>

These examples demonstrate that the legal guidelines that apply to international wars should also apply to internal conflicts, since "internal" conflicts can cause as much destruction within a nation, or even across national borders, as warfare between States. Guerrillas,<sup>123</sup> irregular forces "who use unconventional methods of warfare, such as sabotage, ambushes, and sniping,"<sup>124</sup> and headed by dissidents who use arms to seek to

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<sup>118</sup> KOHN, *supra* note (116) at 65-66.

<sup>119</sup> Sheryl Dickey, *Sierra Leone: Diamonds for Arms*, 7 HUM. RTS. BR. 9, 9 (2000) [hereinafter Dickey].

<sup>120</sup> *Id.*, at 9.

<sup>121</sup> Arturo Carrillo-Suarez, *Hors de Logique: Contemporary Issues in International Humanitarian Law as Applied to Internal Armed Conflict*, 15 AM. U. INT'L L. REV. 1, 10 (1999) [hereinafter Carrillo-Suarez].

<sup>122</sup> Environmental Law Institute, Background Paper, *Addressing Environmental Consequences of War*, THE FIRST INTERNATIONAL CONFERENCE ON ADDRESSING ENVIRONMENTAL CONSEQUENCES OF WAR: LEGAL, ECONOMIC, AND SCIENTIFIC PERSPECTIVES 2 (Washington, D.C., June 10-12, 1998).

<sup>123</sup> The term "guerrilla" is of Spanish origin and means "little war." See, Otto Kimminich, *Guerrilla Forces*, in 3 ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW: USE OF FORCE. WAR AND NEUTRALITY PEACE TREATIES 201 (RUDOLF DOLZER ET AL. EDS., 1982) [hereinafter Kimminich].

<sup>124</sup> Jon Lee Anderson, *Guerrillas*, in CRIMES OF WAR: "WHAT THE PUBLIC SHOULD KNOW," 159 (ROY GUTMAN & DAVID RIEFF EDS., 1999).

win power in order to change the political, social, and economic structure of a nation, must be bound by regular armed forces rules. Some legal guidelines already recognize the significance of such internal conflicts, and recognize the status of combatants in such conflicts.

The ICRC, for example, recognizes that “[t]he word guerrilla is not intended to signify a category of conflict, but a particular method of waging war which may be used in international or internal conflict by persons who in general do not fulfill the conditions required of combatants under the Geneva Conventions to qualify for prisoner of war status but who have at their command a logistic and political infrastructure supported by some or all of the population.”<sup>125</sup> Similarly, the Geneva Conventions of 1949, extends certain protections to any guerrilla fighter who

- 1-is commanded by a person responsible for his subordinates,<sup>126</sup>
- 2-wears a distinctive sign or article of clothing visible at a distance,<sup>127</sup>
- 3-carries his weapon openly,<sup>128</sup> and
- 4-observes the laws and customs of war.<sup>129</sup>

Guerrillas involved in internal armed conflicts are specifically covered by Article 3 common to the four Geneva Conventions of 1949.<sup>130</sup> Article 3 is the only part of the Conventions that applies explicitly to internal armed conflicts, and sets forth limits on the behavior of both regular armed forces and dissident ranks:

In the case of armed conflict not of an international character occurring in the territory of one of the High Contracting Parties, each Party to the conflict shall be bound to apply, as a minimum, the following provisions:  
(1) Persons taking no active part in the hostilities, including members of armed forces who have laid down their arms and

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<sup>125</sup> ICRC Doc. 1153 of Aug. 1970, at 4; *see*, Kimminich, *supra* note (123) at 202.

<sup>126</sup> This requirement is intended to ensure that irregular forces have a structure of command and discipline capable of following the laws and customs of war.

<sup>127</sup> This provision is for the protection of civilians, who may be attacked by opposing forces.

<sup>128</sup> Such requirement is to indicate his combatant status and to distinguish fighters from the civilian population.

<sup>129</sup> Geneva Convention (I), *supra* note (56) art. 13 (2), Geneva Convention (II), *supra* note (56) art. 13 (2), Geneva Convention (III), *supra* note (56) art. 4 (2).

<sup>130</sup> *Id.*, common art. 3.

those placed hors de combat by sickness, wounds, detention, or any other cause, shall in all circumstances be treated humanely, without any adverse distinction founded on race, color, religion or faith, sex, birth or wealth, or any other similar criteria. To this end, the following acts are and shall remain prohibited at any time and in any place whatsoever with respect to the above-mentioned persons: (a) violence to life and person, in particular murder of all kinds, mutilation, cruel treatment and torture; (b) taking of hostages; (c) outrages upon personal dignity, in particular humiliating and degrading treatment; (d) the passing of sentences and the carrying out of executions without previous judgment pronounced by a regularly constituted court, affording all the judicial guarantees which are recognized as indispensable by civilized peoples.

(2) The wounded and sick shall be collected and cared for. An impartial humanitarian body, such as the International Committee of the Red Cross, may offer its services to the Parties to the conflict.

The Parties to the conflict should further endeavor to bring into force, by means of special agreements, all or part of the other provisions of the present Convention.

The application of the preceding provisions shall not affect the legal status of the Parties to the conflict.<sup>131</sup>

In sum, and as examined thoroughly in Part II “Environmental Protection in the International Humanitarian Law,” until 1977, dating back to the adoption of the Additional Protocol II to the Geneva Conventions of 1949, the law of war excluded civil war from the rules that govern international armed conflicts, including environmental protection rules. Nevertheless, the protection offered by the Additional Protocol II of 1977 was not adequate to achieve the necessary environmental protection. In contrast, the Additional Protocol I to the Geneva Conventions offers a great deal of environmental protection during international armed conflicts.

### ***C- The Impact of Armed Conflict on Civilian Populations***

Modern nuclear, chemical, and biological warfare seriously harm both humans and the natural environment. For example, the intentional destruction of developed areas deprives local citizens of shelter. The destruction of sewage treatment facilities, the ruin

of dams that flow to agricultural areas, and the detonation of power plants to release poisonous emissions in times of armed conflicts, result in damage not only to the environment, but to the civilian population as well. Therefore, any study of an environmental law of armed conflict must address the impact of armed conflict on civilian populations who interact with and are dependent on, environmental systems.

As a fact, civilian deaths and injuries have been high in recent armed conflicts. “In World War I, thirty percent of wartime casualties were civilians. During World War II, civilian casualties increased to sixty percent. Significantly, wartime civilian casualties increased to ninety percent in the Rwanda civil war.”<sup>132</sup> Most international law experts believe that there is a substantial relationship between armed conflict and civilian casualties during or after the conflict, and the infringement of international humanitarian law. Furthermore, the International Committee of the Red Cross (ICRC) surgical database reported that in 1991, 17, 086 people treated by ICRC personnel for weapon injuries, “thirty five percent were females, males under sixteen, or males aged fifty and over.”<sup>133</sup> Thus, examining the impact of armed conflict on civilian populations is the legal bench mark against which law must be evaluated. International humanitarian law has defined the problem and provided some controls, however, environmental law will need to learn from this if it is to do better. In addition, as it will be discussed in the eco-refugees section, the war refugees can harm the environment by depleting nature and natural resources.

This section will highlight civilian deterioration from death, chronic diseases and paralysis, persecution of ethnic minorities, rape and torture, violence and drug abuse induced by armed conflict experiences, and refugees as the result of armed conflicts.

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<sup>131</sup> *Id.*, common art. 3.

<sup>132</sup> EISA AL-ANZI, A STUDY ON HUMAN RIGHTS IN PEACETIME AND DURING ARMED CONFLICTS: A CASE STUDY OF THE SITUATION IN KUWAIT AND THE ARAB WORLD (in Arabic) 224 (Kuwait University, Faculty of Law Publications, 1998-99).

<sup>133</sup> International Committee of the Red Cross, *Arms Availability and the Situation of Civilians in Armed Conflict*, Commissioned by the 26<sup>th</sup> International Conference of the Red Cross and Red Crescent 16 (1999) [hereinafter *Arms Availability*]. See, D.R. Meddings, *Are Most Casualties Non-Combatants?* 317 BRIT. MED. J. 1249, 1249-1250 (1998).



## 1. Death

Regrettably, thousands of civilians are killed every year as a direct result of fighting, and many more die from malnutrition and disease caused by armed conflicts. About 8.5 million soldiers and 1.5 million civilians were killed during the four years of World War I.<sup>134</sup> For example, the French lost “955,000 men in five months of 1914; in 1915, 1,430,000 men; and in 1916, 900,000 men [including civilians].”<sup>135</sup> Some 50 million people were killed during the six years of World War II.<sup>136</sup> In El Salvador, between 1980 and 1992, 1.5 percent of the Salvadoran population, about 70,000 persons, including many civilian non-combatants, were killed by the government’s armed forces.<sup>137</sup> Further, during the Iraqi occupation of Kuwait in 1990, mortalities reported from Kuwaiti sources were 1,061.<sup>138</sup> Comparing this figure with the total Kuwaiti population of 700,000 shows the dimension of this occupation. As a result of the same war, between 5,000 and 15,000 Iraqi civilians died in coalition attacks.<sup>139</sup>

Additionally, the International Human Rights Law Institute of DePaul University in Chicago estimated that of 140,000 to 150,000 casualties in the former Yugoslavia, fifty percent were civilians. One-third of those were women and children.<sup>140</sup> In Croatia, one study found that of the 4,339 casualties studied, sixty four percent were civilians.<sup>141</sup> And during the siege of the eastern Croatia city of Vukover in November 1991, Serbian troops

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<sup>134</sup> JOHN SPANIER & ROBERT L. WENDZEL, *GAMES NATIONS PLAY* 6 (Congressional Quarterly Press, 1996) [hereinafter SPANIER & WENDZEL].

<sup>135</sup> *Id.*

<sup>136</sup> Arthur H. Westing, *Constraints on Military Disruption of the Biosphere: An Overview*, in *CULTURAL NORMS, WAR AND THE ENVIRONMENT* 2 (ARTHUR H. WESTING ED., 1988).

<sup>137</sup> Paula Braveman et al., *Public Health and War in Central America*, in *WAR AND PUBLIC HEALTH* 240 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000).

<sup>138</sup> KUWAIT FOUNDATION FOR THE ADVANCEMENT OF SCIENCES, *AN ENVIRONMENTAL ASSESSMENT OF KUWAIT SEVEN YEARS AFTER THE GULF WAR* 61 (Green Cross International & Kuwait Foundation for the Advancement of Sciences & Public Authority for the Assessment of Compensation for Damages Resulting from the Iraqi Aggression, 1998) [hereinafter KFAS].

<sup>139</sup> Paul Lewis, *After the War, U.N. Survey Calls Iraq's War Damage Near Apocalyptic*, N.Y. TIMES, Mar. 22, 1991, cited in DYCUS, *supra* note (4) at 139 [hereinafter Paul Lewis].

<sup>140</sup> James C. Cobey et al., *Effective Humanitarian Aid: Our Only Hope of Intervention in Civil War*, in *WAR AND PUBLIC HEALTH* 308 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000) [hereinafter Cobey].

<sup>141</sup> M. Kuzman et al., *Fatalities in the War Croatia, 1991 and 1992: Underlying the External Causes of Death*, 270 JAMA 626, 626-628 (1993). See, *Arms Availability*, *supra* note (133) at 16.

removed hundreds of patients and staff from the municipal hospital, executed them and buried them in a mass grave on the Ovcara collective farm.<sup>142</sup>

NATO air strikes also caused civilian casualties in the former Yugoslavia. Human Rights Watch reported “[ninety] confirmed incidents in which civilians died from NATO bombing,”<sup>143</sup> and estimated that “as few as 489 and as many as 529 Yugoslav civilians were killed in these incidents.”<sup>144</sup> That group also reported that “between 279 and 318 of the dead, --between [fifty six] and [sixty] percent of the total number of deaths—were in Kosovo. In Serbia 201 civilians were killed and eight died in Montenegro.”<sup>145</sup>

On January 6, 1999, the Revolutionary United Front (RUF) of Sierra Leone, occupied the capital Freetown. According to the July 1999 Human Rights Watch Report, “Sierra Leone: Getting Away with Murder, Mutilation and Rape,” “the rebel RUF occupation of Freetown was characterized by the systematic and wide spread perpetration of all classes of gross human rights abuses against the civilian population. Civilians were gunned down within their houses, rounded up and massacred on the streets, thrown from the upper floors of buildings, used as human shields and burned alive in cars and houses.”<sup>146</sup>

Even after war ceases, its effects often continue to cause civilian deaths. In the Kandahar region of Afghanistan, where there was an extended conflict between rival combatant groups, mortality rates increased from 2.5% to 6.1% during the post conflict period.<sup>147</sup> Since the 1991 cease fire in the Gulf War II, a study carried out in 1993 by three American scientists showed that about 50,000 Iraqi children died during the first eight months after the war from the effects of depleted uranium.<sup>148</sup> Similarly, Beth O. Daponte, an analyst from the U.S. Census Bureau, estimated that Iraqi deaths in the war

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<sup>142</sup> Eric Stover, *Sick and Wounded*, in CRIMES OF WAR: “WHAT THE PUBLIC SHOULD KNOW,” 334 (ROY GUTMAN & DAVID RIEFF EDS., 1999).

<sup>143</sup> Human Rights Watch, *Civilian Deaths in the NATO Air Campaign* 3 (citing testimony of Gen. Henry Shelton, of the U.S. House Armed Services Committee, Apr. 14, 1999 and testimony of Lt. Gen. Michael Short before the Senate Armed Services Committee Hearing on Lessons Learned from Military Operations and Relief Efforts in Kosovo, Oct. 21, 1999) available at <<http://www.hrw.org/hrw/reports/2000/nato/index/htm>>, (last visit Mar. 27, 2000)[hereinafter Human Rights Watch, *Civilian Deaths in the NATO Air Campaign*].

<sup>144</sup> *Id.*, at 4.

<sup>145</sup> *Id.*, at 4.

<sup>146</sup> Dickey, *supra* note (119) at. 10.

<sup>147</sup> *Arms Availability*, *supra* note (133) at 40.

<sup>148</sup> Guenther, *supra* note (15) at 169.

totaled 86,194 men, 39,612 women, and 32,195 children,<sup>149</sup> many of them civilians. In another estimation, the DoD reported that up to six million Iraqi could have been killed from the dispersion of anthrax and botulism viruses caused by a single attack on biological weapons facility.<sup>150</sup> Furthermore, in May 1992, Harvard Study Group published a study estimating that 170,000 Iraqi children under the age of five would die from “delayed effects of the Gulf Crisis.” The major cause of such death would be water borne diseases, hunger, and malnutrition.<sup>151</sup>

Today, children in at least sixty-eight countries live amid the threat of more than 110 million hidden mines.<sup>152</sup> Many of the explosives look like toys, and children may pick up or step on the devices which will result in death or paralysis. The United Nations head of Humanitarian Assistance in Kosovo, Dennis McNamara, confirmed that “kids are picking up the cluster bombs and getting blown up because the cluster bombs have bright canisters which are very attractive.”<sup>153</sup> A blatant example could be found in Afghanistan during the war against terrorism, when the U.S. military used cluster bombs. The cluster bombs have the same color, yellow, as the humanitarian supplies that U.S. planes were dropping to the Afghan people.<sup>154</sup> Number of casualties among civilians resulted from people mistakenly picking up an unexploded cluster bomb.<sup>155</sup> Accordingly, General Richard Myers, chairman of the U.S. Joint Chiefs of Staff, announced that “the color of future food packets will be changed to blue.”<sup>156</sup>

Armed conflicts can have devastating effects on civilian populations. In general, the high percentage of civilian casualties results from the fact that they are not physically prepared to engage in warfare. In addition, although some modern arms are “smart,” and

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<sup>149</sup> T.M. HAWLEY, *AGAINST THE FIRES OF HELL, THE ENVIRONMENTAL DISASTER OF THE GULF WAR* 182 (Harcourt Brace Jovanovich Publishers, 1992) [hereinafter HAWLEY].

<sup>150</sup> Andrew D. McClintock, *The Law of War: Coalition Attacks on Iraqi Chemical and Biological Weapon Storage and Production Facilities*, 7 EMORY INT’L L. REV. 633, 637 fn 10 (1993) [hereinafter McClintock].

<sup>151</sup> HAWLEY, *supra* note (149) at 174.

<sup>152</sup> Graça Machel, Report, *Impact of Armed Conflict on Children* 39 (United Nations Department of Public Information & United Nations Children’s Fund, 1996) DPI/1834-96-22765-Oct. 1996-5M.

<sup>153</sup> RAE MCGRATH, CLUSTER BOMBS: THE MILITARY EFFECTIVENESS AND IMPACT ON CIVILIANS OF CLUSTER MUNITIONS 49 (The U.K. Working Group on Landmines, 2000).

<sup>154</sup> Cnn.com, *U.S. Warplanes Again Hammer Taliban Positions*, Nov. 1, 2001, available at <<http://www.cnn.com/2001/WORLD/asiapcf/central/11/01/ret.attack.afghanistan/index.html>>, (last visit Nov. 2, 2001) [hereinafter *U.S. Warplanes Again Hammer Taliban Positions*].

<sup>155</sup> *Id.*

<sup>156</sup> *Id.*

can destroy a specific target, distinguish between combatants and civilians.<sup>157</sup> More significant, however, is the fact that the armed forces of the involved parties, focused on achieving their military goals, often intentionally or unintentionally cause civilian deaths. In internal armed conflicts, civilian deaths are often dramatically increased, because the armed forces seek to dominate their own populations, including both combatants and civilians.

## 2. Chronic Diseases

Even aside from civilian deaths that result from armed combat, warfare's lingering effects on civilians include a legacy of chronic diseases. For example, nuclear weapons may cause eye damage. Anyone looking at a nuclear fireball could be blinded for a period of a few minutes to some hours (called flash blindness) or could sustain permanent eye damage (retinal burns.)<sup>158</sup> Radiation emitted by nuclear weapons, even when it does not kill, can cause leukemia, birth defects, and other diseases.<sup>159</sup> Neutron bomb technology is designed to kill people by radiation that "causes ionization, or static electricity, among the atoms of any material it passes through. This happens when electrons are torn away from their positions surrounding atoms. Atoms consist of a nucleus charged with positive electricity surrounded by electrons charged with negative electricity. When the ionizing radiation separates these charges by removing electrons, atoms and free electrons react swiftly with other atoms or collections of atoms (molecules.)"<sup>160</sup> This reaction can seriously damage living tissue.

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<sup>157</sup> The precision-guided munitions (PGMs) guided by infra, electro-optics, or laser systems, have been used by the Coalition in 1991, to attack targets in Iraq and Kuwait. Similarly, Tomahawk Cruise Missiles are packed with advanced electronics and several different guidance systems, and they are essentially flying computers capable of sailing through the goalposts on a football field from a range of several hundred miles. See, Danielle L. Infeld, Note, *Precision-Guided Munitions Demonstrated Their Pinpoint Accuracy in Desert Storm: But is A Country Obligated to Use Precision Technology To Minimize Collateral Civilian Injury and Damage?* 26 GEO. WASH. J. INT'L L. & ECON. 109, 126 (1992) [Infeld, *Precision Guided*]. See also, Philip Elmer-DeWitt, *Inside the High-Tech Arsenal*, TIME, Feb. 4, 1991, at 46.

<sup>158</sup> PETER GOODWIN, NUCLEAR WAR, THE FACTS ON OUR SURVIVAL 27 (The Rutledge Press, 1981)[hereinafter GOODWIN].

<sup>159</sup> *Id.*, at 40.

<sup>160</sup> *Id.*, at 40.

Studies of the effects of the atomic bombs at Nagasaki and Hiroshima have shown that “leukemia is the most radiogenic of the cancers following exposure to ionizing radiation. The leukemia excess is the first to appear [among civilians] (with a latency period of three to seven years), and it appears in the greatest excess among the cancer excesses 40 years after exposure. In other words, the Japanese studies show other cancer excesses occurring in smaller, yet observable, amounts.”<sup>161</sup>

Other kinds of cancers reported among the victims of Nagasaki and Hiroshima, included “thyroid cancer, breast cancer, lung cancer, and cancer of the salivary gland.”<sup>162</sup> Other evidence from Japan showed that infections of nausea, vomit, diarrhea, fever, and delirium, were rife among bomb victims.<sup>163</sup> Affected people died instantly. However, those who survived would recover very slowly, and even after recovery, they might die suddenly from an infection that would cause only a minor disease in a healthy person.<sup>164</sup>

During the Gulf War II, 1990-1991, a considerable number of Allied soldiers were diagnosed with symptoms including “damage to organs, genetic manifestation, chronic fatigue, loss of endurance, frequent infections, sore throat, coughing, skin rashes, night sweats, nausea and vomiting, diarrhea, dizziness, headaches, memory loss, confusion, vision problems, muscle spasms and cramps, joint pain and loss of mobility, aching muscles, swollen glands, dental problems and malformation of newborns.”<sup>165</sup> According to the National Gulf War Resources Center, such symptoms were known as “Gulf War Syndrome.” Of the 695,000 U.S. troops who served during Operations Desert Shield and Desert Storm, more than 45,000 said that they have health concerns.<sup>166</sup> Some American combatants died as a result of infections.<sup>167</sup>

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<sup>161</sup> See, Gerald Woodcock, M.B.A. & Michael R. Fox, Ph.D., *Hanford and Public Health: No Cause for Alarm*, 31 GONZ. L. REV. 69 (1995-96) [hereinafter Woodcock & Fox]; see also Hiroo Kato, *Cancer Mortality*, in CANCER IN ATOMIC BOMB SURVIVORS 67 (ITSUZO SHIGEMATSU & ABRAHAM KAGEN EDS., 1986).

<sup>162</sup> PAUL P. CRAG & JOHN A. JUNGEMAN, NUCLEAR ARMS RACE: TECHNOLOGY AND SOCIETY 347 (McGraw-Hill Higher Education, 1990) [hereinafter CRAG & JUNGEMAN].

<sup>163</sup> GOODWIN, *supra* note (158) at 43.

<sup>164</sup> *Id.*, at 43.

<sup>165</sup> Guenther, *supra* note (15) at 169. See also, Bruno P. Petrucci et al., *Health Effects of the 1991 Kuwait Oil Fires: A Survey of US Army Troops*, 41 J. OCCUPATIONAL & ENV'T'L. MED. No. 6, 433, 433 (1999).

<sup>166</sup> Kevin J. Dalton, Comment, *Gulf War Syndrome: Will the Injuries of Veterans and their Families be Redressed?* 25 U. BALT. L. REV. 179, 180 (1996).

<sup>167</sup> William Brook Lafferty, *The Persian Gulf War Syndrome: Rethinking Government Tort Liability*, 25 STETSON L. REV. 137, 143, 174 (1995).

In Great Britain 3,500 soldiers are reported to be suffering from Gulf War Syndrome.<sup>168</sup> Australian, Canadian, and French soldiers are said to be suffering too.<sup>169</sup> In 1994, reports on 251 families of veterans of the Gulf War living in Mississippi, showed that sixty seven percent of the children of these families were born with “congenital deformities: their eyes, ears or fingers are missing, or they are suffering from severe blood diseases and respiratory problems.”<sup>170</sup> In 1996, the United States Presidential Advisory Committee on War Veterans’ Illnesses admitted that neurotoxic chemical warfare agents, especially sarin, had been released in certain areas of the Gulf during the destruction of the Iraqi ammunition depot, and caused critical health problems in the region,<sup>171</sup> to both soldiers and civilians.

Additionally, in Kuwait, thousands of people still suffer deep psychological disorders including “Post Traumatic Stress Disorder.”<sup>172</sup> Indeed, the environmental impact of air pollution fallout, and fumes may have long-term health consequences on the whole Kuwaiti people through accumulation in the food chain. Similarly, in November 1996, following the warfare in the former Yugoslavia, reports showed that about 1000 children were suffering from headaches, aching muscles, abdominal pain, dizziness, respiratory problems,<sup>173</sup> and other symptoms similar to those described in the Gulf War Syndrome.

### 3. Persecution of Ethnic Minorities

Civilian populations can also be affected by persecution, or “ethnic cleansing,” that often accompanies armed conflicts. Ethnic cleansing is “the use of force or

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<sup>168</sup> Guenther, *supra* note (15) at 169.

<sup>169</sup> *Id.*, at 169.

<sup>170</sup> *Id.*, at 169.

<sup>171</sup> KFAS, *supra* note (138) at 14

<sup>172</sup> Bertrand Charrier, *Human and Ecological Consequences of the Gulf War’s Environmental Damages in Kuwait*, United Nations Compensation Commission (Geneva, Jan. 25, 2000), available at <[wysiwyg://14/http://www.gci.ch/GreenCrossPrograms/legacy/UNCCKUWAIT.html](http://www.gci.ch/GreenCrossPrograms/legacy/UNCCKUWAIT.html)>, (last visit Mar. 29, 2001)[hereinafter Human and Ecological Consequences of the Gulf War].

<sup>173</sup> Guenther, *supra* note (15) at 170.

intimidation to remove people of a certain ethnic or religious group from an area.”<sup>174</sup> The United Nations Commission of Experts, in a January 1993 report to the Security Council, defined ethnic cleansing as “rendering an area ethnically homogenous by using force or intimidation to remove persons of given groups from the area.”<sup>175</sup>

As one example, between 1959 and 1961, the Hutu majority in Rwanda revolted against the Tutsi rulers, and began a widespread ethnic cleansing.<sup>176</sup> In 1963, Hutus killed an estimated 10,000 Tutsis, largely with Rwandan government complicity and even encouragement.<sup>177</sup> In 1994, another massive killing of Tutsis<sup>178</sup> and there Hutu sympathizers was inspired by members of the predominantly Hutu government.<sup>179</sup>

Another particularly blatant example of ethnic cleansing occurred during the conflict in Bosnia-Herzegovina, which began in April 1992 and ended in November 1995. More than 700,000 Muslims were eliminated by Serbs from an area covering 70% of Bosnia, between April and August 1992.<sup>180</sup> In Vlasenica, a city in Bosnia, there were 18,699 Muslims before the war, but now there are none, as a result of ethnic cleansing.<sup>181</sup> One of the Serbian guards at the Susica camp in Vlasenica, Pero Popovic, admitted that “our aim was simply to get rid of the Muslims.”<sup>182</sup> The United Nations Commission of Experts, in its January 1993 report to the Security Council, clarified that the ethnic cleansing in former Yugoslavia included all sorts of murder, rape, sexual assault, executions, and destruction of public and private property.<sup>183</sup> The Commission’s final report in May 1994 identified these crimes of war: “mass murder, mistreatment of civilian prisoners of war, use of civilians as human shields, destruction of cultural

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<sup>174</sup> Roger Cohen, *Ethnic Cleansing*, in CRIMES OF WAR: “WHAT THE PUBLIC SHOULD KNOW,” 136 (ROY GUTMAN & DAVID RIEFF EDS., 1999) [hereinafter Cohen].

<sup>175</sup> Interim Report of the Commission of Experts Established Pursuant to Security Council Resolution 780 (1992), U.N. SCOR, Annex I, at 16, U.N. Doc. S/25274 (1993).

<sup>176</sup> Linda Maguire, *Power Ethnicized: The Pursuit of Protection and Participation in Rwanda and Burundi*, 2 BUFF. JOUR. INT’L L. 49, 64 (1995).

<sup>177</sup> Todd Shields, *Invasion Stirs Tribal Tension in Rwanda: Government, Led by Hutu, Rounding Up Minority Tutsi*, WASH. POST, Oct. 23, 1990, A23.

<sup>178</sup> Peter Smerdon, *Rwandan Prisoners Say They Were Forced to Kill Tutsi*, N.Y. TIMES, June 6, 1994, A8.

<sup>179</sup> John Quigley, *State Responsibility for Ethnic Cleansing*, 32 U.C. DAVIS L. REV. 341, 345 (1999).

<sup>180</sup> Cohen, *supra* note (174) at 136.

<sup>181</sup> *Id.*, at 136.

<sup>182</sup> *Id.*, at 136, 138.

<sup>183</sup> The Final Report of the Commission of Experts Established Pursuant to Security Council Resolution 33, U.N. Doc. S/1994/674 (1994).

property, robbery of personal property, and attacks on hospitals, medical personnel, and locations with the Red Cross/Red Crescent emblem.”<sup>184</sup>

This ethnic or religious persecution can have devastating consequences to civilian populations even if those populations are not the stated “enemy,” and even when there has been no formal declaration of war.

Because of the death and destruction that can be caused by such ethnic persecution, international law should be available to stop or to punish such activity. Some provisions of international law do apply to such situations, even when they occur within a nation’s border.

Under Article 49 of the Fourth Geneva Convention, persecution of ethnic minorities is considered a war crime. According to Article 49, only the security of civilians or “imperative military reasons” justify the temporary evacuation of civilian population in occupied territory.<sup>185</sup> Even then, Article 49 requires that they must be returned to their homes when the crisis is settled.<sup>186</sup> The 1977 Additional Protocol II to the four Geneva Conventions of 1949 extends that principle to civilians in internal armed conflicts.<sup>187</sup>

#### 4. Rape and Torture

Rape, and particularly the rape of civilians, has become all too familiar as a consequence, and even as a tactic, of armed conflict. Wartime rape often has a tragic effect that extends far beyond the physical and psychological pain. Victims of rape are themselves often stigmatized by their own cultures. Rape victims who become pregnant are often ostracized by their families and abandon their babies. Some may even commit suicide.

Rape can be seen as a crime against humanity, and various provisions of international law are available to prosecute those responsible for wartime rapes. The four Geneva Conventions of 1949 provide that “women shall be treated with all the regard due

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<sup>184</sup> Cohen, *supra* note (174) at 138.

<sup>185</sup> Geneva Convention (IV), *supra* note (56). art 49.

<sup>186</sup> *Id.*

<sup>187</sup> Additional Protocol (II), *supra* note (76) art. 17.



to their sex.”<sup>188</sup> The fourth Geneva Convention, in Article 27, also provides that women be protected against “rape, enforced prostitution, or any form of indecent assault.”<sup>189</sup>

Under a statute of the International Tribunal for the former Yugoslavia, “persons responsible for [...] rape committed in armed conflict, whether international or internal in character, and directed against any civilian population”<sup>190</sup> shall be prosecuted before the tribunal. Furthermore, a commander can be prosecuted for rapes committed by his subordinates if he ordered or aided and abetted the rapes, or if he “knew or had reason to know that the subordinate was about to commit such acts or had done so, and the superior failed to take the necessary and reasonable measures to prevent such acts or punish the perpetrators thereof.”<sup>191</sup> On the other hand, that statute does not expressly mention rape as a war crime.

The 1998 Rome Statute for the establishment of a permanent International Criminal Court identifies rape, sexual slavery, and enforced prostitution as crimes against humanity,<sup>192</sup> and as grave violations of the Geneva Conventions of 1949.<sup>193</sup>

During the Gulf War II, Iraqi soldiers raped an estimated 500 Kuwaiti women, according to the 1992 report of members of an American health assistance team.<sup>194</sup> Rape in Kuwait is not reported, because Kuwait is an Islamic country, where a woman’s sexual purity is a crucial prerequisite for marriage, and severe punishment can be aimed at woman who is proven not to be maiden. After the war, numerous people were treated in the Al-Riggae Specialized Center for War Victims, among them women and men who had been sexually abused during the Iraqi invasion.<sup>195</sup>

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<sup>188</sup> Geneva Convention (I), *supra* note (56) art. 3; Geneva Convention (II), *supra* note (56) art. 3; Geneva Convention (III), *supra* note (56) art. 3; Geneva Convention (IV), *supra* note (56) art.3.

<sup>189</sup> Geneva Convention (I), *supra* note (56) art. 3; Geneva Convention (II), *supra* note (56) art. 3; Geneva Convention (III), *supra* note (56) art. 3; Geneva Convention (IV), *supra* note (56) art.3.

<sup>190</sup> Statute of the International Tribunal for the Former Yugoslavia, art. 5, May 25, 1993 (g), S.C. Res. 808, U.N. SCOR, 48<sup>th</sup> Sess., 3175<sup>th</sup> mtg. at 28, U.N. Doc. S/INF/49 (1993) [hereinafter ICTY Statute].

<sup>191</sup> United Nations: Rome Statute of the International Criminal Court, art. 7 (3) (1998) 37 I.L.M. 999 (1998) [hereinafter Rome Statute].

<sup>192</sup> *Id.*, art 7 (g).

<sup>193</sup> *Id.*, art 8 (b) (xxii).

<sup>194</sup> KFAS, *supra* note (138) at 82.

<sup>195</sup> *Id.*, at 82.

In Bosnia-Herzegovina, women were raped systematically as part of the ethnic cleansing against Muslims.<sup>196</sup> In 1993, a European Community Commission estimated the number of rape victims in Bosnia-Herzegovina at 20,000, while the Muslim authorities placed the number at 50,000.<sup>197</sup> Boutros Boutros Ghali, Secretary General of the U.N. writes: “the practice of so-called ‘ethnic cleansing,’ and rape and sexual assault in particular, have been carried out by some of the parties so systematically that they strongly appear to be the product of a policy, which may also be inferred from the consistent failure to prevent the commission of such crimes and to prosecute and punish their perpetrators.”<sup>198</sup> In response, in June 1996, the International Criminal Tribunal for the former Yugoslavia issued indictments against eight Bosnian Serb soldiers for the rape of Muslim women in the Eastern Bosnian town of Foca during 1992 and 1993.<sup>199</sup> Members of the Serb military police were charged with repeatedly torturing and raping a fifteen-year old girl over the course of eight months, while she served in a Serb military brothel as a servant and a sex slave.<sup>200</sup> Similarly, in Rwanda, the Ministry of Family and Women Affairs statistics showed that from July 1994 to April 1995, about 15,700 women of the age of thirteen to thirty five were raped.<sup>201</sup>

Although torture is universally prohibited in armed conflict,<sup>202</sup> whether international or internal, it is commonly used against combatants who have laid down their arms, and against civilians. Many provisions of international law are available to prosecute those responsible for torture, but enforcing a prohibition of torture is at best a daunting task.

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<sup>196</sup> Alexandra Stiglmayer, *Civil War*, in CRIMES OF WAR: “WHAT THE PUBLIC SHOULD KNOW,” 327 (ROY GUTMAN & DAVID RIEFF EDS., 1999).

<sup>197</sup> *Id.*, at 327.

<sup>198</sup> Gunby P., *Varied Health Risks Confront Physicians in Former Yugoslavia’s Embattled Areas*, 27 JAMA 272, 337-40 (1994).

<sup>199</sup> Anne M. Hoefgen, *There Will Be no Justice Unless Women are Part of that Justice*, 14 WIS. WOMEN’S L.J. 155, 157 (1999).

<sup>200</sup> George Rodrigue, *Civil War*, in CRIMES OF WAR: “WHAT THE PUBLIC SHOULD KNOW,” 328 (ROY GUTMAN & DAVID RIEFF EDS., 1999).

<sup>201</sup> Badria Al-Awady, *The Protection of Women During Armed Conflicts*, a paper prepared for the Kuwaiti Red Crescent Society in the occasion of the International Women Day 1 (Mar. 10, 1998).

<sup>202</sup> Declaration on the Protection of All Persons from Being Subjected to Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, art. 2, Dec. 9, 1975, G.A. Res. 34/52, U.N. GAOR, 30th Sess., Supp. No. 34, U.N. Doc. A/10408 (1976); European Convention for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment, E.T.S. 126, (Feb. 1, 1989); Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, art. 2, G.A. res. 39/46, U.N. Doc. A/39/51 (1984) [hereinafter Torture Convention].

The 1984 Convention for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment defines torture as “any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession.”<sup>203</sup> The Convention focuses on the principle that “no exceptional circumstances whatsoever, whether a state of war or a threat of war, internal political instability or any other public emergency, may be invoked as a justification of torture.”<sup>204</sup> Torture has been prohibited by international law as early as in The Hague Convention of 1907 on Customs of War. Article 44 of that Convention states that “a belligerent is forbidden to force the inhabitants of territory occupied by it to furnish information about the army of the other belligerent, or about its means of defense.”<sup>205</sup> Similarly, Article 3 common to the four Geneva Conventions makes it clear that “violence to life and person, in particular murder of all kinds, mutilation, cruel treatment and torture,”<sup>206</sup> as well as “outrages upon personal dignity, in particular humiliating and degrading treatment,”<sup>207</sup> are strictly forbidden under any circumstances. Moreover, Article 5 of the Universal Declaration of Human Rights also forbids torture by declaring that “no one shall be subjected to torture or to cruel, inhuman or degrading treatment or punishment.”<sup>208</sup> According to the Statute of the former Yugoslavia Tribunal, torture is prohibited and personnel responsible for that crime shall be tried before the tribunal.<sup>209</sup>

Despite those legal provisions, however, torture of civilians continues to accompany almost all warfare, whether internal or international. One notorious example of torture that accompanied armed conflict was during the Algerian War of 1954-1962, when Algerian Muslims of the National Liberation Front (NLF) began open warfare against French rule in Algeria.<sup>210</sup> The French government refused to grant Algeria independence, and sent thousands of French troops to crush Algerian rebels. Among the

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<sup>203</sup> *Id.*, art. 1.

<sup>204</sup> *Id.*, art. 2 (2).

<sup>205</sup> The Hague Convention (IV) Respecting the Laws and Customs of War on Land, Annex art. 44, Oct. 8, 1907, 36 Stat. 2277 [hereinafter The Hague Convention (IV) of 1907].

<sup>206</sup> Geneva Conventions (I), (II), and (IV), *supra* note (56) common art. 3 (1)(a).

<sup>207</sup> Geneva Conventions (I), (II), (III), and (IV), *supra* note (56) common art. 3 (1)(c).

<sup>208</sup> Universal Declaration of Human Rights, G.A. res. 217A (III), U.N. Doc A/810 art. 5 (1948).

<sup>209</sup> ICTY Statute, *supra* note (190) art. 5 (f).

<sup>210</sup> Arnold Fraleigh, *The Algerian Revolution as a Case Study in International Law*, in THE INTERNATIONAL LAW OF CIVIL WAR 179 (RICHARD A. FALK ED., 1971).

despicable practices of the French soldiers, torture was often used during investigations of Algerian suspects.<sup>211</sup> In 1960, the French newspaper *Le Monde* published the text of the report of ICRC mission to Algeria, which contained evidence of the use of the torture against Algerian prisoners of war, and civilians in internment camps.<sup>212</sup>

Another example of torture in armed conflict occurred during the Gulf War II, where the investigation of 108 persons executed in Kuwait during the Iraqi occupation showed that they had been severely tortured before they were killed.<sup>213</sup> And in the Al-Riggae Specialized Center for War Victims, two thirds of the 250 victims were survivors of physical torture, most of them men between twenty-one and forty years.<sup>214</sup>

## 5. Violence and Drug Abuse, Induces by Armed Conflict Experiences

Every gun that is fired...is in the final sense, a theft from those who hunger and are not fed, those who are called and not clothed. This world in arms is not spending money alone. It is spending the sweat of its laborers, the genius of its scientists, the hopes of its children.<sup>215</sup>

War consists of violence and destruction not only during armed conflict itself; it leaves its imprint even after the battles cease. Violence and drug abuse rates increase remarkably in its aftermath, particularly among children and adolescents. Arms are often readily available for anyone to acquire without restrictions. Therefore, crimes such as murder, burglary, and rape, as well as a profusion of such ills as drug abuse, revenge, and prostitution, are prevalent.

An example of such violence was found in Kuwait, where it was reported that violence and drug abuse increased dramatically after the war of 1990-1991.<sup>216</sup> In Africa, similarly, violence flared during the influx of Rwandan refugees into Congo-Zaire, where

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<sup>211</sup> *Id.*, at 200.

<sup>212</sup> *Id.*, at 201.

<sup>213</sup> KFAS, *supra* note (138) at 82.

<sup>214</sup> *Id.*, at 82.

<sup>215</sup> President Eisenhower's famous "Cross of Iron" speech, *see* Eisenhower, D.D. "The Chance for Peace," Speech to the American Society of Newspaper Editors, Apr. 16, 1953, Washington, D.C.

<sup>216</sup> KFAS, *supra* note (138) at 83.

guns were distributed by the former Rwandan soldiers and militias.<sup>217</sup> Some of the inhabitants were given guns and ordered to hunt elephants for the ivory trade.<sup>218</sup> The most dramatic effects of war can often be found in children who witnessed filthy events in times of war, and who then become depressed, hopeless, or develop aggressive behavior. Those children are more likely themselves to become soldiers and engage in future combat. In recent years, it is estimated, around 300,000 children were serving either in government armies or in irregular armed forces.<sup>219</sup> And to date no peace treaty has formally recognized the existence of child combatants.<sup>220</sup> Nevertheless, the Additional Protocols I and II of 1977 impose an obligation on the parties to a conflict “to take all feasible measures in order that children who have not attained the age of fifteen years do not take a direct part in hostilities,”<sup>221</sup> and to “refrain from recruiting them into their armed forces.”<sup>222</sup> Further, the 1989 United Nations Convention on the Rights of the Child (UNCRC) declares fifteen as a minimum age for going to war.<sup>223</sup> Significantly, a number of governments and NGO’s propose to attach an Optional Protocol to the UNCRC in order to raise the minimum age for recruitment into armed forces to fifteen.<sup>224</sup> However, despite such provisions, the legal and psychological protection offered to children in times of armed conflicts is inadequate. Consider these disturbing findings:

- A 1991 study of Iraqi children revealed that 62 percent worried that they may not live to become adults.
- A study of 50 displaced children in Mozambique found that 42 had lost a father or mother by violence, 29 had witnessed a

<sup>217</sup> Juichi Yamagiwa, *Slaughter of Gorillas and the Crisis of Conservation in the Kahuzi-Biega National Park, Democratic Republic of Congo*, at 6, paper presented to the Conference on WAR AND TROPICAL FORESTS: NEW PERSPECTIVES ON CONSERVATION IN AREAS OF ARMED CONFLICT, organized by the International Society for Tropical Forestry and Environmental Studies, Yale University, (Mar. 31-Apr. 1, 2000).

<sup>218</sup> *Id.*, at 6.

<sup>219</sup> Graça Machel, *The Impact of Armed Conflict on Children: A Critical Review of Progress Made and Obstacles Encountered in Increasing Protection For War-Affected Children*, a paper presented to the International Conference on War-Affected Children, Winnipeg, Canada, at 6 (Sept., 2000).

<sup>220</sup> *Id.*, at 30, *see also*, in general, JENNY KUPER, *INTERNATIONAL LAW CONCERNING CHILD CIVILIANS IN ARMED CONFLICT* (Clarendon Press, 1997).

<sup>221</sup> Additional Protocol (I), *supra* note (79) art. 77 (2); Additional Protocol (II), *supra* note (76) art. 4 (3)(C).

<sup>222</sup> *Id.*

<sup>223</sup> United Nations Convention on the Rights of the Child, Jan. 26, 1990, G.A. Res. 44/25, U.N. Doc. A/44/736 (1989) art. 38 (2)(3).

<sup>224</sup> James P. Grant, *War, Children, and the Responsibility of the International Community*, in *WAR AND PUBLIC HEALTH 15* (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000).

murder, 16 had been kidnapped, and all had been threatened, beaten, or starved.

- A study conducted in September 1994 by [the United Nations Children's Fund] (UNICEF) found that 50 percent of the Rwandan children interviewed had witnessed the killing of family members, and more than 75 percent had seen people murdered. More than 50 percent had witnessed mass killings in churches and schools; 75 percent had had their own lives threatened. UNICEF is helping to bury those killed in massacres in Rwanda because of the effect of the profusion of human remains on young children. The decision was reached after a Rwandan child pointed to a skull and said, "This is my mother."<sup>225</sup>

Scenes of violence during armed conflicts affect the morality of the population, especially the children. For example, children who lose their parents during armed conflict will often become involved in illegal activities such as prostitution and drug abuse. Children used as combatants may be particularly at risk for such behavior. Moreover, that behavior is likely to continue long after the end of the war. Indeed, the population as a whole is more likely to engage in violent and lawless behavior after a war, perhaps because of the availability of weapons, and almost certainly because of chaos, dislocation, the breakdown of governmental and social institutions, and the desire for revenge.

## 6. Refugees

Armed conflict often results in thousands of refugees who have been forced to abandon their lands and homes, and who then cause intense pressure on natural resources, especially water supplies, electric services, and forests in the over occupied refugee camps which are unprepared for receiving them. One commentator has identified a class of "environmental or eco-refugees," an expression used to describe "people displaced as a result of the effects of armed conflicts on their natural environment."<sup>226</sup> For instance,

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<sup>225</sup> *Id.*, 31-14.

<sup>226</sup> Ameer Zemmali, *Dying For Water*, in FORUM: WAR AND WATER 33 (ICRC Publication, 1998).

towns in Somalia and refugee camps in Thailand, Pakistan, and other countries are surrounded by ever-growing areas of deforestation and desertification.<sup>227</sup>

During the Former Soviet Union invasion followed by the civil war in Afghanistan, refugees began to flow over the border into Iran and Pakistan in 1978.<sup>228</sup> It was estimated that more than 300 camps in Pakistan held 3.3 million Afghan refugees.<sup>229</sup> The costs of caring for the refugees were evaluated at \$ 500 million per year. The Afghan refugees have deforested timber lands for firewood, and destroyed some grazing lands.<sup>230</sup> The 1982 report of the United States Committee for Refugees suggested that depletion of these green areas will be one of the most long-term environmental impacts of the war, lasting long after the war itself has ceased.<sup>231</sup> On October 7, 2001, Another wave of approximately 1.3 million refugees left Afghanistan after the U.S. war against terrorist group of AlQaeda.<sup>232</sup> Again, the wave of refugees entered into Pakistan and Iran caused a substantial humanitarian crisis, where providing all the needs to the refugees was not an easy task, especially during wintertime, where these areas are usually covered with snow. However, although the United States declared the war on terrorism and led the coalition attacks against terrorists' groups in Afghanistan, they provided around \$300 million as a financial aid to better life conditions for the Afghan refugees.<sup>233</sup>

Another example was after the Gulf War II, when a United Nations inspection team found that 9,000 Iraqi homes were destroyed, leaving 72,000 civilian homeless,<sup>234</sup> which means broken families, lost livelihoods, and shattered hope.

During the Rwandan Civil War of 1994, over one million Rwandese fled into Zaire, fearing the conflict between the government forces and the Tutsi forces, as well as the unknown consequences of the genocide that had spurred the revolt, most of them traveled with cattle, which had a severe impact on the forest as well as public health, as

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<sup>227</sup> ICRC Campaign Brochure, *Beyond Survival* 12 (International Committee of the Red Cross, 1994) [hereinafter ICRC Campaign Brochure].

<sup>228</sup> Cnn.com, *Flood of Afghan Refugees Feared*, Sept. 23, 2001, available at <<http://europe.cnn.com/2001/WORLD/europe/09/23/gen.afghan.refugees/>>, (last visited Jan. 17, 2002) [hereinafter *Flood of Afghan*].

<sup>229</sup> Ock-Kyung Kim, *Afghan War Refugees in Pakistan*, 3 IUCN BULL. 22, 22 (Sept. 1991).

<sup>230</sup> *Id.*, at 22.

<sup>231</sup> *Id.*, at 22.

<sup>232</sup> *Flood of Afghan*, *supra* note (228).

<sup>233</sup> Karen De Young, *Bush to Seek Afghan Humanitarian Aid*, WASH. POST, Oct. 4, 2001, available at <<http://www.washingtonpost.com>>, last visit (Jan. 17, 2002).

<sup>234</sup> Paul Lewis, *supra* note (139).

many infectious materials were disposed of inside national parks in Zaïre.<sup>235</sup> Moreover, large parts of the forests were systematically destroyed for firewood, cooking, and for commercial purposes. Destruction was particularly severe in the Nyamulagira sector of the Virunga National Park (PNVI) which was created in 1925, and is considered the first national park in Africa.<sup>236</sup> According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO) the PNVI was declared a “World Heritage Site” in 1979, and a “World Heritage Site in danger” in 1994.<sup>237</sup> ICRC has urged development agencies in Rwanda to create programs for reforestation and to make repairs to water reservoirs damaged during the conflict.<sup>238</sup>

In Kosovo, similarly, Serbian forces destroyed many towns and villages, not only displacing the resident population, but also destroying much of the documentation that established ownership rights in land and property.<sup>239</sup> Thus, in Albania and the former Yugoslav Republic of Macedonia, where huge numbers of refugees fled from Kosovo, their return to their homes was complicated as a result of the loss of their ownership documentation.<sup>240</sup>

In sum, in an attempt to protect their lives, civilians abandon their homes to seek the protection of a neighboring State or international organization. Despite the miserable situations in refugees’ camps, civilians prefer to stay there rather than return home and risk being killed, raped, or tortured. Environmental damage can result from the conditions in refugees’ camps. Unfortunately, as of the date of this study, most of the refugees’ camps do not meet the minimum standards necessary to protect human health and the environment. When the war ends, and the refugees return home, the environment can be left destroyed with no party taking the responsibility to rehabilitate it.

#### ***D- Environmental Impact of Preparing for Armed Conflict***

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<sup>235</sup> Annette Lanjouw, *Building Partnerships in the Face of Political and Armed Crisis*, at 4, paper presented for the Conference on WAR AND TROPICAL FORESTS: NEW PERSPECTIVES ON CONSERVATION IN AREAS OF ARMED CONFLICT, organized by the International Society for Tropical Forestry and Environmental Studies, Yale University, (Mar. 31-Apr. 1, 2000); Guy S. Goodwin-Gill, *Developments, Rwanda-Zaire: Refugee Camps and Protection of Refugees*, 8 INT’L J. REFUGEE L. 630, 630 (1996).

<sup>236</sup> *Id.*, at 4.

<sup>237</sup> *Id.*, at 4-7.

<sup>238</sup> ICRC Campaign Brochure, *supra* note (227) at 12.

<sup>239</sup> *The Kosovo Conflict: Consequences for the Environment*, *supra* note (35) at 4.

<sup>240</sup> *Id.*, at 4.



There is no doubt that the activities of armed forces during and following hostilities can have devastating environmental impacts. However, military buildup for future warfare can also cause environmental harm.

## 1. Storage and Disposal of Hazardous Wastes

The most critical menace to the environment is the military's storage and disposal of hazardous wastes, such as obsolete mustard gas, nerve gas, lead, arsenic, solvents, acids, and pesticides, among other toxic contaminants.<sup>241</sup> These substances persist in the environment and because they do not decompose are destructive to human health, plants, soil, wildlife, air, and drinking water. In the United States, for instance, more than 20,000 government land sites are contaminated with toxic substances, even though no war has been fought on U.S. soil for over a century.<sup>242</sup> The Denver Rocky Mountain Arsenal, a disposal site for military wastes, for example, has been described by the media as "the most toxic square mile on earth."<sup>243</sup> Another example is Aberdeen Proving Grounds, in Maryland, one of the largest federal firing ranges in the United States, where military personnel have disposed of toxic substances such as cyanide, napalm, and lead in the soil.<sup>244</sup> Aberdeen is of particular importance because it is near a national wildlife refuge and the Chesapeake Bay.<sup>245</sup>

In the U.S., the danger presented by military disposal sites and the transportation of hazardous military wastes has given rise to citizen awareness and concern. Thus, the Military Toxic Project, a coalition of citizen groups formed to address military pollution, and to safeguard the transportation of hazardous materials, brought a suit in federal court challenging the Environmental Protection Agency's promulgation of the Military Munitions Rule. That Rule exempts from RCRA munitions and solid wastes that are transported or stored in accordance with the Department of Defense (DoD) standards.<sup>246</sup>

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<sup>241</sup> LANIER-GRAHAM, *supra* note (2) at 80.

<sup>242</sup> *Id.*, at 81.

<sup>243</sup> *Id.*, at 80.

<sup>244</sup> *Id.*, at 82.

<sup>245</sup> *Id.*, at 82.

<sup>246</sup> *Military Toxic Project v. EPA*, 146 F.3d 948 (D.C.Cir. 1998). See also, Michael C. Gross, Note, *Exempting Military Munitions From the Federal Facility Compliance Act*, *Military Toxics Project v. EPA*, 18 TEMP. ENVTL. L. & TECH. J. 219, 223-225 (2000) [hereinafter Gross].

The plaintiffs alleged that the Rule violated the Federal Facility Compliance Act (FFCA).<sup>247</sup> FFCA was passed by the Congress in 1992. It amended RCRA to explain that “DoD and all other federal agencies are subject to penalties, fines, permit fees, reviews of plans or studies, and inspection” under RCRA.<sup>248</sup> However, the U.S. Court of Appeals for the District of Columbia Circuit upheld the Rule, thus allowing the military to ignore the safety restrictions applicable to hazardous material generated by other sources.

According to Lanier-Graham, in a Congressional Review in February 1991 on the Defense Department’s Installation Restoration Program,<sup>249</sup> many military sites are contaminated with toxic residues.<sup>250</sup> Among the contaminated sites are:

Anniston Army Depot, Alabama:

Volatile organic compounds, heavy metals, paints, acids, solvents, degreasers, oil, and grease contaminate surface and groundwater.

Hill Air Force Base, Utah:

More than fourteen volatile organic chemicals such as benzene, methyl ethyl ketone, and ethanes, along with other hazardous and municipal wastes, have contaminated groundwater.

Treasure Island Naval Station, Hunters’ Point Annex, San Francisco, California:

Tests in 1987 detected benzene, PCBs, toluene, and phenols in the water, which is used for recreational activities, commercial navigation, and fishing.

Twin Cities Air Force Reserve Base (Small Arms Range Landfill), Minneapolis, Minnesota:

Ten sites have been contaminated. The largest area is the actual landfill, which is adjacent to the Minnesota River, and is located within the 100-year flood plain. Only 500 feet from the Minnesota Valley National Wildlife Refuge, it contains paint thinners and removers, paint, primers, and leaded fuel sludge.<sup>251</sup>

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<sup>247</sup> Federal Facility Compliance Act, Pub. L. 102-386 Title I, Oct. 6, 1992, 106 Stat. 1505 (Codified at 42 U.S.C. § 6924 (y) (1994)).

<sup>248</sup> Gross, *supra* note (246) at 219.

<sup>249</sup> The Installation Restoration Program (IRP) is one of the two major elements of the Defense Environmental Restoration Program (DERP). The IRP is the component of DERP that oversees the identification and cleanup of contamination at DoD facilities. *See*, LANIER-GRAHAM, *supra* note (2) at 154.

<sup>250</sup> *Id.*, at 83.

<sup>251</sup> *Id.*, at 83-84.

Cleaning up these hazardous toxic sites will take time and money. Estimates are that it will take at least thirty years and \$ 400 billion to clean up the pollution caused by U.S. military activities in these areas.<sup>252</sup> Nevertheless, U.S. environmental laws require the cleanup of these sites, as will be discussed later in Part Three.

The problem of military wastes is not limited to the U.S. The former Soviet Union's military-industrial complex, much of which is still in the Russian Federation, also generated hazardous toxic sites. One of these complexes is the Lenin Steelworks, which has enough pollutants to cover 4,000 square miles.<sup>253</sup> Furthermore, in 1992, when the Soviet military withdrew from the former East Germany, about 1.5 million tons of ammunitions were destroyed, by burning in the open air, and highly toxic contaminants were released into the atmosphere.<sup>254</sup>

## 2. Military Training Areas

Another environmental threat arises from military training areas, used by armed forces as bombing targets, weapons testing grounds, and training facilities. The United States Colorado Air National Guard, for instance, has moved to install a military operations area (MOA) in the Great Sand Dunes National Monument. The National Guard estimates that, "fifty fighters, two to six bombers, and ten support aircraft would use the MOA twenty-four times a year."<sup>255</sup> However, the forest service rejected the project, as it would impact water quality, wildlife, and the migratory herds of bighorn sheep and elk in the area.<sup>256</sup> Therefore, the project was suspended to avoid environmental damage.

However, the prospect of environmental damage did not prevent military training operations in Reid State Park in Maine. There a citizen group sued the Secretary of Defense, the Secretary of the Navy, and the Commandant of the Marine Corps, for violating the National Environmental Policy Act of 1969, in connection with Operation Snowy Beach. That exercise consisted of the landing of about 900 marines, who would

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<sup>252</sup> *Id.*, at 87.

<sup>253</sup> *Id.*, at 85.

<sup>254</sup> ECO-COMPASS, *The Environmental Impacts of War*, available at <<http://www.islandpress.org/ecocompass/war/war.html>>, (last visit June 10, 2001).

<sup>255</sup> LANIER-GRAHAM, *supra* note (2) at 90.

<sup>256</sup> *Id.*, at 90.

bivouac in the park over 3 or 4 days, and cause potential environmental damage by moving over rocky outcroppings in the wooded upland area of the park.<sup>257</sup> However, the court found that “a limited maneuver or training exercise by small elements of a military department would not be a major action nor would it normally affect the environment significantly.”<sup>258</sup>

Potential environmental damage has long been an issue with regard to the U.S. military’s use of the island of Vieques, an offshore island of Puerto Rico, as an operations site. The United States Navy has used Vieques since 1941 as a maneuver area for its Atlantic Fleet. Inspections made by the Puerto Rico Environmental Quality Board (EQB) found evidence of environmental destruction to land, coastal waters, flora and fauna from the detonation of bombs and other armaments.<sup>259</sup> Deforestation was so severe that tropical lagoons and wetlands dried up and their beds were filled with bomb craters. Furthermore, the land was covered with “fragments of bombs, and projectiles, unexploded bombs, charred junk, military debris, discarded parachutes, and other wastes.”<sup>260</sup> The island residents were left with a wasteland.<sup>261</sup>

As a result, in 1979, an action was brought by the Commonwealth of Puerto Rico to enjoin the U.S. Navy from using Vieques and the water surrounding it as a maneuver area. The United States District Court for the District of Puerto Rico<sup>262</sup> rejected the Commonwealth’s request for a comprehensive injunction, holding that the Navy’s violations were not causing any “appreciable harm” to the environment,<sup>263</sup> and that because of the importance of the island as a maneuver area “the granting of the injunctive relief sought would cause grievous, and perhaps irreparable harm, not only to defendant Navy, but to the general welfare of this Nation.”<sup>264</sup> However, on appeal, the First Circuit<sup>265</sup> vacated the District Court’s order and ordered the Navy to cease any activities

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<sup>257</sup> Citizens for Reid State Park v. Melvin Laird, Secretary of Defense, et al., 336 F.Supp. 783(D. Me. 1972).

<sup>258</sup> *Id.*, at 787.

<sup>259</sup> José L. Ramirez De León, *Naval Bombardment of Vieques, Puerto Rico Violates Human Rights, ENVIRONMENTALLY FRIENDLY*, Pace University, School of Law, Center of Environmental Legal Studies, 23 (Vol. 3, No.1, 1999) [hereinafter Ramirez De León].

<sup>260</sup> *Id.*, at 21.

<sup>261</sup> *Id.*, at 21.

<sup>262</sup> Romero-Barcelo v. Brown, 478 F.Supp. 646 (D.P.R. 1979).

<sup>263</sup> *Id.* at 706.

<sup>264</sup> *Id.* at 707.

<sup>265</sup> Romero-Barcelo v. Brown, 643 F.2d 835 (1<sup>st</sup> Cir. 1981).

in violation of the Federal Water Pollution Control Act (FWPCA), until it obtained a National Pollutant Discharge Elimination System (NPDES) permit.<sup>266</sup> While that decision required the Navy to adhere to one specific water-pollution statute, other kinds of environmentally damaging activity continued. In 1999, a 500-pound bomb dropped from a United States Navy F-18 airplane and struck an observation platform on Vieques.<sup>267</sup> Another lawsuit was filed in May 10, 2000 by Puerto Rican environmental organizations<sup>268</sup> seeking to prevent the Navy from continuing operation on Vieques. However, the District Court rejected the plaintiffs' motion for a temporary restraining order, because they failed to establish irreparable injury.<sup>269</sup> In June 2000, the Navy concluded training operations that included five ships firing 600 five-inch rounds into the Live Impact Area located on the eastern part of the island.<sup>270</sup>

On January 31, 2000, the Puerto Rican Governor Pedro Rosselló-González announced an agreement with the former American President Bill Clinton to issue a Presidential Directive that could dramatically alter U.S. military operations on Vieques, although not solely on environmental grounds.<sup>271</sup> The Directive states that "the future of Navy training on Vieques will be determined by a referendum of the registered voters of Vieques,"<sup>272</sup> and that the referendum "will present two alternatives. The first is that the Navy will cease all training no later than May 1, 2003. The second will permit continued training, including live fire training, on terms proposed by the Navy."<sup>273</sup> Remarkably, in 2001, because of the widespread protests against Vieques bombing exercises, President George W. Bush declared that the U.S. military will end bombing exercises on the Puerto

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<sup>266</sup> 33 U.S.C. § 1311(a), 1323(a) (1976 ed. and Supp. IV).

<sup>267</sup> Ramirez De León, *supra* note (259) at 1.

<sup>268</sup> These environmental organizations are: the Vieques Conservation and Historical Fund, Union de Viequesness para la Proteccion del Medio Ambiente, and several individuals.

<sup>269</sup> Victor M. Tafur, *Vieques, Continued: The Legal Battle, Relief Sought to Prevent Further Environmental Damage*, ENVIRONMENTALLY FRIENDLY, Pace University, School of Law, Center of Environmental Legal Studies 27 (Vol. 4, No.1, 2000).

<sup>270</sup> *Id.*, at 27.

<sup>271</sup> José L. Ramirez De León & Alejandro Torres Rivera, Note, *Vieques and the US Navy: Is it Settled?* ENVIRONMENTALLY FRIENDLY, Pace University, School Of Law, Pace Center for Environmental Legal Studies, 1 (Vol. 3 No. 2) (2000).

<sup>272</sup> *Id.*, at 5.

<sup>273</sup> *Id.*, at 5.

Rican island of Vieques.<sup>274</sup> He said “[t]here’s been some harm done to people in the past. These are our friends and neighbors, and they don’t want us there.”<sup>275</sup>

Thus, the environmental damage to Vieques may be halted. If so, it will be as the result of many complicated political factors, not solely because of concerns about the environment. It should also be noted that the referendum resulted from the political agreement between two leaders, not from any requirement of international law.

In sum, military training areas present a great threat to human lives. For example, on October 4, 2001, seventy-eight passengers and crew-members of the Sibir Tu-154 airplane killed when a Ukrainian missile launched during military exercises. The Tu-154 crashed into the Black Sea while en route from Tel-Aviv, Israel, to Siberia.<sup>276</sup>

Another example is the death of five U.S. citizens and one New Zealander observers, when an U.S. warplane accidentally bombed them during their observance to the U.S. Kuwaiti military exercises, in Kuwait.<sup>277</sup>

### 3. Nuclear Weapons

A nuclear weapon is: “any device which is capable of releasing nuclear energy in an uncontrolled manner and which has a group of characteristics that are appropriate for use for warlike purposes.”<sup>278</sup>

The effect of nuclear weapons on the natural environment is still beyond our calculation. A nuclear explosion includes “blast effects, thermal radiation, initial nuclear radiation, electromagnetic pulse, and radioactive fallout.”<sup>279</sup> The nuclear bomb that destroyed Hiroshima in 1945 was a modest nuclear weapon in comparison to today’s standards. “It was rated as a 12.5 kilotons weapon, equivalent to 12,500 tons of high

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<sup>274</sup> U.S. to End Vieques Bombing in 2003, available at <http://www.cnn.com/2001/US/06/14/vieques.halt.03/index.html>, (last visited Aug. 14, 2001).

<sup>275</sup> *Id.*

<sup>276</sup> Cnn.com, *Missile Crash Airline Seek Damage*, Oct. 22, 2001, available at <http://www.cnn.com/2001/WORLD/europe/sibir.compensation/index.html>, (last visit Oct. 30, 2001) [hereinafter *Missile Crash Airline Seek Damage*].

<sup>277</sup> Cnn.com, *U.S. Jet Drops Bomb, Kills 6 in Kuwait Accident*, Mar. 12, 2001, available at <http://www4.cnn.com/2001/US/03/12/military.kuwait.02/index.html>, (last visit Nov. 7, 2001) [hereinafter *U.S. Jet Drop Bomb*].

<sup>278</sup> Treaty for the Prohibition of Nuclear Weapons in Latin America, Feb. 14, 1967, art. V, 634 U.N.T.S. 281, 332 [hereinafter *Tlateloco Treaty*].

<sup>279</sup> CRAG & JUNGEMAN, *supra* note (162) at 255.

explosive.<sup>280</sup> The nuclear fireball was as hot as the sun, when detonated; in less than a thousandth of a second the fireball grew to more than 300 feet (100 meters) wide, and 6,000 feet (2 kilometers) wide after ten seconds. At the same time, it rose like a hot air balloon, at about 300 feet every second.”<sup>281</sup> The International Atomic Energy Agency declared, “The nuclear weapons legacy comprises two components: their actual use, twice fifty years ago in August 1945, at Hiroshima and Nagasaki, and their potential use, in the form of nuclear weapons testing and environmental releases of radioactive materials from the nuclear weapons fuel cycle.”<sup>282</sup> The International Atomic Energy Agency estimates that 520 atmospheric tests of nuclear weapons were conducted between 1945 and 1980, which caused “substantial emission of radionuclides” and “worldwide environmental contamination.”<sup>283</sup>

The United States arsenal contains some of the most complicated nuclear weapons in the world. Each one has thousands of parts. Some of their materials, “like plutonium, uranium, and tritium, are radioactive materials that decay.”<sup>284</sup> America’s nuclear weapons program, which consists of designing, producing and testing nuclear weapons, involves waste storage at 280 facilities at twenty sites across the United States.<sup>285</sup> These facilities have released huge amounts of hazardous waste into the environment. For example, at Hanford Nuclear Reservation in southeastern Washington, 44,000 workers were exposed to radiation that might have caused an increase in multiple myeloma, a bone marrow cancer, among them, according to Dr. Ethel S. Gilbert, a biostatistician at Battelle Pacific Northwest Laboratories.<sup>286</sup> Radioactive particles have been also found in frogs, ducks, rabbits and turtles.<sup>287</sup> Other contaminated sites include

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<sup>280</sup> The power of the Hiroshima bomb was estimated, by some others, to be equivalent to the explosive power of 15 Kilotons of TNT. See, Malik J. et al., *Yields of the Bombs, the U.S.-Japan Joint Reassessment of Atomic Bomb Radiation Dosimetry in Hiroshima and Nagasaki*, Final Report, Vol. 1, 26-36 (Radiation Effects Research Foundation, 1987).

<sup>281</sup> GOODWIN, *supra* note (158) at 26.

<sup>282</sup> INTERNATIONAL ATOMIC ENERGY AGENCY, *The Nuclear Weapons Legacy*, available at <<http://www.iaea.org/worldatom/inforesource/bulletin/bull372/legacy.html>>, (last visit Mar. 9, 1999).

<sup>283</sup> *Id.*

<sup>284</sup> John Kyl, Note, *Maintaining “Peace Through Strength”: A Rejection of the Comprehensive Test Ban Treaty*, 37 HARV. J. ON LEGIS. 325, 328 (2000) [hereinafter Kyl].

<sup>285</sup> LANIER-GRAHAM, *supra* note (2) at 103.

<sup>286</sup> Schneider K., *U.S. Releases Radiation Records of 44,000 Nuclear Workers*, N.Y. TIMES, July 18, 1990, A19. See also, Woodcock & Fox, *supra* note (161).

<sup>287</sup> LANIER-GRAHAM, *supra* note (2) at 105.

the Pantex plant in Texas, Rocky Flats Plant in Colorado, and Portsmouth Uranium Enrichment Complex at Piketon, Ohio.<sup>288</sup>

In a 1955 naval manual, the U.S. Government declared that “the use of nuclear weapons against enemy combatants and military objects is legally permissible until an express rule of international law prohibits their use.”<sup>289</sup> Significantly, after about four decades, the U.S. Senate, on October 13, 1999, rejected the Comprehensive Test Ban Treaty (CTBT), which was signed by President Clinton in 1996, on the ground that would jeopardize the safety and security of the United States nuclear arsenal. James Woolsey, one of the CTBT opponents, said: “We have slain a large dragon [the Soviet Union], but we live now in a jungle filled with a bewildering variety of poisonous snakes.”<sup>290</sup> That statement, while understandable in the context of military defense, is unacceptable from the view of the environmental security. If the U.S., as the unchallenged superpower, fails to lead the international community towards disarmament, then the proliferation of weapons of mass destruction will continue to threaten human lives and the environment, even if no nuclear war taken place. With regard to the testing of nuclear weapons, the U.S. already has in place the Stockpile Stewardship Program (SSP), a series of experiments and computer simulations that allow testing of weapons systems without actually detonating them. The Department of Energy hopes that by 2010, the SSP will have the “capabilities that are necessary to provide continuing high confidence in the annual certification of the stockpile without the necessity for nuclear testing.”<sup>291</sup> Perhaps other countries with nuclear weapons will follow the American program, and thereby reduce the environmental threat posed by nuclear weapons programs.

However, Russia retains a significant military capacity, including over 6000 nuclear warheads.<sup>292</sup> In 1953, the former Soviet Union established reprocessing plants and began storing highly radioactive wastes in steel tanks.<sup>293</sup> In 1957, the cooling system failed at the Chelyabinsk site, and the subsequent heating of radioactive materials led to

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<sup>288</sup> *Id.*, at 105.

<sup>289</sup> U.S. Dep’t of the Navy, *Law of Naval Warfare*, NWIP 10-2, 613, at 6-4 (1955). *See also*, Sheldon, *supra* note (59) at 195.

<sup>290</sup> *Hearing Before the Senate Select Comm. On Intelligence*, 103d Cong. 76(1994) (Statement of R. James Woolsey, nominee for director of the Central Intelligence Agency).

<sup>291</sup> *See*, Department of Energy, *Fiscal year 2000 Stockpile Stewardship Plan Executive Overview* 23 (1999).

<sup>292</sup> Kyl, *supra* note (284) at 327.



an explosion that emitted huge amounts of radiation into the air. An estimated 500,000 people were exposed to radiation, and surrounding land and water were contaminated.<sup>294</sup>

And by analogy, even the use of nuclear power in peacetime could harm the environment. For example, in 1986 at the Chernobyl nuclear power station,<sup>295</sup> tons of radioactive uranium and graphite were released into the atmosphere.<sup>296</sup> Seventy percent of these emissions descended on the people, animals and crops of Belarus.<sup>297</sup> Thirty-one people working at or in the immediate vicinity of the plant died, twenty-nine of them from radiation sickness.<sup>298</sup> According to researchers reports “levels of thyroid cancer among children in the vicinity of the Chernobyl nuclear reactor had risen to eighty times higher than the normal rate.”<sup>299</sup> More than 30,000 acres of farmland in Russia, Ukraine, and Belarus have been abandoned and 70,000 square kilometers are radioactive.<sup>300</sup> The Belarussian National Science and Research Institute of Agricultural Radiobiology estimated that it would take six hundred years before the cropland can be rehabilitated.<sup>301</sup>

Even today, in Russia, about 600 million curies of high level nuclear wastes are stored in liquid form along with about 500,000 tons solid waste. Studies have shown radioactive leakage into the groundwater.<sup>302</sup> The northern coastal zone of Russia contains radioactive contamination, from nuclear weapons testing at Novaya Zemlya, dumping of nuclear materials from submarines and surface ships in the Kara Sea, and dumping of high-level radioactive wastes into the Kara, Barents, and White Seas.<sup>303</sup>

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<sup>293</sup> LANIER-GRAHAM, *supra* note (2) at 114.

<sup>294</sup> *Id.*, at 115.

<sup>295</sup> Jeffrey L. Canfield, *Soviet and Russian, Nuclear Waste Dumping in the Arctic Marine Environment: Legal, Historical, and Political Implications*, 6 GEO. INT’L. ENV’T. L. REV. 353, 382 (1994) [hereinafter Canfield].

<sup>296</sup> WILLIAM THOMAS, *SCORCHED EARTH: THE MILITARY’S ASSAULT ON THE ENVIRONMENT* 53 (1995)[hereinafter THOMAS].

<sup>297</sup> *Id.*, at 53.

<sup>298</sup> *See*, Chernobyl, *The Soviet Report, Nuclear News* (Special), Sept. 11, 1986, at 1, cited in Lakshman D. Guruswamy & Jason B. Aamodt, *Nuclear Arms Control: The Environmental Dimension*, 10 COLO. J. INT’L ENV’T. L. & POL’Y 267, 318 fn. 200 (1999) [hereinafter Guruswamy & Aamodt].

<sup>299</sup> Gina Kolata, *A Cancer Legacy From Chernobyl*, N.Y. TIMES, Sept. 3, 1992, at A6.

<sup>300</sup> THOMAS, *supra* note (296) at 53.

<sup>301</sup> *Id.*, at 53.

<sup>302</sup> LANIER-GRAHAM, *supra* note (2) at 115.

<sup>303</sup> Canfield, *supra* note (295) at 382.

A great deal of high-level nuclear waste comes from nuclear reactors operated for military purposes.<sup>304</sup> Reactor accidents have occurred on military naval vessels, wastes produced by the extraction of weapons-grade plutonium into rivers have been dumped, and discarded nuclear reactors have been stored improperly.

An example of dramatic accident occurred on April 7, 1989, when the Russian nuclear sub Komsomolets sank 1700 meters below the surface of the Barents Sea off the Norwegian coast. Evidence has shown radioactive plutonium leakage into the sea, one of the richest fishing areas in the world.<sup>305</sup> Potentially disastrous accidents have occurred since the end of the Soviet era. For instance, on October 17, 1993, a Russian Navy tanker opened an undersea valve and released over 200,000 gallons of radioactive waste into the waters of the Sea of Japan, ninety miles from the Japanese city of Nakhodka. That release impacted the oceanic food chain negatively.<sup>306</sup> Most recently, on August 12, 2000, the Russian nuclear submarine Kursk, sank to the bottom of the Barents Sea with nuclear reactor, bombs, and missiles. All 118 men on board died.<sup>307</sup> A Norwegian environmental group said the Kursk's reactor could explode on the seabed, spreading radiation throughout the region.<sup>308</sup> Yet another environmental hazard exists in the storage facility of the Leningrad Nuclear Power Plant (LNPP), where in 1996 cracks in the walls and carrying structures of the storage building allowed radioactive water to leak from the cooling pool into the soil.<sup>309</sup> The storage facility is just 90 meters from the shore of the Baltic Sea. According to Sergey Kharitonov, an LNPP employee and member of the

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<sup>304</sup> Jozef Goldblat, *Legal Protection of the Environment Against the Effects of Military Activities*, 22 (4) BULL. PEACE PROPOSALS 399, 399 (1991).

<sup>305</sup> Trade and Environment Database, *International Conflict and the Environment: Komsomolets Case*, available at <<http://www.american.edu/projects/mandala/TED/ice/RUSSUB.HTM>>, (last visit Nov. 10, 2000).

<sup>306</sup> Joseph E. Schmitz & Robert F. Foxworth, *Coping with the New Russian Nuclear Threat: A Legal Alternative to Environmental Extortion*, 6 GEO. INT'L. ENV'T'L. REV. 445, 445 (1994).

<sup>307</sup> Cnn.com, *Radiation Levels 'Normal' Around the Kursk*, Aug. 25, 2000, available at <<http://www.cnn.com/2000/WORLD/europe/08/25/russia.radiation/>>, (last visit Nov. 10, 2000).

<sup>308</sup> Cnn.com, *Damaged Nuclear Sub Poses Threat to Environment*, Aug. 18, 2000, available at <<http://www.cnn.com/2000/WORLD/europe/08/16/russia.submarine.environment/>>, (last visit Nov. 10, 2000).

<sup>309</sup> Green World Association, *Problems of on Site Storage of Leningrad NPP, Nuclear News from Northwest of Russia*, Nov. 25, 1995 No. 7(11), available at <<http://www.antenna.nl/~wise/463-464/4599.html>>, (last visit Nov. 10, 2000).

Green World Association (GWA), about 360 liters of radioactive water leaked from the storage pool into the soil daily.<sup>310</sup>

Interestingly, despite this history of Russian and Soviet nuclear hazards, in 2000, the Russian Goskomekologia (State Committee on Environment) stopped the construction of a U.S. funded plutonium storage site in Mayak due to violation of Russian environmental laws.<sup>311</sup> The storage site was intended to be an interim storage facility for plutonium from nuclear warheads. The U.S. Department of Defense provided \$55 million of the total construction cost of \$250 million. The first stage was expected to be complete by the end of 2000.<sup>312</sup> However, the Goskomekologia stopped construction after it found an ecological risk in the leakage of radioactive elements into the groundwater.<sup>313</sup>

The United States and the former Soviet Union do not stand alone. The environment of other nations has also felt the devastation of nuclear weapons. France, for instance, conducted 193 nuclear test explosions at Mururoa and Fangataufa atolls, part of French Polynesia, 46 above the ground and 147 below. These tests in the South Pacific polluted lagoons and atolls with plutonium, tritium, cesium, and strontium. During the nuclear testing, the rate of fish poisoning rose from 200 cases per 100,000 in 1960 to 20,700 cases per 100,000 in 1970s.<sup>314</sup> In 1973, New Zealand filed an application in the Registry of the International Court of Justice (ICJ), to sue France for damage caused by radioactive fall-out from the South Pacific tests alleging that it had caused severe environmental harm to the New Zealand ecosystem. The ICJ declared that the French Atmospheric nuclear tests carried “a particularly serious risk of environmental pollution, and are considered a source of acute anxiety for present day mankind.”<sup>315</sup> The ICJ also invited the international community to undertake serious efforts in order to prevent future atmospheric tests.<sup>316</sup> However, the court took no action against France, holding that New

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<sup>310</sup> *Id.*

<sup>311</sup> *Russia Stops Construction of Plutonium Storage Site for Environmental Violation*, available at <<http://hjem.get2net.dk/muslumovo/tekst16.htm>>, (last visit Nov. 10, 2000).

<sup>312</sup> *Id.*

<sup>313</sup> *Id.*

<sup>314</sup> Mark Dunkley, *Environmental Effects of War*, in THE INTERNATIONAL ENVIRONMENTAL LAW OF WAR AND PEACE, available at <<http://www.eckerd.edu/academics/bes/irga/intlaw/warandpeace99.html>>, (last visit Apr. 25, 2000) [hereinafter Dunkley].

<sup>315</sup> Nuclear Tests (N.Z. v. Fr), 1974 I.C.J. Separate Opinion of Judge Petrén at 35 (Dec. 20)[hereinafter (N.Z. v. Fr.)].

<sup>316</sup> *Id.*, The separate Opinion of Judge Gros at 29.

Zealand's claim had become moot<sup>317</sup> when France announced (while the case was pending) that it would cease atmospheric nuclear testing. However, on August 21, 1995, New Zealand instituted proceedings against France in the ICJ after France announced on June 13, 1995, that it would conduct a final series of eight underground nuclear weapons tests at the atolls of Mururoa and Fangataufu in September 1995.<sup>318</sup> New Zealand asked the Court to declare that French underground nuclear tests in French Polynesia constituted a violation of New Zealand's rights under international law, and that such testing was unlawful because France did not prepare an environmental impact assessment.<sup>319</sup> However, the Court dismissed New Zealand's claim, on September 22, 1995, holding that it was not authorized by the earlier case because that case dealt only with atmospheric testing.<sup>320</sup>

#### 4. Storage, Testing, and Disposal of Chemical and Biological Weapons

The storage, testing, and disposal of chemical and biological weapons also raise the issue of environmental devastation when preparing for armed conflict. The longer the chemical and biological agents are stored, the greater the chance of leakage.

First, it is necessary to distinguish between chemical and biological weapons. Chemical weapons are synthesized in laboratories, and are designed to affect human health and the environment.<sup>321</sup> Biological agents, on the other hand, are living creatures, or are derived from living creatures, that cause diseases in man, plants, or animals.<sup>322</sup> There are six categories of biological weapons: bacteria, viruses, rickettsiae, chlamydia, fungi, and toxins.<sup>323</sup> These kinds of biological agents can spread across hundreds of

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<sup>317</sup> Judith Hippler Bello, Peter H.F. Bekker, *New Zealand Challenge to Underground Nuclear Testing by France in South Pacific-ICJ Judgments in 1974 Nuclear Tests Case (New Zealand v. France) Confined to Atmospheric Testing -Dismissal of New Zealand Request to Reopen That Case*, 90 AM. J INT'L L. 280, 280 (1996).

<sup>318</sup> *Id.*, at 280.

<sup>319</sup> *Id.*

<sup>320</sup> *Id.*, at 281.

<sup>321</sup> Matthew Linkie, *The Defense Threat Reduction Agency: A Note on The United States' Approach To The Threat of Chemical and Biological Warfare*, 16 J.CONTEMP. HEALTH & POL'Y 531, 534-35 (2000).

<sup>322</sup> Major Thomas J. Romig, *Biological and Toxin Weapons Today*, 117 MIL. L. REV. 307, 307 (1987).

<sup>323</sup> Jacob Jones, *Chemical and Biological Weapons*, in *The International Environmental Law of War and Peace*, <<http://www.eckerd.edu/academics/bes/irga/intlaw/warandpeace99.html>>, (last visit Nov. 25, 2000) [hereinafter Jones].

thousands of square miles, and can be obtained inexpensively.<sup>324</sup> Their effectiveness as weapons has been increased as a result of scientific progress in the field of microbial genetics and virology.<sup>325</sup> For instance, scientists at the Australian National University in Canberra found a way to make viruses more lethal by developing “a biological contraceptive to fight plagues of mice and rats, [through] immunizing the animals against their own sperm and eggs.”<sup>326</sup> Accordingly, they injected a specific gene into mousepox in order to weaken the immunity system, and turned the harmless virus into a rodent killer.<sup>327</sup> Similar techniques may be used by researchers to strengthen biological agents based on “human viruses such as smallpox.”<sup>328</sup> Given the availability of this biotechnology, efforts should be taken to prevent such inventions from falling into the hands of madmen or terrorists, and to strengthen the Convention of Biological Weapons.

The United Nations classifies chemical weapons into seven categories: nerve agents,<sup>329</sup> blister agents, choking agents, blood agents, tear and harassing agents, psychochemicals, and herbicides. These agents can cover tens of square miles,<sup>330</sup> and once released into the environment, some can persist for years. Although recent developments in technology have produced even more sophisticated chemical weapons, chemical warfare is not new. In ancient times, chemicals were added to fire to cause more destruction. And drinking water supplies were contaminated by chemicals. Mustard gas was used extensively in World War II in order to exterminate civilians. In addition, in

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<sup>324</sup> Guy B. Roberts, *The Counterproliferation Self-Help Paradigm: A Legal Regime For Enforcing The Norm Prohibiting The Proliferation Of Weapons Of Mass Destruction*, 27 DENV. J. INT’L L. & POL’Y 483, 493 fn 51 (1999). A 1969 report to the United Nations concluded, “in a large scale operation against a civilian population, casualties might cost \$2,000 per square kilometer for conventional weapons, \$800 for nuclear, \$600 for nerve gas, \$1 for biological weapons.”

<sup>325</sup> Elmar Rauch, *Biological Warfare*, in 3 ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW: USE OF FORCE. WAR AND NEUTRALITY PEACE TREATIES 45 (RUDOLF DOLZER ET AL. EDS., 1982).

<sup>326</sup> Clive Cookson, *Biowarfare Fear: Scientists Convert Virus into Killer*, FIN. TIMES, Jan. 12, 2001, <<http://www.financialtimes.com>> (last visit Jan. 27, 2001).

<sup>327</sup> *Id.*

<sup>328</sup> *Id.*

<sup>329</sup> Nerve agents (GA, GB, GD, and VX) are all potent inhibitors of the enzyme cholinesterase. Cholinesterase normally hydrolyzes a substance called acetylcholine, which transmits signals between nerve cells. See Mitretek Systems, *Toxicological Properties of Nerve Agents*, available at <<http://www.mitretek.org/mission/envene/chemical/toxic.html>>, (last visit Oct. 10, 99) [hereinafter Mitretek].

<sup>330</sup> Jones, *supra* note (323) at 7.

1935, during the Italian-Ethiopian War, Italy used mustard gas on unarmed civilians causing thousands of deaths.<sup>331</sup>

Chemical and biological weapons can have devastating effects even when not actually used as weapons. For example, in the United States, where 40,000 tons of nerve gas and mustard gas are stored,<sup>332</sup> one of the oldest stockpiling facilities of chemical weapons is the Rocky Mountain Arsenal, where nerve gas has been stored since 1950. Inspections have detected that underground water was contaminated with chemical agents from Arsenal, causing the deaths of animals and about 2000 ducks and wildfowl every year.<sup>333</sup>

In Utah, on March 13, 1968, as part of an over flight spray test, an Air Force F-4E aircraft released 2500 pounds of VX nerve gas over the Dugway Proving Grounds, near Salt Lake City, and Skull Valley. Reports showed that about 6400 sheep that had been grazing in the area were killed, and news articles voiced suspicion that the chemical agent was the cause of the death.<sup>334</sup> In 1969 and 1970, the Journal of American Veterinary Medical Association published articles on the sheep deaths, and reported that sheep were poisoned from eating VX- contaminated forage... ”<sup>335</sup>

In 1996, the environmental groups Chemical Weapons Working Group, Inc., Sierra Club, and Vietnam Veterans of America filed suit, challenging the operation of the Tooele Chemical Agent Disposal Facility (TOCDF)<sup>336</sup> by the U.S. Department of the Army to incinerate chemical agents. The plaintiffs claimed that the Army had violated the National Environmental Policy Act (NEPA) by failing to prepare a supplemental environmental impact statement on the basis of significant new information relevant to environmental issues, and various environmental statutes such as Clean Water Act (CWA), Resource Conservation and Recovery Act (RCRA), and the 1986 Department of

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<sup>331</sup> Margaret T. Okordudu -Fubara, *Oil in the Persian War: Legal Appraisal of an Environmental Warfare*, 23 ST. MARY'S L.J. 123, 157 (1991)[hereinafter Okordudu-Fubara].

<sup>332</sup> LANIER-GRAHAM, *supra* note (2) at 96.

<sup>333</sup> *Id.*, at 97.

<sup>334</sup> Victor Cohen, *Utah Officials Blame Gas in Sheep Deaths*, THE WASHINGTON POST, Mar. 23, 1968, at A1, A4.

<sup>335</sup> *Chemical Weapons Working Group, Inc. v. United States Dept. of the Army*, 111 F.3d 1485 (10<sup>th</sup> Cir. 1997).

<sup>336</sup> Tooele Army Depot, Utah, is about thirty miles southwest of Salt Lake City includes the largest portion of the American stockpile of chemical agents and munitions. *See*, Lawrence E. Rouse, *The Disposition of the Current Stockpile of Chemical Munitions and Agents*, 121 MIL. L. REV.17, 22 (1988).

Defense Authorization Act (DAA), and sought injunctive relief,<sup>337</sup> on the grounds that the Army's continued operations presented an imminent and substantial endangerment to human health and the environment.<sup>338</sup> According to plaintiffs' allegations, the court had no legal basis to interfere with the Army's operation of TOCDF based on federal and State regulatory procedures established to permit the Army to incinerate chemical weapons in Utah.<sup>339</sup> The court held that: "(1) evidence supported that balance of human weighed in favor of incineration as opposed to continued storage; (2) CWA did not apply to stack emission from incineration facility; (3) [plaintiff's] imminent hazard claim constituted impermissible collateral attack on Utah's decision to issue a RCRA permit; and (4) Defense Authorization Act did not provide implied private right of action for maximum protection claim."<sup>340</sup>

The American stockpile of chemical weapons is housed at the following eight locations around the United States:

- 1- Tooele Depot, Utah (42.3 percent)
- 2- Pine Bluff Arsenal, Arkansas (12 percent)
- 3- Umatella Depot, Oregon (11.6 percent)
- 4- Pueblo Depot, Colorado (9.9 percent)
- 5- Anniston Depot, Alabama (7.1 percent)
- 6- Aberdeen Proving Ground, Maryland (5 percent)
- 7- Newport Ammunition Plant, Indiana (3.9 percent), and
- 8- Lexington Depot, Kentucky (1.6 percent).<sup>341</sup>

All these locations are subject to the National Environmental Policy Act (NEPA). Section 102 (2) (C) of that statute specifically includes Department of Defense and military sites within its jurisdiction.<sup>342</sup>

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<sup>337</sup> Chemical Weapons Working Group, Inc. v. United States Dept. of the Army, *supra* note (335) at 1485.

<sup>338</sup> *Id.*, at 1489.

<sup>339</sup> Monica Keitt, Note, *Can the Public Win? Utah Chemical Weapons Incinerator to Proceed: Chemical Weapons Working Group Inc. v. United States Department of the Army*, 935 F. SUPP. 1206 (D.UTAH 1996), 17 TEMP. ENV'T'L L. & TECH. J. 71, 77 (1998). *See also*, Chemical Weapons Working Group, Inc. v. United States Dept. of the Army, *supra* note (335) at 1485.

<sup>340</sup> *Id.*

<sup>341</sup> David A. Koplow, *How Do We Get Rid of these Things? Dismantling Excess Weapons While Protecting the Environment*, 89 NW. U. L. REV. 445, 472 (1995) [hereinafter Koplow, *How Do We Get Rid of these Things?*].

<sup>342</sup> NEPA § 102 (2)(C), 42 U.S.C. § 4332 (2)(C) states "all agencies of the Federal Government shall [...] include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on- (i) the environmental impact of the proposed action[...]."

Unfortunately, dumping these agents at sea is the easiest method to dispose of them. However, doing so results in the contamination of water, fish, and plants. The United States dumped 1,706 concrete containers, each filled with thirty rockets containing nerve agents, into the Atlantic Ocean during 1967 and 1968.<sup>343</sup> Unsafe haphazard disposal of chemical agents has not been limited to the U.S., or to that time period. At the end of World War I, the Germans army dumped 20,000 tons of stockpiled chemical weapons into the Baltic Sea, which has since then continued to poison Danish fish and fishermen.<sup>344</sup> Sunken ships and aircraft shot down during armed conflict rest at the bottom of many rivers, seas, and oceans, and cause a serious threat to marine life from the toxic and hazard substances found on them. An important example is found in the Skagerrak seabed between Norway, Sweden, and Denmark where it is estimated that 21 ships loaded with German chemical weapons were sunk during World War II.<sup>345</sup> The Danish Ministry of the Environment claimed in 1984 that between 36,000 and 50,000 tons of chemical ammunition had been dumped in the Baltic Sea by Soviet forces following World War II. The Danish report documented that 5,000 tons of nerve gas had been sunk off the Denmark coast, and 34 ships and 151,425 tons of ammunition had been sunk in the Skagerrak Sea immediately following the war.<sup>346</sup> Another location that has been affected by the World War II sunken ships is the Solomon Islands, in the South Pacific.<sup>347</sup>

The Solomon Islands became the eventual burial site of countless sailors and marines from the United States, Australia, and Japan who were lost with the sinking of fifty warships. This obscure graveyard, quiet and unobtrusive for over fifty years except for the occasional relic or munitions that washed ashore, has begun to seep oil. Oil from these ships, possibly bunkers (heavy fuel oil) or highly toxic lubricating oil, is believed to be destroying the Solomon Islands' fragile coral reef ecosystem.<sup>348</sup>

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<sup>343</sup> LANIER-GRAHAM, *supra* note (2) at 99.

<sup>344</sup> *Id.*, at 54.

<sup>345</sup> *Id.*, at 55.

<sup>346</sup> *Id.*, at 56.

<sup>347</sup> Gregg Anthony Cervi, *War Wrecks and the Environment: Who's Responsible for the Legacy of War? A Case Study: Solomon Islands and the United States*, 14 ENV'T'L L. & LITIG. 351, 352 (1999) [hereinafter Cervi].

<sup>348</sup> *Id.*, at 352.



These chemical agents are insidious and extremely toxic. Nerve agents (VX, designated GA or Tabun, and GB or Sarin) are odorless, colorless, and tasteless organophosphorus esters which attack the human nervous system directly, in both liquid and vapor forms.<sup>349</sup> They can cause an enormous range of symptoms, including runny nose, tightness in the chest, dimming of vision, pinpointing of the pupils, drooling, excessive sweating, involuntary urination or defecation, twitching, jerking, and staggering, headache, drowsiness, coma and convulsion, finally, cessation of breathing and death.<sup>350</sup> Nerve agents also present a tremendous risk to the environment. For example, at Fort Greely, Alaska, in 1966, 200 canisters of nerve gas which had been accumulated on the surface of a frozen lake sank through the ice.<sup>351</sup> Six years later fifty-three nearby caribou died, and the Army refused to investigate the site.<sup>352</sup> Herbicides and agricultural chemicals can poison or desiccate the leaves of plants, causing them to lose their leaves or die.<sup>353</sup> Some herbicides, particularly those containing organic arsenic, are also toxic for man and animals.<sup>354</sup> Chemical and nerve agents manufactured and stockpiled by the U.S. Army at Rocky Mountain Arsenal, and used by the Army during and after World War II, polluted the groundwater and the soil, killing birds exposed to toxic wastes, and damaging crops and livestock from contaminated well water at adjacent farms.<sup>355</sup>

In 1972, Congress enacted the Marine Protection Research and Sanctuaries Act,<sup>356</sup> in an attempt to regulate the dumping of all toxic material into the ocean waters, and to limit dumping of substances hazardous to human health and the environment. The need for ocean dumping legislation is reflected in the findings and recommendations of the Council on Environmental Quality: “Ocean dumped wastes are heavily concentrated and contain materials that have a number of adverse effects. Many are toxic to human and

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<sup>349</sup> Koplow, *How Do We Get Rid of these Things?*, *supra* note (341) at 473.

<sup>350</sup> Mitretek, *supra* note (329).

<sup>351</sup> Amy J. Sauber, Comment, *The Application of NEPA to Nuclear Weapons Production, Storage, and testing: Weinberger v. Catholic Action of Hawaii/Peace Education Project*, 11 B.C. ENV'T'L. AFF. L. REV. 805, 805 (1984).

<sup>352</sup> *Id.*

<sup>353</sup> Okordudu-Fubara, *supra* note (331) at 158.

<sup>354</sup> *Id.*

<sup>355</sup> Robert L. Glicksman, *Pollution on the Federal Lands III: Regulation of Solid and Hazardous Waste Management*, 13 STAN. ENV'T'L L.J. 3, 12 (1994).

<sup>356</sup> The Marine Protection Research and Sanctuaries Act, Pub. L. 92-532, Oct. 23, 1972, 86 Stat. 1052, [hereinafter The Marine Protection Act].

marine life, deplete oxygen necessary to maintain the marine ecosystem, reduce fish population and other economic resources, and damage aesthetic values...”<sup>357</sup> Section 101 (a) of the Act prohibits the transportation from the United States for the purpose of dumping of any radiological, chemical, or biological warfare agents and high-level radioactive wastes beyond the territorial jurisdiction of the United States. That statute thus prohibits the dumping of herbicide compounds intended for use in warfare activities, and bars the dumping of nerve gases as well.<sup>358</sup> Section 101 (c) prohibits the transportation of any radiological, chemical, or biological warfare agent or high-level radioactive waste by any Federal employee or agency from a source outside the United States for dumping into the ocean, coastal, and other waters.<sup>359</sup>

Appropriate technology exists to make the disposal of these agents less hazardous. In the early 1980s, about thirty-eight tons of GB (Sarin) and eight tons of VX were destroyed by incineration at the Army’s Chemical Agent Munitions Disposal System (CAMDS), the Army’s pilot demilitarization plant, located at Tooele Army Depot, Utah.<sup>360</sup> In 1988, the U.S. Army completed construction of the Johnston Atoll Chemical Agent Disposal System, a large incinerator in the South Pacific Islands used to destroy chemical agents.<sup>361</sup> The U.S. Army spent more than \$340 million studying the safety of incineration, considering alternatives, conducting environmental studies, and holding public hearings.<sup>362</sup> The Army funded a \$400,000 study conducted by the National Research Council, a part of the National Academy of Sciences, which concluded that incineration was the best way to eliminate the chemical weapons.<sup>363</sup> Moreover, the independent group Scientists Against Nuclear Arms (SANA) asserted that “leakage would endanger the environment much more seriously than any pollution produced by burning the weapons in the incinerator on the island.”<sup>364</sup>

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<sup>357</sup> United States Code Congressional and Administrative News, 92<sup>nd</sup> Congress-2<sup>nd</sup> Session (1972) Vol. 3.

<sup>358</sup> The Marine Protection Act, *supra* note (356) § 101 (a).

<sup>359</sup> *Id.*, § 101 (c).

<sup>360</sup> United States Army's Alternative Demilitarization Technology Report for Congress, Executive Summary, Department of the Army Program Manager for Chemical Demilitarization (1994) at 62; *see also*, Warren G. Foote, *The Chemical Demilitarization Program-Will it Destroy the Nation's Stockpile of Chemical Weapons by December 31<sup>st</sup> 2004?* 146 MIL. L. REV. 1, 6 (1994).

<sup>361</sup> LANIER-GRAHAM, *supra* note (2) at 100.

<sup>362</sup> Stephen J. Driscoll, *Environmental Private Actions: Are Special Interest Groups Hobbling Comprehensive Programs Without "Standing" Themselves?* 24 RUTGERS L.J. 469, 474 (1993).

<sup>363</sup> *Id.*

<sup>364</sup> *Id.*, at 475.

Disposal of these substances can create hazards not only to water, but to land and soil resources as well. When the United Kingdom tested the military potential of *Bacillus anthracis*, the causative agent of anthrax, in Gruinard, a Scottish island, between 1941 and 1942, the testing contaminated the island seriously.<sup>365</sup> Millions of anthrax spores became buried in the soil of the island, which remains uninhabitable to this day.<sup>366</sup>

Unfortunately, the storage, testing, and disposal of chemical and biological weapons hold terrifying prospects for humanity and natural environment by upsetting the balance of nature. Nevertheless, these weapons are increasingly used among nations despite the existence of the international conventions that regulate and prohibit, to some extents, their use, possession, and sale.

### ***E- Environmental Damage during Armed Conflict***

The possible destruction of the environment during wartime has become a threat to every human, not just those in the armed forces of belligerent nations. Technology makes that threat even more serious than ever before. By examining the impacts of war historically, perhaps it is possible to gain a better understanding of today's environmental concerns. Although the causes of environmental damage during warfare have remained largely the same throughout history, the consequences are changing. Large populations and advanced technology have made the effects of environmental damage even more catastrophic. "Greater destruction is now possible in a single day than in months of warfare two thousand years ago, even if nuclear weapons are not used."<sup>367</sup>

During Gulf War II, in 1991, the world witnessed millions of gallons of oil pouring into the gulf waters. Television viewers around the world saw horror stories about Iraqi destruction of the Kuwaiti environment. Middle Eastern residents looked on helplessly as the midday skies turned black with smoke, and an oily rain covered the countryside. The beaches in Kuwait and Saudi Arabia were coated with crude oil and littered with dead marine life and birds.<sup>368</sup> Tens of thousands of birds and untold numbers

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<sup>365</sup> Okordudu-Fubara, *supra* note (331) at 156.

<sup>366</sup> Robert Wright, *Be Very Afraid: Nukes, Nerve Gas and Anthrax Spores*, THE NEW REPUBLIC, May 1, 1995, at 19.

<sup>367</sup> LANIER-GRAHAM, *supra* note (2) at 6.

<sup>368</sup> Gupta, *supra* note (62) at 252.

of fish died.<sup>369</sup> Crude oil damaged sea grass beds, algae, coral reefs, and nesting areas.<sup>370</sup> These effects on the Gulf ecosystem will continue to damage the food chain and marine life for many years.<sup>371</sup> The United States Environmental Protection Agency conducted a study that showed, for short periods of time, the pollution levels of small particles in the air in Kuwait and Saudi Arabia were up to 400 times higher than permissible United States air quality standards,<sup>372</sup> as a direct result of the burning oil and oil fields.

Yet the experience in 1991 was not the first, nor will it be the last, that the environment has suffered at the hands of warring forces.<sup>373</sup> Warfare has had a dramatic impact on biodiversity, the lithosphere, the hydrosphere, and the atmosphere. This section will examine the impact on each of these portions of the earth's natural systems.

## 1. Biodiversity

Biological diversity, as defined by Article 2 of the Rio de Janeiro Convention on Biological Diversity, is:

the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species, between species and of ecosystems.<sup>374</sup>

The earlier discussion in section (C) examined the impact of armed conflict impacts on civilian populations. This section will examine some of its effects on domestic and wild animals, agricultural crops, forests, and other ecological areas. Although civilians rely on these natural resources, it is important to consider their intrinsic ecological value, quite apart from their immediate utilitarian value.

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<sup>369</sup> Sharon Begley et al., *Saddam's Ecoterror: The Iraqi Oil Flood Creates Environmental Hazards and Military Obstacles*, NEWSWEEK, Feb. 4, 1991, at 38.

<sup>370</sup> *Id.*, at 36.

<sup>371</sup> *Id.*

<sup>372</sup> Michael Weisskopf, *Oil Fire Pollution Assessed*, WASH. POST, Apr. 4, 1991, at A25.

<sup>373</sup> LANIER-GRAHAM, *supra* note (2) at xxiii.

<sup>374</sup> Convention on Biological Diversity, art. 2, June 5, 1992, 31 I.L.M. 818 (1992) [hereinafter Convention on Biological Diversity].

## a. Animals and Wildlife

Warfare has always taken its toll on animals<sup>375</sup> and wildlife.<sup>376</sup> During World War I, animal populations were severely impacted by the widespread fighting.<sup>377</sup> For example, the European buffalo, or wisent, was endangered prior to the start of the war and had been reduced to a small population in Eastern Europe. The wisent's habitat was virtually destroyed by the German occupation forces, which cut down the Polish forest to obtain lumber needed for military operations. The wisents had no place left to hide and were easy prey for the German forces.<sup>378</sup>

During World War II, wildlife in the South Pacific was severely impacted.<sup>379</sup> Of particular significance was the damage to the bird population when nesting places were destroyed by bombing and other military operations, and patterns of migration were interrupted because of the war.<sup>380</sup> Birds in the South Pacific were killed and their eggs smashed by the thousands. There were other reported accidental killings of animals throughout World War II.<sup>381</sup> A large number of whales were killed during the war by oil spills due to the sinking of oil tankers.<sup>382</sup> Furthermore, when Germans occupied Norway from 1940 to 1945, they were fearful of their position in Norway, expecting a Soviet attack, so they destroyed everything in an area of 15 million acres, including property, crops, and wildlife. The reindeer population of 95,000 was reduced by half during that period.<sup>383</sup>

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<sup>375</sup> See, Nicholas A. Robinson, ENVIRONMENTAL LAW LEXICON A-11 (L.J. Press, 1999) [hereinafter Robinson, LEXICON]. Animals are: "all vertebrate and invertebrate species, including but not limited to man and other mammals, birds, fish and shellfish."

<sup>376</sup> *Id.*, at W-6, defining wildlife as "any wild animal, whether dead or alive, including without limitation any wild mammal, bird, reptile, amphibian, fish, mollusk, crustacean, arthropod, coelenterate or other invertebrate, whether or not bred, hatched, or born in captivity, and including any part, product, egg or offspring thereof."

<sup>377</sup> LANIER-GRAHAM, *supra* note (2) at 19.

<sup>378</sup> *Id.*, at 19-20.

<sup>379</sup> *Id.*, at 27.

<sup>380</sup> *Id.*, at 27.

<sup>381</sup> *Id.*, at 28.

<sup>382</sup> "An estimated 300 oil tankers were sunk during World War II." See, *Id.*, at 28.

<sup>383</sup> *Id.*, at 23.

During the Vietnam War, wildlife in South East Asia was severely impacted, particularly by the widespread use of airborne chemical defoliants.<sup>384</sup> Loss of animal habitats was caused by bombs, defoliants, land clearing, and fires. Four of the eleven rare species of mammals became extinct because of the war, and several others were threatened. For example, the red-shanked douc langur, a small monkey not found anywhere else in the world, is facing extinction.<sup>385</sup> In addition, thousands of dead cattle and river fish were killed by herbicides dumped by U.S. military in South Vietnam.<sup>386</sup> Since most spraying was aerial, not only agricultural lands but also humans, animals and marine life were all affected. Cattle were killed as a result of eating contaminated grass. The dead animals, in turn, concentrated pollution in the waterways, threatening those vital ecosystems and the life that depended on them.

Prior to Gulf War II, in 1991, Kuwait had a camel population of 10,000. That population is now estimated at 2,000 camels.<sup>387</sup> Desert warfare at night was often most dangerous for the camels. By night, the troops saw only blips on a radar screen. Assuming an approaching Iraqi enemy, the tank troops fired at and destroyed whatever caused the blips on screen. Too often the following morning they found the desert covered with dead camels.<sup>388</sup> Saving the endangered Arabian oryx populations in Kuwait was an ongoing project prior to the war; it has come to an end as a result of the war.<sup>389</sup> Moreover, Iraqi soldiers destroyed the Kuwait City Zoo, killing and maiming the zoo animals. Fewer than twenty-four animals could be found after the Iraqi departure, from over four hundred prior to the invasion.<sup>390</sup> A United States Army veterinarian, Colonel Philip Alm, began caring for the wounded animals, finding food and water for them, and removing bullets from some victims at the zoo.<sup>391</sup> Examinations made by an American veterinarian showed that many animals had died neither from bullets nor from diseases,

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<sup>384</sup> Bernard K. Schafer, *The Relationship Between the International Laws of Armed Conflict and Environmental Protection: The Need to Reevaluate What Types of Conduct Are Permissible During Hostiles*, 19 CAL. W. INT'L L.J. 287, 302 (1988-89) [hereinafter Schafer].

<sup>385</sup> LANIER-GRAHAM, *supra* note (2) at 37.

<sup>386</sup> Green Left Weekly, *Vietnam: War and the Environment*, Issue #106 (July 14, 1993), available at <<http://jinx.sistm.unsw.edu.au/~greenlft/1993/106/106/cen.htm>>, (last visit Nov. 23, 2000) [hereinafter Green Left Weekly].

<sup>387</sup> LANIER-GRAHAM, *supra* note (2) at 48.

<sup>388</sup> *Id.*, at 48.

<sup>389</sup> *Id.*, at 48.

<sup>390</sup> HAWLEY, *supra* note (149) at 110-115.

<sup>391</sup> LANIER-GRAHAM, *supra* note (2) at 49.

but apparently from ingesting the toxic chemicals produced by Gulf War II and the Kuwaiti oil fires.<sup>392</sup> Wildlife in the Gulf region was affected due to damage to food sources, military vehicles running over animals and their burrows, noise and air pollution, oil lakes and trenches, and heat generated by the Kuwaiti oil fires.<sup>393</sup> Many of the animals (gazelle, camel, Arabian hare, wild ass, porcupines, Syrian hyena, Asiatic jackal, Persian and Arabian wolves, and wildcats) that resided there before the troop deployment probably migrated to less disturbed areas.<sup>394</sup> Rodents such as jerboa, mice, snakes, and lizards were not able to leave the area of deployment, and many of them were crushed by military vehicles.<sup>395</sup> A Kuwaiti scientist reported that many sheep in Kuwait City died due to inhalation of smoke and other pollutants.<sup>396</sup> Other reports from Kuwait stated that many rodents, snakes, and birds fell into the oil lakes and died. Animals were also killed by the intense heat when they tried to leave their burrows, or were forced to remain underground and starve to death.<sup>397</sup>

Warfare in Rwanda had a similarly devastating effect on animal life and the environment. The Government of Rwanda has reported, to the International Union for the Conservation of Nature (IUCN), the degradation of two protected areas, Akagera National Park and the hunting reserve, Mutara.<sup>398</sup> It accused a rebel group, the Front Patriotique Rwandais (FPR), of participating in the systematic massacre of animals, “lions, leopards, buffalo, antelope, zebras, giraffes, rhinos, and elephants,” and in the destruction of their habitats.<sup>399</sup> Moreover, in the Democratic Republic of Congo (formerly Zaire), civil war stopped efforts to protect the last habitat of the pygmy

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<sup>392</sup> SADIQ & MCCAIN, *supra* note (13) at 185.

<sup>393</sup> *Id.*, at 185.

<sup>394</sup> *Id.*, at 185.

<sup>395</sup> *Id.*, at 185.

<sup>396</sup> *Id.*, at 186.

<sup>397</sup> *Id.*, at 186.

<sup>398</sup> François Droz, *Politicizing Parks in Rwanda, Special Report: War, Law, and the Environment*, 22 IUCN BULL. 23 (1991).

<sup>399</sup> *Id.*

chimpanzee, a species endemic to the country.<sup>400</sup> Local people are forced to depend on the forest for survival, and about 15,000 of the apes are threatened by those people.<sup>401</sup>

#### **b. Agricultural Crops, Forests, and Other Ecological Areas**

The destruction of agricultural crops for military purposes is probably as old as war itself. As recorded in the Old Testament, Philistine crops -corn, grapes, and olives- were destroyed by Israelite resistants as long ago as the twelfth century BC.<sup>402</sup> One forester who witnessed the impact of World War I on agriculture crops and forests commented:

[o]f all the injuries that are inflicted upon nature by war, forest destruction is one of the heaviest and most worthy of complaints...In any case, destroyed forests...must be tended with total effort for many years, often decades, until you can halfway celebrate their recovery and until you have completely healed the damage and devastation.<sup>403</sup>

In the 1950s, the British carried out chemical attacks by air and from the ground on crops in Malaya, in an attempt to suppress an insurgency.<sup>404</sup>

The use of herbicides by the U.S. in South Vietnam caused enormous damage to crop lands during the 1960s and 1970s.<sup>405</sup> Operation Ranch Hand was the most infamous of the United States government's spraying operations. According to an Agent Orange Brief published in 1991 by the Department of Veterans Affairs, over twenty million

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<sup>400</sup> Jeffrey A. McNeely, *Biodiversity, War, and Tropical Forests*, at 7, paper for the Conference on WAR AND TROPICAL FORESTS: NEW PERSPECTIVES ON CONSERVATION IN AREAS OF ARMED CONFLICT, organized by the International Society for Tropical Forestry and Environmental Studies, Yale University (Mar. 31-Apr. 1, 2000) [hereinafter McNeely].

<sup>401</sup> *Id.*

<sup>402</sup> STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, *WARFARE IN A FRAGILE WORLD: MILITARY IMPACT ON THE HUMAN ENVIRONMENT* 53 (Taylor & Francis Ltd., 1980) [hereinafter *WARFARE IN A FRAGILE WORLD*].

<sup>403</sup> MAMMEN F.V., *SIGNIFICANCE OF THE FOREST PARTICULARLY IN WAR* 45-46 ("Globus", Wissenschaftliche Verlagsanstalt, Dresden, 1916) in German, cited in *Id.*, at 53.

<sup>404</sup> CLUTTERBUCK R. L., *LONG, LONG WAR: COUNTERINSURGENCY IN MALAYA AND VIETNAM* 206 (Praeger, 1966), cited in *Id.*, at 85.

<sup>405</sup> *Id.*



gallons of herbicides were employed on more than six million acres of land in Southeast Asia.<sup>406</sup>

The routine military policy of systematic, large-scale, and indiscriminate crop destruction<sup>407</sup> destroyed an estimated 108.9 million kilograms of food during 1967 alone.<sup>408</sup> Of this total, seventy five million kilograms was classified as rice, and the remaining 33.9 million kilograms was classified as dicotyledonous food crops.<sup>409</sup> The same scientific advisory group concluded that crop destruction operations were “an integral, essential, and effective part of the total U.S. war effort in Indochina.”<sup>410</sup>

It has been estimated that more than 300,000 acres of mangrove forests were lost through the use of defoliants and napalm during the Vietnam War, severely stressing the area’s mangrove ecosystem.<sup>411</sup> Even today, nearly twenty percent of the tidal mangroves and 30 percent of the rare mangroves have not recovered. Areas of wasteland have been named “Agent Orange Museums.”<sup>412</sup>

The U.S. military also used fire as a weapon of war in Vietnam. One particularly destructive fire was set in the U Minh area in Southwest Vietnam. The Advanced Research Projects Agency reported, as the result of that fire,

- \* 75 to 85 percent of the true forest destroyed
- \* 50 percent of various outlying swamps destroyed
- \* Hundreds of tons of ammunition, rice, and petroleum products destroyed
- \* The probable dislocation of large quantities of supplies and ammunition and the relocation of several major Viet Cong headquarters and service areas
- \* The increased opportunity for aerial reconnaissance of the area
- \* The lack of lumber and possible food shortage for the local populace

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<sup>406</sup> LANIER-GRAHAM, *supra* note (2) at 30.

<sup>407</sup> Hay J. H., *Vietnam Studies: Tactical and Material innovations*, U.S. DEPT. ARMY 197 (1974) *see* WARFARE IN A FRAGILE WORLD, *supra* note (402) at 85.

<sup>408</sup> *Id.*, at 86.

<sup>409</sup> *Id.*

<sup>410</sup> *Id.*

<sup>411</sup> Jeremy Leggett, *The Environmental Impact of War: A Scientific Analysis and Greenpeace's Reaction*, in ENVIRONMENTAL PROTECTION AND THE LAW OF WAR: A 'FIFTH GENEVA' CONVENTION ON THE PROTECTION OF THE ENVIRONMENT IN TIME OF ARMED CONFLICT 69 (Glen Plant ed., 1992).

<sup>412</sup> LANIER-GRAHAM, *supra* note (2) at 32.

\* The increased danger of floods in areas adjacent to the forest since there were no longer trees or underbrush to provide watershed.<sup>413</sup>

The United States developed chemical weapons including agents “white, purple, blue, green, pink, and orange” to destroy the vegetation in South Vietnam.<sup>414</sup> Over a period of ten years, 19.4 million gallons of herbicide were spread over the land, sixty percent of which was Agent Orange.<sup>415</sup> The use of Agent Orange<sup>416</sup> had been shown to cause birth defects in laboratory animals.<sup>417</sup> The Herbicide Assessment Commission of the American Academy for the Advancement of Science (AAAS) reported in 1970 that twenty to fifty percent of the South Vietnam’s mangrove forests had been destroyed, and half of the hard wood and rubber trees had been killed,<sup>418</sup> as a result of the use of Agent Orange and other herbicides.

The vegetation in a war zone can suffer direct damage in hostile action, or various forms of indirect damage.<sup>419</sup> For instance, Germany ruthlessly exploited the timber resources during World War II in those portions of Europe that it occupied, including France, Poland, and Netherlands,<sup>420</sup> by chopping down the trees to build military structures. During World War I, the occupied zones of France were estimated to have included about 600 thousand hectares of forest, about five percent of the total French forest lands. Of this area, some 200 thousand hectares were damaged sufficiently to require artificial reforestation.<sup>421</sup> Moreover, agricultural lands were destroyed in the U.S. to support military operations during World War I, even though the war was half a world away. The Americans believed that “while Europe fought the battles on their lands, the

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<sup>413</sup> *Id.*, at 34.

<sup>414</sup> Dunkley, *supra* note (314).

<sup>415</sup> *Id.*

<sup>416</sup> Agent Orange is an herbicide used intensively during the Vietnam war to defoliate plants. It is “a chemical mixture of 2,4-D and 2,4,5-T. The name comes from the orange stripe painted on the 55-gallon drums that stored the substance.” See LANIER-GRAHAM, *supra* note (2) at 149.

<sup>417</sup> Myron Allukian & Paul L. Atwood, *Public Health and the Vietnam War*, in WAR AND PUBLIC HEALTH 222 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000).

<sup>418</sup> Boffey PM, *Herbicides in Vietnam: AAAS Study Finds Widespread Devastation*, 8 SCI. 43, 47 (Jan. 1971).

<sup>419</sup> WARFARE IN A FRAGILE WORLD, *supra* note (402) at 51.

<sup>420</sup> *Id.*

<sup>421</sup> *Id.*, at 52

United States grew the food needed to feed the Allied world,”<sup>422</sup> so the battlefields “spread to the cotton fields of the South, the cornfields of the Middle West, and the wheat fields of the Great Plains.”<sup>423</sup> During World War I, 40 million new acres of land were cultivated. Land that was not fit for growing crops was forced into production.<sup>424</sup> Natural wetlands were destroyed in the Northwest to make room for wheat crops. Native grasses were plowed under in the Southwest to make new wheat farms. Cotton was overplanted in the South, depleting the soil of nutrients. Timber forests in Minnesota, Wisconsin, and Michigan were destroyed to meet wartime needs.<sup>425</sup>

More recently, NATO carried out intensive war operations, including bombing, in the Federal Republic of Yugoslavia, causing damage to the national parks Kopaonik, Fruska Gora, and Lake Skadar.<sup>426</sup> According to the Balkans Task Force mission, three sites in Serbia were adversely impacted:

- \* Hotel Baciste: coniferous forest with crater damage and many uncleared, unexploded cluster bombs. The craters will be filled and the area rehabilitated, using local trees.
- \* Velika Gobelja: sub-alpine meadow; damaged by 11 craters. Some of the craters on a steep hillside should be filled to prevent erosion.
- \* Djuricka Ravan: 150 trees, covering an area of about 0.5 ha, were damaged. Rehabilitation and monitoring programs are planned.<sup>427</sup>

National parks in other countries have also been damaged by warfare:

- \* In Burundi, Kibira and Ruvubu National Parks were used as sanctuaries and entry points for guerrillas fighting the government. They became operational areas for government troops.

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<sup>422</sup> LANIER-GRAHAM, *supra* note (2) at 20.

<sup>423</sup> KATHERINE GLOVER, *AMERICA BEGINS AGAIN: THE CONQUEST OF WASTE IN OUR NATURAL RESOURCES* 32 (McGraw-Hill Book Company Inc., 1939).

<sup>424</sup> LANIER-GRAHAM, *supra* note (2) at 20.

<sup>425</sup> *Id.*, at 20.

<sup>426</sup> *Information About the Effects of NATO Aggression on the Environment in the Federal Republic of Yugoslavia*, available at <<http://www.iacenter.org/yugoenv.htm>>, (last visit Oct. 10, 2000) [hereinafter *NATO Aggression on Yugoslavia's Environment*].

<sup>427</sup> *The Kosovo Conflict: Consequences for the Environment*, *supra* note (35) at 65.

\* In Sri Lanka, Wilpattu National Park was attacked by Tamil rebels in 1989, who killed over a dozen guards and destroyed facilities, causing a withdrawal of conservation staff.<sup>428</sup>

In Kuwait, the Gulf War II caused extensive damage to the fragile plant and animal life of the desert. Desert plants are an integral part of the desert ecosystem. These plants provide shelter for small desert creatures, secure the desert soil, prevent erosion, and provide food for grazing domestic and wild animals.<sup>429</sup> Some 400 species of desert plants and flowers growing in Kuwait, such as arfaj, with its salty taste, and al-awsaj, a strong thorny plant with small leaves and raspberry shaped red flowers. Both plants are eaten by camels. In addition, several common plants grow in the desert. Of these plants, the *Anogllis femina* with the blue-crimson flower and the *Senecio desfontainei* with its golden yellow flowers are most frequently found.<sup>430</sup> However, most of these plants were destroyed during the Iraqi invasion in 1991.<sup>431</sup> Moreover, agricultural facilities, including greenhouses, livestock farms, and most major poultry farms were destroyed. A United Nations mission in 1991 found abandoned farms and damage to greenhouses and irrigation systems. Perennial plants and date palms were destroyed in the Al-Wafra and Al-Abdaly areas.<sup>432</sup> Although desert plants tend to be quite resilient, the massive troop movements and the extensive use of landmines dramatically affected soil composition. This change in soil composition may affect the ability of desert plants to recover quickly, if at all.

While examining environmental damage during armed conflict and under the category of agricultural crops and forests, it is necessary to mention the war on narco-traffic as a separate category. The narco-traffic war is widespread during insurgencies as a result of the absence of government.

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<sup>428</sup> McNeely, *supra* note (400) at 7.

<sup>429</sup> KFAS, *supra* note (138) at 28.

<sup>430</sup> *Id.*, at 28.

<sup>431</sup> *Id.*, at 28.

<sup>432</sup> *Id.*, at 57.

Thus, the “war” on drug producers constitutes another threat to the environment.<sup>433</sup> In Peru, the world’s largest coca leaf producer, with about 121,000 hectares under cultivation,<sup>434</sup> the government of Peru engaged in an eradication effort that included the extensive use of herbicides.<sup>435</sup> According to Article 14(2) of the 1988 United Nations Convention on Illicit Drug Trafficking and Psychotropic Substances (CIDT), eradication measures must take the protection of the environment into consideration.<sup>436</sup> Peru has made efforts to utilize safe and effective herbicides in its coca eradication initiatives, and has analyzed soil, air, and water for herbicidal effects.<sup>437</sup> On the other hand, in Columbia, glyphosate,<sup>438</sup> the main chemical weapon used to fight the war against coca and other illicit crops, threatens the destruction of agricultural crops and forests in a fragile ecosystem.<sup>439</sup>

## 2. Lithosphere

Land covers almost “fifteen billion hectares (twenty nine percent) of the earth’s surface.”<sup>440</sup> Almost “1.6 billion hectares of the land (eleven percent of the total land area) is ice-covered, much of it in Antarctica.”<sup>441</sup> As much as “1800 million hectares (twelve percent) is desert. About 800 million hectares (five percent) of at least some strata of the soil remains frozen the year round, and 200 million hectares or more (1.5 percent) is

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<sup>433</sup> M. Cherif Bassiouni, *Critical Reflections on International Control of Drugs*, 18 DENV. J. INT’L L. & POL’Y 311, 326(1990), see also, Sharon A. Gardner, *A Global Initiative to Deter Drug Trafficking: Will Internationalizing the Drug War Work?* 7 TEMP. INT’L & COMP. L.J. 287, 288 (1993).

<sup>434</sup> World Factbook, The Aim of the Andean Group is to promote Harmonious Development through Economic Integration, 249 (1991).

<sup>435</sup> Global Narcotics Cooperation and Presidential Certification: Statement Before the Subcomm. On Terrorism, Narcotics, and International Comm. Of the Senate Foreign Relations Committee, DEP’T ST. BULL. 49, 50 (Oct. 1989) (Statement of Ann B. Wroblewski, Asst. Sec. For Int’l Narcotics Matters) [hereinafter Global Narcotics].

<sup>436</sup> United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, Dec. 19, 1988, S. Treaty Doc. No. 4, 101 st Cong., 1<sup>st</sup> Sess. 1, 28 I.L.M. 493 (1989).

<sup>437</sup> Global Narcotics, *supra* note (435) at 50.

<sup>438</sup> Glyphosate-based herbicide is used in agricultural markets to control growing weeds. It can inhibit the production of EPSP enzyme when sprayed on a plant, and as it moves throughout the plant protein production stops and the plant dies. See, Victor M. Tafur, *Application of Glyphosate to Narcotics Crops: The Chemical War on the Environment*, A Paper presented for the Science for Environmental Lawyers Class 4 (Pace University School of Law, 1999).

<sup>439</sup> *Id.*, at 19.

<sup>440</sup> ARTHUR H. WESTING ED., ENVIRONMENTAL WARFARE: A TECHNICAL, LEGAL, AND POLICY APPRAISAL 5 (Taylor & Francis, 1984) [hereinafter WESTING, ENVIRONMENTAL WARFARE].

accounted for by rugged mountain terrain.”<sup>442</sup> Most of the world’s population lives on the remaining 10,500 million hectares and most of that land is in the Northern hemisphere.”<sup>443</sup>

Soil, the top layer of the earth beneath us, supports almost all of the plant life on our planet. It is composed of gravel, sand, silt, clay, and organic matter, and is very heterogeneous.<sup>444</sup> It is also subject to damage and destruction by warfare. Soil destruction by weapons employment may stress an ecosystem in two ways: “physical displacement of soil and alterations in soil structure and composition.”<sup>445</sup> For centuries, the ground has been used for the storage and disposal of chemical wastes. Pesticides and fertilizers are applied to soil, and chemicals reach the soil from the atmosphere and from human activities in peacetime as well as in times of armed conflicts.<sup>446</sup>

Like the rest of the ecosystem, the Persian Gulf lithosphere was a victim of the “oil war.” An estimated sixty million barrels of crude oil released from gushing oil wells created some 246 oil lakes in Kuwait. The oil lakes were formed in adjoining depressions or low-lying land and covered forty-nine square kilometers of desert.<sup>447</sup> The depth of oil lakes ranged from 10 to 150 cm.<sup>448</sup> Several holes were dug in the desert land of Kuwait, crude oil poured in and torched by Iraqi troops. Oil seeped deep into the beaches, sand, and gravel as a result of tides lifting oil onto the Gulf beach.<sup>449</sup>

Furthermore, the surface of the desert was severely affected by construction of bunkers, installation and removal of land mines, and the oil, oil mist, and soot from the fires.<sup>450</sup> Troop movement added to the compacting of the desert soil.<sup>451</sup> Some areas of the desert were salinated from the firefighting efforts. The oil mist and other fallout from the fires, along with the mechanical disruption of the desert, caused tremendous damage to vegetation. The oil-contaminated sites contain high levels of hydrocarbons, vanadium,

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<sup>441</sup> *Id.*

<sup>442</sup> *Id.*

<sup>443</sup> *Id.*

<sup>444</sup> DONALD G. CROSLY, ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY 56 (Oxford University Press, 1998) [hereinafter CROSLY].

<sup>445</sup> J. P. ROBINSON, THE EFFECTS OF WEAPONS ON ECOSYSTEMS 47 (Pergamon Press, 1979).

<sup>446</sup> CROSLY, *supra* note (444) at 23.

<sup>447</sup> KFAS, *supra* note (138) at 46.

<sup>448</sup> *Id.*, at 46.

<sup>449</sup> Okordudu-Fubara, *supra* note (331) at 136.

<sup>450</sup> KFAS, *supra* note (138) at 55.

<sup>451</sup> *Id.*, at 55.

chloride, sodium, sulfate and calcium.<sup>452</sup> The oil-logged soil layer is considered to be dead as a natural habitat of plant growth and production.<sup>453</sup>

The Gulf War II was not the only instance in which oil was used as a weapon. During the first Russian revolution in 1905, when the Tatars revolted in Baku, they destroyed Armenian property including oil derricks. One witness described this disaster by declaring that: "I realized for the first time in my life all that can possibly be meant by words. Hell let loose."<sup>454</sup> Other examples occurred in World Wars I and II, when the Allies bombed and burned Romanian oilfields and facilities, seriously harming the surrounding environment.<sup>455</sup>

Damage to the lithosphere is not limited to the effects of oil. In 1937-1945, during the Second Sino-Japanese War, the Chinese dynamited the Huayuankow dike on the Yellow River near Chengchow to halt the Japanese advance.<sup>456</sup> The floodwaters destroyed major parts of Henan, Anhui, and Jiangsu provinces, ravaging millions of hectares of farmlands, and about 4,000 villages.<sup>457</sup>

During the Vietnam War, the United States sprayed huge forest areas with herbicides, particularly Agent Orange, that leading to soil erosion and degradation of trees.<sup>458</sup> Additionally, the use of high-explosive ammunitions rendered large areas of land unusable. Consequently, in a country comprised largely of an agrarian people, the effects were, and continue to be, devastating.<sup>459</sup> Undetected landmines and unexploded munitions are still a major threat to both human and natural ecologies.

Another example of land depletion is in Central America, where contra guerrillas in Nicaragua seriously damaged forests in Southern Honduras near the Nicaraguan border. Contras forced hundreds of peasant coffee growers from their native landholdings in the 1980s. And about 20,000 Nicaraguan refugees in Honduran camps caused

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<sup>452</sup> *Id.*, at 56.

<sup>453</sup> *Id.*, at 55.

<sup>454</sup> Jessica E. Ceacor, Note, *Environmental Terrorism: Lessons From the Oil Fires of Kuwait*, 10 AM. U. J. INT'L L. & POL'Y 481, 489 fn 38 (1994).

<sup>455</sup> CHARLES R. M. F. CRUTTWELL, A HISTORY OF THE GREAT WAR 1914-1918, 297-98 (Clarendon Press, 1934). On the World War II raids, see in general, JAMES DUGAN & CARROLL STUART PLOESTI: THE GREAT GROUND-AIR BATTLE OF 1 AUGUST 1943 (Brassey's, 1998).

<sup>456</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 6.

<sup>457</sup> *Id.*

<sup>458</sup> Green Left Weekly, *supra* note (386).

<sup>459</sup> Carmel Capati, Note, *The Tragedy of Cluster Bombs in Laos: An Argument for Inclusion in the Proposed International Ban on Landmines*, 16 WIS. INT'L L.J. 227, 241 (1997).

extensive environmental degradation, such as deforestation, land clearing, illegal trade of valuable species including “cedar, mahogany, and pine,” and forest fires which destroyed an estimated 110 square miles.<sup>460</sup>

### 3. Hydrosphere

The oceans of the world cover 71 percent of the earth’s surface,<sup>461</sup> and are threatened by the release of chemical agents and other forms of pollution. During World War II, in late 1943, the Germans bombed Allied ships anchored at Bari Harbor, Italy,<sup>462</sup> causing 220,500 pounds of mustard gas to leak into the Adriatic Sea. Mustard gas is toxic to ocean mammals and humans. According to Swedish experts, the released mustard gas forms a protective layer underwater, which helps the chemical agent retain its effectiveness for many years.<sup>463</sup> Byproducts created from the breakdown of the mustard gas are toxic to humans, land animals, and aquatic species. Scientists estimate that the byproducts will remain dangerous for the next 400 years.<sup>464</sup>

The Persian Gulf is one of the most polluted bodies of water in the world, and was so even before Gulf War II. In 1983, during the Iran-Iraq War, three oil wells were attacked in the Nowruz oil field off the coast of Iran, spilling 1.9 million barrels of oil into the Gulf’s waters. One report documented that “the oil slick released from the Nowruz platform ended up in deep water in the central Gulf. But its ecological impact is still largely unknown.”<sup>465</sup> In 1991, Iraqi troops caused the spill of millions of gallons of oil into shallow Gulf waters. They also destroyed four sewage-treatment facilities, at Al-

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<sup>460</sup> DANIEL FABER, ENVIRONMENT UNDER FIRE: IMPERIALISM AND THE ECOLOGICAL CRISIS IN CENTRAL AMERICA 200 (Monthly Review Press, 1993).

<sup>461</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 7.

<sup>462</sup> LANIER-GRAHAM, *supra* note (2) at 28.

<sup>463</sup> *Id.*, at 29.

<sup>464</sup> *Id.*, at 29.

<sup>465</sup> WILLIAM M. ARKIN ET AL., ON IMPACT MODERN WARFARE AND THE ENVIRONMENT: A CASE STUDY OF THE GULF WAR, A Greenpeace Study Prepared for a “Fifth Geneva” Convention on the Protection of the Environment in Time of Armed Conflict, A Roundtable Conference Jointly Organized by Center for Defense Studies, Kings College, Greenpeace International, London School of Economics 18 (London, 1991)[hereinafter ARKIN ET AL.].



Riggae, Al-Jahra, Al-Rigga, and Failaka,<sup>466</sup> causing 330,000 cubic meters of raw sewage per day to spill into the Gulf, polluting it with microbes, viruses, and harmful bacteria.<sup>467</sup>

The Gulf ecosystem is particularly fragile because of its unusually shallow water and the unusual conditions of the area. The Gulf is a basin with only one outlet to the sea, at the Strait of Hormuz. The Gulf is thirty-five miles long and hundred and ten feet deep. It takes an average of two hundred years to flush out.<sup>468</sup> The Gulf ecosystem includes sea grasses, coral reefs, mud flats, and salt marshes.<sup>469</sup> A National Geographic study by Dr. Sylvia Earle<sup>470</sup> shows that the sea grasses deep in the Gulf are coated with oil. Mollusks and crabs were found dead and oil coated.<sup>471</sup> In 1992, a Greenpeace study showed that the full negative impact of oil contamination on coral reefs in the Gulf is still unknown to today.<sup>472</sup> In addition, severe oil impacts were found in salt marshes,<sup>473</sup> and in populations of shore birds.<sup>474</sup> Significantly, drinking water supplies in Kuwait are still contaminated. However, experts from Green Cross International found that one fresh groundwater aquifer, producing forty percent of the freshwater reserves of Kuwait, is heavily polluted. The remaining freshwater reserves provide Kuwait with “less than a two-months supply for the entire population.”<sup>475</sup>

The impact of oil on marine life during times of war can also be seen in Yugoslavia, where considerable environmental destruction resulted from the NATO bombing of the chemical factory complex at Pancevo, about 12 miles from Belgrade.<sup>476</sup> According to Pancevo’s Mayor, Srdjan Mikovic, NATO aircraft struck the complex with

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<sup>466</sup> John Briscoe, *Iraq’s Defilement of the Gulf Environment and the Damages Awards to Issue*, in CURRENT MARITIME ISSUES AND THE INTERNATIONAL MARITIME ORGANIZATION 116 (MYRON H. NORDQUIST & JOHN NORTON MOORE EDS., 1999) [hereinafter Briscoe].

<sup>467</sup> *Id.*

<sup>468</sup> Okordudu-Fubara, *supra* note (331) at 135.

<sup>469</sup> “It is dependent on the sea grasses that help stabilize the marine food chain. Fish, sea turtles, and dugong feed on sea grass and shrimp, and pearl oysters feed on food found only in the sea grass.” LANIER-GRAHAM, *supra* note (2) at 46.

<sup>470</sup> A Biologist and the Chief Scientist for the National Oceanic and Atmospheric Administration of the National Center for Atmosphere Research.

<sup>471</sup> Sylvia A. Earle, *Persian Gulf Pollution: Assessing the Damage One Year Later*, 181 NAT’L. GEOGRAPHIC 122, 133 (1992).

<sup>472</sup> Greenpeace, *The Environmental Legacy of the Gulf War*, 33 (1992).

<sup>473</sup> John H. Cushman, Jr., *Claims for Damage by Iraq Go Begging for Data*, N.Y. TIMES, Nov. 12, 1991, at C4.

<sup>474</sup> Philip Elmer-DeWitt, *Environmental Damage: A Man-Made Hell on Earth*, TIME, Mar. 18, 1991, 36.

<sup>475</sup> Human and Ecological Consequences of the Gulf War, *supra* note (172).

<sup>476</sup> NATO Aggression on Yugoslavia’s Environment, *supra* note (426).

at least 56 missiles between March 24 and June 8, 1999.<sup>477</sup> Chemicals released into the water on April 18 alone included “15,000 tons of ammonia, 1,800 tons of ethylene dichloride, 1,500 tons of vinyl-chloride monomer, and 250 tons of chlorine.”<sup>478</sup> On April 21, 1,400 tons of ethylene dichloride poured into the Danube.<sup>479</sup> Workers at the complex dumped 9,500 tons of ammonia into the river, in order to prevent harm from attack on the ammonia storage tanks.<sup>480</sup> Oil could be seen flowing down the Danube like a massive spill 15 kilometers long and about 400 meters wide.<sup>481</sup>

The history of armed conflict includes other kinds of environmental manipulation, such as the destruction of a water system to cause flooding. In June 1672, during the Franco-Dutch War of 1672-78, the Dutch were able to stop the French army by damaging dikes and causing the release of water. This interception, dubbed the Holland Water Line, to some extent prevented the French army from gaining control of the Netherlands.<sup>482</sup>

In the Second Sino-Japanese War of 1937-45, the Chinese dynamited the Huayuankow dike of the Yellow River (Huang He) near Chengchow to halt the advancing Japanese troops. This massive flooding ravaged eleven Chinese cities and more than 4,000 Chinese villages, destroying millions of hectares of farmland, crops, and top soil.<sup>483</sup>

In May 1943, during World War II, the British destroyed two major dams in the Ruhr Valley in Germany, in an attempt to ravage Germany’s industrial economic base. The British action released 34.3 billion gallons of water from the Möhne Dam and another 52.8 billion gallons from the Eder Dam,<sup>484</sup> and caused serious damage to 125 factories, forty-six bridges, power stations, numerous coal mines, and railway lines. Some

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<sup>477</sup> Aaron Schwabach, *Environmental Damage Resulting from the NATO Military Action Against Yugoslavia*, 25 COLUM. J. ENV’T L. 117, 119 (2000) [hereinafter Schwabach].

<sup>478</sup> *Id.*

<sup>479</sup> “The Danube is the second longest river in Europe, after the Volga River, and one of the principal transportation arteries on the continent. It is the only major European River to flow from west to east. It rises in the Black Forest region of Germany and flows in a generally easterly direction for a distance of about 2850 kilometers (1770 mi), emptying, on the Romanian coast, into the Black Sea.” See, ENCARTA Resources for Interactive Learning, available at <<http://encarta.msn.com>>, (last visit Dec. 28, 2000).

<sup>480</sup> Schwabach, *supra* note (477) at 119.

<sup>481</sup> NATO Aggression on Yugoslavia’s Environment, *supra* note (426).

<sup>482</sup> Okordudu-Fubara, *supra* note (331) at 152.

<sup>483</sup> *Id.*

<sup>484</sup> LANIER-GRAHAM, *supra* note (2) at 24.

6,500 cattle and pigs were lost and 3,000 hectares of arable land were ruined.<sup>485</sup> In 1944, during World War II, German forces intentionally flooded some 30,000 hectares of agricultural lands in the Netherlands with saltwater,<sup>486</sup> making them unusable for crops.<sup>487</sup> The land was reclaimed only after a massive rehabilitation program.<sup>488</sup>

Water resources are also affected by unexploded ordnance and munitions lying at the bottom of seas, ports, rivers, and oceans throughout the world. Sea mines from World War II have been found at the entrance to the port of Le Havre, France, in the waterways of Berlin, in the Thames estuary in the United Kingdom, and even sixty miles off the coast of North Carolina, U.S.A.<sup>489</sup> Since the end of World War II, 16 million artillery shells, 490,000 bombs, and 600,000 underwater mines have been found in France.<sup>490</sup> Sunken ships lying at the bottom of the world's oceans slowly leak oil and other contaminants into the ocean,<sup>491</sup> damaging or destroying animal life, coral reefs, and seagrass beds.<sup>492</sup> Such contaminants can also affect the marine ecosystem severely by damaging marine historical sites,<sup>493</sup> and threatening endangered marine species.

World War II saw 674 large U.S. merchant ships sunk by hostile actions, 152 of them oil tankers.<sup>494</sup> An estimated 300 tankers released approximately 5.5 million cubic meters of oil into the ocean during World War II alone.<sup>495</sup>

#### 4. Atmosphere

The earth's atmosphere acts as both the receiver and transporter of pollutants. Many pollutants do not stay in the atmosphere, but settle on living systems on land and water. The atmosphere extends hundreds of kilometers upward, but becomes

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<sup>485</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 6.

<sup>486</sup> J. P. Van Aartsen, *Consequences of the War on Agriculture in the Netherlands*, 37 INT'L REV. AGRIC. 5S, 31S (1946).

<sup>487</sup> *Id.*, at 5S.

<sup>488</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 7; *see also, Id.*, at 50S-56S.

<sup>489</sup> LANIER-GRAHAM, *supra* note (2) at 58.

<sup>490</sup> *Id.*, at 59.

<sup>491</sup> *Id.*, at 62.

<sup>492</sup> James Paull IV, Commentary, *Salvaging Sunken Shipwrecks: Whose Treasure is It? A Look at the Competing Interests for Florida's Underwater Riches*, 9 J. LAND USE & ENVTL L. 347, 369 (1994).

<sup>493</sup> The Abandoned Shipwreck Act, 55 Fed. Reg. 50, 125 (1990).

<sup>494</sup> WARFARE IN A FRAGILE WORLD, *supra* note (402) at 165.

<sup>495</sup> *Id.*, at 166.

extraordinarily thin above 150 kilometers.<sup>496</sup> The lower atmosphere extends upward fifty-five kilometers, and consists of the troposphere and the stratosphere.<sup>497</sup> The troposphere contains dust, wind and clouds, whereas the higher stratosphere is cloudless.<sup>498</sup>

Air pollution is not a new topic. In 1600, an English treatise complained of “th[e] horrid Smoke which obscures our Church and makes our Palaces look old, which fouls our Cloth and corrupts our Waters, so as the very Rain [...]”<sup>499</sup> In modern times, the problem of air pollution has only become more complicated. Military operations have played a major role here too. Modern military tactics include direct attempts to interfere with the atmosphere in various ways. Military forces have attempted to gain control over winds, clouds and precipitation. Climate modification, release of substances to affect the electrical properties of the atmosphere, rainfall enhancement, and injection of electromagnetic fields in the atmosphere<sup>500</sup> have all resulted directly from military manipulation of the atmosphere for hostile purposes. During World War I, the German Army lined up canisters along a four-mile front, and released a cloud of chlorine gas toward the French troops.<sup>501</sup>

During World War II, the Germans bombed a ship laden with 100 tons of mustard gas, at Bari Harbor, Italy, which resulted in the release of a poisonous clouds that drifted over the port town of Bari, killing more than 1,000 civilians.<sup>502</sup>

A much more ambitious example is the release of materials by the U.S. into the troposphere over enemy territory to incapacitate radar during the Vietnam War.<sup>503</sup>

In 1990, during Gulf War II, atmospheric pollution resulted from burning oil wells, which fouled the air and sent vast clouds of dense smoke that darkened the skies as far east as Afghanistan and Northern India.<sup>504</sup> The sulfur dioxide emitted from the burning oil wells can return to the ground, combining with water vapor to form sulfuric

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<sup>496</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 4.

<sup>497</sup> *Id.*

<sup>498</sup> CROSLY, *supra* note (444) at 18.

<sup>499</sup> *Id.*, at 20.

<sup>500</sup> Okordudu-Fubara, *supra* note (331) at 147.

<sup>501</sup> Kevin J. Fitzgerald, Note, *The Chemical Weapons Convention: Inadequate Protection From Chemical Warfare*, 20 SUFFOLK TRANSNAT'L L.REV.425, 429(1997) [hereinafter Fitzgerald].

<sup>502</sup> McClintock, *supra* note (150) at 637 fn 10.

<sup>503</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 5.

<sup>504</sup> Okordudu-Fubara, *supra* note (331) at 137.

acid (acid rain)<sup>505</sup> which damages crops, forests, vegetation, buildings, and water resources.<sup>506</sup>

According to one source, smoke can also affect climate:

[t]he greatest threat is that airborne soot from petro blazes might cancel springtime in the northern Hemisphere and stifle the Asian monsoons on which millions of people depend for their lives. This would happen if the soot rose high enough to alter the way the sun's energy is absorbed. Usually the ground soaks up heat, creating warm air whose rise creates the turbulence that drives weather. The height of the soot cloud depends on the fire's temperature and size, as well as on how much fuel combusts.<sup>507</sup>

It was estimated that the oil well fires in Kuwait emitted, over the course of nine months,

- 1-2 million tons/day of carbon dioxide (CO<sup>2</sup>);
- 5,500-65,000 tons/day of sulfur dioxide (SO<sup>2</sup>);
- 500-3,000 ton/day of nitrogen oxides (NO<sub>x</sub>);
- 250 tons/day of carbon monoxide (CO);
- 5,000 tons/day of soot or particulate matter.<sup>508</sup>

These pollutants raise concerns in three respects: the presence of carcinogens in the atmosphere; the reduction in sunshine and possible deficiencies in vitamins D and E; and the introduction of air pollutants into the milk of sheep and cattle.<sup>509</sup> George D.

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<sup>505</sup> Gupta, *supra* note (62) at 252.

<sup>506</sup> A report issued by the United States General Accounting Office has concluded that years of acid deposition in the Adirondacks mountains has depleted the capacity of soils and vegetation to neutralize acids and as a result, nitrates are able to flow freely into streams and lakes and render them lifeless. The report also asserted that it could take decades or centuries for the soils and water bodies in the Adirondacks to recover from the effects of acid deposition, and that some never recover. *See* John P. Cahill, *New York State's Regulatory Controls on Acid Rain Pollution Sources*, Paper presented to Earth Day 2000s Symposium: Solving the Acid Rain Dilemma, Thursday Apr. 13, 2000, at 4.

<sup>507</sup> Gegley & Hager, *Will Sabotage Cancel Springtime?* NEWSWEEK, Feb. 4, 1991, at 39.

<sup>508</sup> KFAS, *supra* note (138) at 47.

<sup>509</sup> Walter G. Sharp, *The Effective Deterrence of Environmental Damage During Armed Conflict: A case Analysis of the Persian Gulf War*, 137 MILITARY L. REV. 1, 41 (1992) [hereinafter Sharp].

Thurston of the Institute of Environmental Medicine at New York University estimated that the air pollution levels in Kuwait could cause 1,000 excess deaths annually.<sup>510</sup>

The oil well fires were one of world's gravest air pollution disasters.<sup>511</sup> Two days after the Gulf War fires, Iran reported that "black rain" had fallen on its lands.<sup>512</sup> Rainstorms and hurricanes as far away as Bangladesh have been attributed to these fires.<sup>513</sup> Moreover, during the seven months' occupation of Kuwait, all trash disposal services were rendered inoperable, forcing the population of Kuwait to burn its trash. That circumstance only added to the oil-related pollution; moreover, the trash released dioxins from the incomplete burning of plastics.<sup>514</sup>

In the former Yugoslavia, the Federal Ministry of Foreign Affairs reported that the most serious environmental consequences of the attack of April 17 and 18, 1999,<sup>515</sup> were the release of toxic substances from the burning oil products at a refinery and the burning of vinyl chloride monomer (VCM) at a petrochemical plant.<sup>516</sup> An estimated 80,000 tons of oil products were burned, leading to the release of noxious substances into the air, including sulfur dioxide, nitrogen dioxide, carbon monoxide, polyaromatic hydrocarbons (PAHs) and lead.<sup>517</sup>

The foregoing discussion shows that a number of techniques are available to modify the atmosphere for hostile purposes, and that many have been used. However, the future may bring even more sophisticated techniques for the hostile manipulation of the atmosphere, such as the modification of clouds to bring about hail storms or lightning discharges in enemy territory, or the reduction of the stratospheric ozone layer over

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<sup>510</sup> John Horgan, *The Danger From Kuwait's Air Pollution*, 265 SCI. AM. 30, 30 (Oct., 1991) [hereinafter Horgan].

<sup>511</sup> Sharp, *supra* note (509) at 41.

<sup>512</sup> *Id.*

<sup>513</sup> Sullivan T. J., *The Downwind Impacts of the Oil Fires*, in HIDDEN CASUALTIES: ENVIRONMENTAL HEALTH AND POLITICAL CONSEQUENCES OF THE PERSIAN GULF WAR 105-106 (Saul Bloom et al. Eds., 1992) [hereinafter Sullivan].

<sup>514</sup> KFAS, *supra* note (138) at 57.

<sup>515</sup> "This attack, and several others were directed against these industries, was justified by NATO commanders as necessary to cut off supplies to the Yugoslav military." See, Sergei Alschen, *NATO's Destruction of the Environment in Yugoslavia*, available at <[http://www.iacenter.org/warcrime/5\\_envir.htm](http://www.iacenter.org/warcrime/5_envir.htm)>, (last visit Dec. 30, 2000).

<sup>516</sup> *The Kosovo Conflict: Consequences for the Environment*, *supra* note (35) at 32.

<sup>517</sup> *Id.*, at 34.

enemy territory. Even more drastically, nuclear war would have an unthinkable impact on the atmosphere, weather, and climate.<sup>518</sup>

Damage to the ozone has become a widely recognized problem. In recent years, increasing quantities of Chlorofluorocarbon (CFC) have been released into the atmosphere and slowly drifted into the stratosphere,<sup>519</sup> seriously threatening to deplete the stratospheric ozone layer and foster global climate changes. In particular, damage to the ozone may result in a warming of the Earth's surface, and thus "cause migration of food-growing belts, change monsoon patterns, turn farmlands into deserts, cause sharp rises in sea and ocean levels due to melting of polar ice caps, which would result in flooding many coastal areas, increasing hurricane activity and storms, salt water intrusion into supplies of fresh water, destruction of wildlife habitats, and the impairment of port facilities."<sup>520</sup> In 1974, two American scientists determined that CFCs do not break down in the lower atmosphere because of their "inherent stability."<sup>521</sup> Instead, CFC molecules rise to the stratospheric ozone, where "ultraviolet radiation from the sun breaks them down into chlorine fragments, which destroy ozone molecules."<sup>522</sup>

The depletion of the ozone layer is dangerous because "ozone absorbs solar ultraviolet radiation, preventing it from reaching the earth's surface."<sup>523</sup> Ultraviolet radiation in turn "damages crops and aquatic organisms, and causes skin cancers, cataracts, and suppression of the human immune system."<sup>524</sup> CFCs are used for civilian as well as military purposes. For example, they are used in hairdressing salons, car seat cushions, refrigerators, air conditions, and hospital equipment.<sup>525</sup> The military uses of CFCs include the production of solvents and of a wide array of machine and weapons

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<sup>518</sup> WESTING, ENVIRONMENTAL WARFARE, *supra* note (440) at 22.

<sup>519</sup> John S. Hannah, *Chlorofluorocarbons: A Scientific Environmental, and Regulatory Assessment*, 31 A.F. L. REV. 85, 85 (1989) [hereinafter Hannah].

<sup>520</sup> *Id.*, at 92.

<sup>521</sup> Annette M. Capretta, *The Future's So Bright, I Gotta Wear Shades: Future Impact of the Montreal Protocol on Substances that Deplete the Ozone Layer*, 29 VA. J. INT'L. L. 211, 218 (1988) [hereinafter Capretta].

<sup>522</sup> Jeffrey J. Renzulli, *The Regulation of Ozone-Depleting Chemicals in the European Community*, 14 B.C. INT'L & COMP. L. REV. 345, 374 (1991).

<sup>523</sup> Capretta, *supra* note (521) at 215.

<sup>524</sup> *Id.*, at 216. On the impact of climate change on human health and the environment see AKIKO DOMOTO ET AL. Eds., A THREAT TO LIFE, THE IMPACT OF CLIMATE CHANGE ON JAPAN'S BIODIVERSITY (Biodiversity Network Japan & The World Conservation Union, 2000).

<sup>525</sup> Second Report of the Committee on the Environment, Public Health and Consumer Protection on the Protection of the Ozone Layer, PE DOC A 2-333/87, at 13 (1988).

parts.<sup>526</sup> The dangers posed by the continued use of CFCs should prompt world leaders to take further action both within their own countries and internationally to reduce CFC use and production. Some action has already been taken to protect the ozone. In 1987, the Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)<sup>527</sup> was introduced to address the international control of CFC emissions. On January 1<sup>st</sup>, 1988, the Montreal Protocol entered into force.

This brief survey makes clear the extent and the variety of dangers to the air, soil, water, and biota caused by armed conflict, both directly and indirectly. Pollution of these crucial resources appears certain to have long-term effects on the ecosystem, not just within the borders of specific countries, but internationally as well.<sup>528</sup>

#### ***F: Environmental Harm Following Armed Conflict***

Avoiding environmental harm before it occurs is easier, cheaper, and safer than attempting to remedy the harm after it has taken place. Throughout history, wars have caused environmental damage; recovering from that damage has often proven to be very slow, very costly, and in some cases impossible. Modern weapons, particularly chemical and nuclear weapons, present a whole new order of threat, and are even more likely to result in long-term irreversible environmental effects.<sup>529</sup>

Typically, combatants are more concerned with immediate military advantage than with the long-term environmental effects of their warfare. However, the more extended and intensive the war, the more destruction will be left behind. A major concern following war is unexploded ammunition and ordnance, which act as “hidden killers.” Discarded materials including debris, trash, and explosives can present environmental hazards long after the battles have ceased. Further devastation to the environment can result from the destruction of endangered species, poisoned water supplies, soil pollution, deforestation, and desertification.

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<sup>526</sup> Hannah, *supra* note (519) at 92.

<sup>527</sup> Montreal Protocol on Substances that Deplete the Ozone Layer, Sept. 16, 1987, 30 I.L.M. 539 (1987) [hereinafter Montreal Protocol].

<sup>528</sup> NATO Aggression on Yugoslavia’s Environment, *supra* note (426).

<sup>529</sup> Dunkley, *supra* note (314).



Examples of long-term environmental damage are, unfortunately, not difficult to find. Many of the battlefields of World War I and II, for instance, are still unfit for cultivation today, and are still dangerous to people and animals due to unexploded devices and projectiles embedded in the soil.<sup>530</sup> French and Belgian farmers still find unexploded ordnance from World War I.<sup>531</sup> Modern weapons also can leave poisonous residue.

## 1. Unexploded Ammunition and Abandoned Materials

Unexploded ammunition can include anti-tank and anti-personnel mines, bombs, artillery and mortar shells, and cluster bombs.<sup>532</sup> Their failure to explode can be the result of a variety of circumstances, including defective fuses, improper congregation, or smashing into a flexible surface.<sup>533</sup> Unexploded ordnance can last for many years undetected.

Mines have been used routinely in wars for nearly two centuries, as explosive devices for the purpose of killing, destroying, or otherwise incapacitating enemy personnel and/or equipment. They can be employed in any quantity within a specific area to form a minefield, or they can be used individually to reinforce non-explosive obstacles.<sup>534</sup>

Landmines not only cause death and destruction of soldiers and military objects. Once in the ground, they can kill civilians, farm animals, or any other moving being.<sup>535</sup> Yet landmines can, and do, also cause dramatic harm to the environment, in terms of the pollution of air and water, loss of agricultural lands and fields, and impairment of economic growth and land use development. For example, sand and soil are damaged

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<sup>530</sup> Bouvier, *Protection of the Natural Environment*, *supra* note (81) at 578.

<sup>531</sup> Nicholas Rostow, *Environmental Impact Assessment in Manufacturing and Procuring Arms*, Conference on Arms and the Environment 11 (University of Tulsa Dec. 10, 1999).

<sup>532</sup> LANIER-GRAHAM, *supra* note (2) at 57.

<sup>533</sup> *Id.*, at 57.

<sup>534</sup> See, FM 20-32 *Mine/Countermining Operations*, HEADQUARTERS, DEP'T OF THE ARMY (1994) at 2-1, see Reynold N. Hoover, *Landmine Liability: Holding Manufacturers Responsible for the Cost of Victim Compensation*, 10 GEORGETOWN INT'L. ENV'T'L. L. REV. 121, 121 (1997) [hereinafter Hoover].

<sup>535</sup> Today, 80 percent of mine victims are civilians. See Ian Woodmansey & Louis Maresca, *The Silent Menace: Landmines in Bosnia and Herzegovina*, International Committee of the Red Cross & Office of the United Nations High Commissioner for Refugees, 1998, available at <<http://www.icrc.org/>>, (last visit Oct. 1, 1999).

when landmines are laid, exploded, and cleared. The nature of the soil can be changed after the explosion of landmines.

Explosives commonly used in landmines, such as trinitrotoluene (TNT), seep into the soil. The decomposition of these substances can cause many environmental problems because they are often water soluble, carcinogenic, toxic, and long lasting. Landmines also harm the environment when they explode, scattering debris, destroying surrounding vegetation, and disrupting soil composition. This substantially decreases the productivity of agricultural land and increases an area's vulnerability to water and wind erosion, which in turn can add sediment into drainage systems, adversely affecting water habitats. Unexploded ordnance (UXO) detonations have similar results. One study has shown that the detonation of UXO in the Vietnamese province of Quang Tri has drastically reduced soil productivity. According to estimates, rice production per hectare has decreased 50 percent in this area. The slow degradation of landmines and their devastating impact on surrounding land can render resources unusable for many generations. The environmental impact of landmines is particularly pronounced when viewed in conjunction with socioeconomic factors and other consequences of landmine contamination.<sup>536</sup>

Moreover, farmers will of course avoid using lands due to the presence, or suspected presence, of landmines, thus leading to underproduction of food, scarcity, and hence, malnutrition.<sup>537</sup> Many areas where minefields exist should be kept out of cultivation for people's safety. However, under economic pressure, some farmers may venture into such areas to earn their livelihood, despite the presence of mines, thus risking horrific injuries or deaths. For example, in Angola, in 1998, a pregnant mother who had gone into the brushwood to collect some firewood, lost her pregnancy and one of her legs. Later, a landmine killed her husband when he ventured into the same brush.<sup>538</sup> The presence of minefields can prevent access to safe drinking water, causing

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<sup>536</sup> *Global Landmine Crisis, Environmental Impact, Adopt-A-Minefield, Clear a Path to a Safer World*, available at <<http://www.landmines.org/GlobalCrisis/TheProblem/TheProblem-all.htm>>, (last visit Dec. 16, 1999).

<sup>537</sup> U.S. Department of State, Office of Humanitarian Demining Programs *Hidden Killers: The Global Landmine Crisis* (1998), available at <[http://www.state.gov/www/global/arms/rpt\\_9809\\_demine\\_ch2.html](http://www.state.gov/www/global/arms/rpt_9809_demine_ch2.html)>, (last visit Dec. 16, 1999).

<sup>538</sup> Craft & Grillot, *supra* note (1) at 23.

in turn intestinal diseases, especially diarrhea.<sup>539</sup> Laying and removing landmines can degrade the soil and can cause evaporation of water from sand and soil.<sup>540</sup> Furthermore, the animals and plants killed by landmines can pollute waters where they were killed.<sup>541</sup>

The devastating effect of unexploded ammunition was reported in 1985 to the United Nations Environmental Program by Dr. Arthur Westing, who documented that unexploded ammunition during World War II led to soil disturbance and destruction of vegetation and animal life.<sup>542</sup> And in the wake of the Gulf War II, thousands of tons of unexploded ordnance and landmines lie under the soft surface of desert soil. An estimated 33,000 unexploded mines remain in the desert.<sup>543</sup> A study by the U.S. Government estimated that seventy percent of the conventional bombs dropped over Iraq missed their target, and that of the 88,500 tons of bombs dropped on Iraq, 17,700 tons never exploded.<sup>544</sup> In addition, some of the ordnance used by the U.S. contained depleted uranium in order to enhance penetration capability. After the war, many rounds of this ammunition remained in the ground causing radiological contamination.<sup>545</sup> Moreover, uranium can become airborne and may be inhaled or ingested.<sup>546</sup> Casualties resulted from these ammunition and landmines are still reported. Thus, the public should be informed about such dangerous areas, and how to deal with suspicious objects.

Coastal life can also be affected by mines. Explosions can kill coral reefs, sea turtles, seaweeds, and algae, threatening the extinction of these species. For example, during the 1980-1988 Iraq-Iran War, mines were used extensively on the high sea, involving even non-belligerent ships such as the U.S. flag supertanker Bridgeton.<sup>547</sup> Iran dispersed mines in the path of neutral shipping in the Gulf water. Another example

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<sup>539</sup> Mine Clearance Agency (MCA), *National Survey of Mines Situation in Afghanistan*, at II (1993) vol.1.

<sup>540</sup> KUWAIT CENTER FOR STUDIES AND RESEARCH, *LANDMINES AND THE DESTRUCTION OF THE KUWAITI ENVIRONMENT, ONE OF THE CRIMES COMMITTED BY THE IRAQI INVASION* 168 (in Arabic) (1998) [hereinafter KCSR, Landmines].

<sup>541</sup> In reference to Kuwait sewer system damage, representatives of the Harvard School of Public Health noted elevated bacterial level in coastal water. See, Committee on Environmental and Public Pollution Task Force, *The Environmental Aftermath of the Gulf War* 11 (U.S. Government Printing Press, 1992) [hereinafter Committee on Environmental and Public Pollution Task Force].

<sup>542</sup> LANIER-GRAHAM, *supra* note (2) at 58.

<sup>543</sup> Human and Ecological Consequences of the Gulf War, *supra* note (172).

<sup>544</sup> LANIER-GRAHAM, *supra* note (2) at 63.

<sup>545</sup> Craft & Grillot, *supra* note (1) at 22.

<sup>546</sup> Eric Hoskins, *Public Health and the Persian Gulf War*, in *WAR AND PUBLIC HEALTH* 276 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000).

<sup>547</sup> John H. McNeill, *Mine Warfare at Sea*, 87 AM. J. INT'L. L. 353, 353 (1993).

was during the Gulf War II, when Iraq planted more than half a million mines in Kuwait in order to seal off Kuwait's coastline.<sup>548</sup> The Iraqis also mined the Gulf with thousands of explosive devices that had to be detonated by allied naval forces in order to permit them to maneuver.<sup>549</sup> The presence of those explosives posed, and continue to pose, a threat to the marine ecosystem of all Gulf waters. When mines explode, the damage they cause to the fragile Gulf marine resources is often irreversible.

Moreover, battlefields left dead bodies of men and animals. Bodies were dumped in creeks, polluting the downstream water supply.<sup>550</sup> Debris and equipment were left abandoned on battlefields.<sup>551</sup> For example, in 1991, during the Gulf War II, the Allied Forces bombarded Iraqi military strategic locations. It was reported that the Allied Forces destroyed about seventy percent of the Iraqi tank force (more than 3000) and artillery power (more than 2100 pieces).<sup>552</sup> In Kuwait, the "death road"<sup>553</sup> was covered with thousands of cans, tanks, damaged military hardware as well as dead bodies.<sup>554</sup> In addition, sanitary waste, including leftover food for more than half a million troops, littered the Northern Saudi desert.<sup>555</sup> It was estimated that 10 million gallons of human fecal waste were produced per day,<sup>556</sup> and about 4 million tons of human fecal waste produced during December 1990 through February 1991 alone.<sup>557</sup> In addition to these organic wastes, large quantities of barbed wire and material used to maintain military vehicles were dumped in battlefield areas. Spent lubricating oil was collected and burned and its residue was buried,<sup>558</sup> resulting in soil contamination.

This environmental threat led the United Nations, for the first time, to recognize environmental harm as a compensable injury. In 1991, the U.N. Security Council issued

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<sup>548</sup> HAWLEY, *supra* note (149) at 136; *see also*, Shaun Lyons, *Naval Operations in the Gulf*, in *THE GULF WAR 1990-1991 IN INTERNATIONAL AND ENGLISH LAW* 168 (PETER ROWE ED., 1993).

<sup>549</sup> HUSSAIN ISSA MALALLAH, *THE IRAQI WAR CRIMINALS AND THEIR CRIMES DURING THE IRAQI OCCUPATION OF KUWAIT* 327 (Center for Research and Studies on Kuwait, 1998) [hereinafter MALALLAH].

<sup>550</sup> LANIER-GRAHAM, *supra* note (2) at 54.

<sup>551</sup> *Id.*, at 54.

<sup>552</sup> SADIQ & MCCAIN, *supra* note (13) at 190.

<sup>553</sup> Military equipments and civilians bodies could be found in many roads in Kuwait, but this particular road referred to as the "death road" was covered with thousands of military hardware and bodies.

<sup>554</sup> SADIQ & MCCAIN, *supra* note (13) at 190.

<sup>555</sup> *Id.*, at 190.

<sup>556</sup> *Id.*, at 190.

<sup>557</sup> *Id.*, at 190.

<sup>558</sup> *Id.*, at 190.

Resolution 687, stating in Paragraph 16 that it “Reaffirms that Iraq, without prejudice to the debts and obligations of Iraq arising prior to 2 August 1990, which will be addressed through the normal mechanisms, is liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources, or injury to foreign governments, nationals and corporations, as a result of Iraq’s unlawful invasion and occupation of Kuwait...”<sup>559</sup> Resolution 687 provided for the creation of a fund “to pay compensation for claims” arising from the Iraqi invasion of Kuwait and the establishment of a Commission to administer the fund. The Resolution addressed liability for environmental damage as one category of compensable direct loss,<sup>560</sup> the first time “environmental claims had been recognized explicitly in an institutional claim context.”<sup>561</sup> Resolution 692 established the United Nations Compensation Commission (UNCC),<sup>562</sup> to administer a system to provide compensation for damage arising from the Gulf War II. The UNCC, located in Geneva, Switzerland, is divided into three parts: the Governing Council which is comprised of the fifteen members of the U.N. Security Council,<sup>563</sup> Commissioners who are experts in law, finance, insurance, and environmental damage assessment,<sup>564</sup> and a Secretariat which handles the administrative work of the UNCC.<sup>565</sup>

## 2. Destruction of Endangered Species and their Habitats

Yet another environmental consequence of war is the danger to, or destruction of, endangered animal species. Species extinction is a side effect of deforestation as it destroys their habitats.<sup>566</sup> For example, during the civil war in Rwanda, bamboo forests were damaged, leading to a decrease in the populations of elephants, buffalo, and

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<sup>559</sup> S.C. Res. 687, U.N. SCOR, 2981<sup>st</sup> mtg., para. 16, U.N. Doc. S/Res. 687(1991)[hereinafter S.C. Res. 687 (1991)].

<sup>560</sup> *Id.*

<sup>561</sup> Norbert Wuhler, *Causation and Directness of Loss as Elements of Compensability Before the United Nations Compensation Commission*, in THE UNITED NATIONS COMPENSATION COMMISSION 207, 230 (RICHARD B. LILLICH ED., 1995).

<sup>562</sup> S.C. Res. 692, U.N. SCOR, 2987<sup>th</sup> mtg., U.N. Doc. S/RES/692(1991) [hereinafter S.C. Res. 692 (1991)].

<sup>563</sup> *Id.*

<sup>564</sup> *Id.*

<sup>565</sup> *Id.*

<sup>566</sup> LANIER-GRAHAM, *supra* note (2) at 67.

hippopotamus.<sup>567</sup> In the Gulf region, specifically Kuwait, Iraq, and Saudi Arabia, there are more than 3,650 animal species. About fifty species are recognized internationally as being threatened with extinction.<sup>568</sup> The Gulf has four vulnerable marine habitats: “coastal marches and mudflats, coral reefs, seagrass beds, and mangroves.”<sup>569</sup> In 1991, during Gulf War II, these ecological sites faced the worst marine disasters from the spilling of oil by Iraqi Forces. Seven years later, traces of spilled oil were still present on the southern beaches of Al-Khiran.<sup>570</sup> The intertidal areas of the marine environment have been most severely affected. Notwithstanding all of these environmental effects from the Gulf wars, there are few monitoring programs in Kuwait specifically documenting the long term environmental impacts. Without that information it is difficult to establish precisely what damage resulted from precisely which source. This is particular so because the many possible sources of environmental damage include the Gulf War oil spill, oil releases from tanker traffic, discharges from industrial areas, human activities in the coastal areas,<sup>571</sup> dredging and landfilling for the building of a bridge across Kuwait Bay, and the development on Bubiyan Island.<sup>572</sup>

### 3. Deforestation and Erosion

Deforestation occurs not only during armed conflict, but following warfare as well. The complete recovery of forest ecosystems may take several centuries. After World War II, “about 500 million board feet of lumber and 100 million square feet of plywood were needed for occupation troops and family housing. Another five billion board feet of lumber would be required each year for five years to rebuild homes and businesses destroyed during the war.”<sup>573</sup> In Vietnam, approximately “5.5 million acres of forest and one-fifth of the agricultural land were destroyed by bombings, land clearing,

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<sup>567</sup> McNeely, *supra* note (400) at 7.

<sup>568</sup> These include “20 species of bird, 20 mammal species, three reptiles, two fishes, four mollusc and one insect.” Gn:Hmiles in cdp: en Wildlife, *Gulf War Impact on Marine Environment and Species*, available at <<http://scilib.ucsd.edu/sio/guide/zgulfwar.html>>, (last visit May 28, 2000).

<sup>569</sup> *Id.*

<sup>570</sup> KFAS, *supra* note (138) at 65.

<sup>571</sup> *Id.*, at 49.

<sup>572</sup> *Id.*, at 69.

<sup>573</sup> A 1946 report to General Douglas MacArthur, Supreme Commander for the Allied Powers, entitled “*Natural Resources of Japan*,” see LANIER-GRAHAM, *supra* note (2) at 67.

defoliating, and napalming during the war.”<sup>574</sup> Vietnam has over half a million acres of coastal swampland, much of it concentrated in the south in the Mekong delta and Cape of Camau regions. Much of this swampland was covered with mangroves, which formed a natural hide-out for the guerrillas, and was thus subjected to intense chemical attack by the Americans.<sup>575</sup> The consequences of this environmental disaster have lasted far longer than the war itself.

Similarly, both eastern and western Rwanda were affected by the 1990 civil war. In the west, in 1991 the Rwandan army cut a swathe of vegetation about 10 meters wide north-south across the forest to allow the staff of the Virunga Volcanoes park to patrol this line and prevent any Rwanda Patriotic Front (RPF) soldiers from moving across the park.<sup>576</sup> Further, the use of the park as a refugee camp, after the mass killing in 1994, resulted in the clearing of a large area of forest for firewood.<sup>577</sup> Moreover, the eastern side, where Akagera National Park is located, was also deforested during the war. The Park contained 2,800 km<sup>2</sup> of savanna and wetlands.<sup>578</sup> The park was attacked by the RPF,<sup>579</sup> and many animals were killed between 1990 and 1993. After the change of the government in 1994, the RPF settled many of the returning Tutsis,<sup>580</sup> along with their cattle, in large portions of the park.<sup>581</sup>

During Cambodia’s long-running civil war, its forest cover dwindled from seventy percent of land area in the 1970s, to about thirty percent today<sup>582</sup> as the sale of the timber funded the war. In 1991, Pol Pot, the former head of the Khmer Rouge, said

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<sup>574</sup> *Id.*, at 68.

<sup>575</sup> Green Left Weekly, *supra* note (386).

<sup>576</sup> Andrew J. Plumptre, *Lessons Learned from on-the-Ground Conservation in Rwanda and the Democratic Republic of Congo*, Paper presented to the Conference on WAR AND TROPICAL FORESTS: NEW PERSPECTIVE ON CONSERVATION IN AREAS OF ARMED CONFLICT at 5, organized by the International Society for Tropical Forestry, Yale University (Mar. 31-Apr. 1, 2000).

<sup>577</sup> *Id.*, at 6.

<sup>578</sup> *Id.*, at 7.

<sup>579</sup> *Id.*

<sup>580</sup> The Rwanda Patriotic Front was “composed of the descendants of ethnic Tutsis who had fled Rwanda in the 1960s to avoid inter-ethnic and political conflict between Tutsis and Hutus in Rwanda at that time.” *See, Id.*, at 3.

<sup>581</sup> *Id.*, at 7.

<sup>582</sup> Global Witness, *Corruption, War & Forest Policy: The Role of Forests in Cambodia’s Civil War, its Political Development and Reconstruction*, at 4, paper for the Conference on “War and Tropical Forests: New Perspectives on Conservation in Areas of Armed Conflict”, organized by the International Society for Tropical Forestry and Environmental Studies, Yale University, (Mar. 31-Apr. 1, 2000)[hereinafter Global Witness]. Global Witness is “a small London based non-governmental organization, that focuses on the links between the exploitation of natural resources and conflict.”

“[o]ur state does not have sufficient capital either to expand its strength or enlarge the army. The resources in our liberated and semi-liberated zones absolutely must be utilized as assets.”<sup>583</sup> Similarly, during the Karabakh conflict between Armenia and Azerbaijan, sizable tracts of timber from the Azikh cave in the Fizuli region, one of the first places in the world where evidence of Neanderthal man was discovered, has been cut in the occupied forests of Azerbaijan and exported to Armenia.<sup>584</sup>

Other military governments, such as that of the former Burma, have engaged in armed confrontations with the tribal groups who live in the forested mountain areas along the borders with India, Bangladesh, China, Laos, and Thailand.<sup>585</sup> These tribal groups have over-exploited the forest to fund their war effort. In 1996, the Kibira and Ruvubu National Parks in Burundi were used as sanctuaries and entry points for guerrillas fighting the government. As a result, the Parks also became operational areas for government troops, with both sides heavily involved in poaching.<sup>586</sup>

In sum, after assessing the massive impacts of armed conflicts, it is clear that the cost of armed conflict is paid by both the civilian population and the environment. However, protection of people takes precedence over protection of the environment. Because international law and the law of war must be concerned first with direct harm to humans, environmental concerns have always received less attention. However, as environmental awareness is increased among nations, it is becoming clear that wanton environmental destruction has had a severe impact on humankind. Not only are people immediately affected by pollution, the release of toxic chemicals, and other environmental insults, many of the “substances mobilized during environmental warfare are mutagenic or teratogenic,”<sup>587</sup> impacting both present and future generations.

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<sup>583</sup> *Id.*

<sup>584</sup> Svetlana Turyalay & Elchin Hajiyevev, Impact of the War on the Environment, AZERBAIJAN (Autumn 1994)(2.3) available at <[http://azer.com/aiweb/categories/magazine/23\\_folder/23\\_articles/23\\_warenvironment.html](http://azer.com/aiweb/categories/magazine/23_folder/23_articles/23_warenvironment.html)>, (last Visit Dec. 4, 2000).

<sup>585</sup> McNeely, *supra* note (400) at 6.

<sup>586</sup> *Id.*, at 7.



## **Part II: Environmental Protection in International Humanitarian Law**

It is necessary to survey the history of International Humanitarian Law in order to understand its connection with environmental protection. A number of initiatives to prevent the use of force<sup>588</sup> as a method of settling international conflicts have been identified throughout history. Notable among these initiatives are The Hague Conventions for the Pacific Settlement of International Disputes of 1907, the Pact of the League of Nations of 1919,<sup>589</sup> the Pact of Paris of 1928 and the United Nations Charter of 1945. All these initiatives failed to prevent the use of force completely, since wars are seen everywhere, in the Middle East, South and North America, Asia, Africa, and Europe. As a result, pressure on the international community has grown to “humanize” wars, and reduce their effects on mankind, especially non-combatants.

Consequently, a new field of international law appeared, International Humanitarian Law (IHL), applicable in times of armed conflict.

The codification of this law proceeded cautiously because it dealt with human beings, who are not considered subjects of international law. States, the subject of international law, resisted the internationalization of rules for human protection. Nevertheless, this resistance did not prevent the emergence of IHL, and it came to provide a degree of human protection. While IHL provisions cannot protect human life, health, and the environment completely, traditional IHL is also limited because it deals only with protection of persons, even though natural systems also need to be protected. For example, if wartime harm or injury can be repaired or restored, the IHL rules usually focus on the compensation. However, most environmental harm is a kind of irreparable harm, not measured easily by monetary compensation. For example, the destruction of cultural or historical sites, the pollution of water bodies, the degradation of national

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<sup>587</sup> JAY E. AUSTIN & CARL E. BRUCH EDS., *THE ENVIRONMENTAL CONSEQUENCES OF WAR: LEGAL, ECONOMIC, AND SCIENTIFIC PERSPECTIVES* 5 (Cambridge University Press, 2000).

<sup>588</sup> HILAIRE MCCOUBREY & NIGEL D. WHITE, *INTERNATIONAL LAW AND ARMED CONFLICT* 17-35 (Dartmouth, 1992) [hereinafter MCCOUBREY].

forests, or threats to endangered species cannot easily be measured in solely economic terms. Thus, IHL has to be supplemented by reference to environmental or environmental humanitarian law rules. The environmental law deals with the protection of nature, recognizes that ecological harm is immitigable and cannot be evaluated by money,<sup>590</sup> and therefore focuses to prevent rather than repair environmental damage.

Nonetheless, IHL plays a considerable role in imposing restrictions on combatants in times of armed conflicts, and has achieved some success in the protection of human rights. Moreover, environment concerns have been recognized in IHL provisions, a number of instruments which seek to prevent, directly or indirectly, environmental destruction.<sup>591</sup> Recently, for instance, a provision adding more protection of the environment was adopted at the Second World Conservation Congress, held in Amman, Jordan, 4-11 October, 2000, as is discussed below in the context of examining the specific provisions of the IHL.

However, despite the development of IHL, its success is far from complete. A number of legal lacunas preclude human protection, and combatants do not always comply with their obligations. Moreover, a number of States have not yet signed, or ratified some of the IHL instruments.

Since our subject focuses on times of armed conflict, it is necessary to examine the humanitarian laws of war, as classified under The Hague Law, and the Geneva Law:

[O]ne is the law of warfare proper, otherwise known as the Hague law, which defines the rights and duties of belligerents in the course of military operations and restricts the parties in their choice of the means of injuring the adversary. The body of this law is made up of the conventions adopted at The Hague Peace Conference of 1899 and 1907, excluding the rules which in 1929 and 1949 were taken over into the Geneva conventions, such as the provisions on prisoners of war and the civilian population of the occupied territories, but including the St. Petersburg Declaration of 1868 and the Geneva Protocol of 1925. The other

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<sup>589</sup> Treaty of Versailles, June 28, 1919, Ch. 1, 12 B.F.S.P. 1, available at <<http://history.acusd.edu/gen/text/versaillestreaty/vercontents.html>>, (last visit Dec. 25, 2001) [hereinafter Treaty of Versailles].

<sup>590</sup> Therefore, some of the international environmental treaties will not be discussed under this part, such as ENMOD, and the Convention on the Protection of the World Cultural and Natural Heritage because the destruction of historical buildings and sites is totally different than the destruction of any other buildings, and is not subject to any monetary compensation, that IHL usually deals with.

<sup>591</sup> Such as the Additional Protocol I to the Geneva Conventions of 1949.

part of the laws of war is international humanitarian law taken in the narrow sense, known otherwise the Geneva law, which is concerned with the protection of soldiers rendered *hors de combat* and [keeping civilians] out of hostilities.<sup>592</sup>

However, while the Geneva laws are characterized by strict, nonderogable prohibitions,<sup>593</sup> The Hague laws are vaguely worded and permissive, enabling powerful States to use advanced military technology with no regard to humanitarian consequences.<sup>594</sup>

Some international law experts use the narrow term Geneva Law as a synonym for IHL rules.<sup>595</sup> Armed conflict may have been, to some degree, humanized, by the adoption of these rules. IHL offers an advanced humanitarian protection, and a basic environmental protection. Human protection is the main focus of the IHL provisions. They also seek to protect hospitals, schools, and places of worship as necessary to human welfare. But the environment as an indivisible element of human life needs to be protected also, because people have the right to live in a clean and safe environment. For example, during the Gulf War II, IHL provisions were applied vigorously in order to protect the lives of the civilian population. But the environment was completely ignored from such protection. As a result, the Kuwaiti environment was and is still highly polluted with variety of known and unknown hazardous materials such as DU.<sup>596</sup> According to Britain's Atomic Energy Authority (UKAEA) secret report, the allies had left at least forty tons of DU, enough to cause "500,000 potential deaths."<sup>597</sup> DU was created severe health problems as a result of its presence in the food chain and water

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<sup>592</sup> GÉZA HERCZEGH, *DEVELOPMENT OF INTERNATIONAL HUMANITARIAN LAW* 56, 57 (AKADÉMIAI KIADÓ, Budapest, 1984) [hereinafter HERCZEGH].

<sup>593</sup> Roger Normand & Chris af Jochnick, *The Legitimation of Violence: A Critical History of the Laws of War* 35 HARV. INT'L L. J. 387, 387 fn. 2 (1994) [hereinafter Normand & Jochnick].

<sup>594</sup> William V. O'Brien, *The Meaning of 'Military Necessity' in International Law*, 1 WORLD POLITY: A YEARBOOK OF STUDIES IN INTERNATIONAL LAW & ORGANIZATION 109, 135 (1957). See also, *Id.*

<sup>595</sup> See, MCCOUBREY, *supra* note (588) at 257.

<sup>596</sup> The Radiation Levels in Kuwait are Within the National Standards, AL-WATAN Kuwaiti Daily Newspaper, in Arabic) electronically version available at <<http://www.alwatan.com.kw/Wednesday/n9.html>>, (last visit Jan. 18, 2001).

<sup>597</sup> The Edge Gallery, Nuclear Bullets-Conventional Weapons?, available at <[http://www.leb.net/IAC/nuclear\\_bullets.html](http://www.leb.net/IAC/nuclear_bullets.html)>, (last visit Jan. 24, 2001).

supplies.<sup>598</sup> Despite this serious threat to the environment and to human health, IHL offered no platform to deal with, or even recognize, this hazard.

Humanitarian protection should not be limited to the direct effects of armed conflict on civilian population, it should be extended to the indirect impacts of armed conflict on them too, to offer a real and a powerful protection to both civilians and combatants in times of armed conflicts. Both humanitarian organizations and environmental organizations seek to prevent armed conflict from affecting humans as a primary objective, and the environment only as a secondary objective. Closer harmony and more collaboration between these organizations is necessary to ameliorate the situation, as we will examine in the final part of this thesis.

### ***A- Definition of International Humanitarian Law, and its Relationship to Environmental Protection***

It is difficult to distinguish between IHL and other fields of law that have similar characters, such as the international law of human rights that protects human rights in peacetime. IHL is defined “as being that considerable section of international law which is pervaded by the feeling of humanity and is aimed at the protection of the person.”<sup>599</sup> According to this definition, IHL has a broad sweep.<sup>600</sup> Humanitarian law in the broad sense “divides into two branches. It comprises, on one hand, the laws of war (*Jus in bello*) and, on the other, human rights (*Jus contra bellum*).”<sup>601</sup> Further, IHL applies “from the initiation of [...] armed conflicts and extends beyond the cessation of hostilities until a general conclusion of peace is reached; or, in the case of internal conflicts, a peaceful settlement is achieved. Until that moment [of peace] international humanitarian law continues to apply [to all the] warring States or, in the case of internal conflicts, in the

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<sup>598</sup> *Id.*

<sup>599</sup> PICTET, J. S., LES PRINCIPES DE DROIT INTERNATIONAL HUMANITAIRE (in French) 7 [The International Humanitarian Law's Principles] (ICRC, Geneva, 1966).

<sup>600</sup> HERCZEGH, *supra* note (627) at 56.

<sup>601</sup> *Id.*

[entire] territory under the control of a party, whether an actual [war] take place there or not.”<sup>602</sup>

International humanitarian law focuses primarily on the protection of people in times of armed conflicts. But, protecting people’s lives only and leaving them in a polluted environment, as a result of armed conflict, is not adequate. While armed conflict may directly kill civilians, a polluted environment will directly harm civilians and indirectly kill them.

In times of armed conflict, humanitarian organizations work hard to prevent human casualties. Recently, these organizations have discovered also that environmental protection is necessary to achieve real humanitarian protection. Therefore, part of their efforts has been directed at the environmental protection. This protection “could substantially limit environmental damage.”<sup>603</sup> For example, in the aftermath of the 1991 war in Somalia, large areas of Mogadishu were deprived of “a single drop of water.”<sup>604</sup> Therefore, ICRC adopted a program to drill and rehabilitate boreholes to increase the water supply to most of the city. Between 1995 and 1997, “six new boreholes were drilled, tested, and equipped with a submersible pump, four boreholes were cleaned and equipped, and twelve hand-dug wells were equipped with submersible pumps powered by diesel generators.”<sup>605</sup> Thus, the ICRC recognized that environmental concerns were crucial to meeting their humanitarian objectives. Other humanitarian organizations have adopted similar programs.<sup>606</sup>

However, most of these organizations do not have the technical or scientific expertise to address environmental concerns, they are poorly equipped to make “a

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<sup>602</sup> *Prosecutor v. Tadic*, IT-94-1, Apr. 20, 1999, at 441-42, 1999 WL 33483462. See, LESLIE C. GREEN, *ESSAYS ON THE MODERN LAW OF WAR* 220 (1999).

<sup>603</sup> Bouvier, *Protection of the Natural Environment*, *supra* note (81) at 570.

<sup>604</sup> Pier Giorgio Nembrini & Riccardo Conti, *In A Town Scarred by War*, in *FORUM: WAR AND WATER* 54 (ICRC Publications, 1998).

<sup>605</sup> *Id.*

<sup>606</sup> An example of humanitarian organizations is the Médecins Sans Frontières (MSF), or Doctors Without Borders (DWB) which was founded in 1971 by Physicians who believed that “populations in danger had a right to humanitarian assistance, and that this right supersedes the sovereignty of the state.” Another example is Médecins Du Monde (MDM), or Doctors of the World (DOW) which was created in 1980 by a group of French doctors in response to the “Exodus of Vietnamese Refugees.” The goal of MDM is to provide medical assistance resulted from natural and political catastrophies. See Barry S. Levy & Victor W. Sidel, *Médecins Sans Frontières (MSF)*, in *WAR AND PUBLIC HEALTH* 309 (American Public Health Association, 2000); Victor W. Sidel & Barry S. Levy, *Médecins Du Monde (MDM)*, in *WAR AND PUBLIC HEALTH* 310 (American Public Health Association, 2000).

scientific assessment of the environmental damage caused by modern warfare and a thorough analysis of the content and limitations of the rules in force.”<sup>607</sup> Environmental organizations, however, do have that expertise, and therefore should be considered to be the most capable body to protect the environment, even in times of armed conflict.

Entry into the battlefield is not easy even for the purpose of providing humanitarian or environmental relief to civilians. For military and security reasons, belligerents do not allow any third party to access to the battlefield. Communications between civilians and aid organizations are often difficult. However, a neutral person, state, or organization may play the role of mediator between the involved parties. Usually, the ICRC has a special position that allows its agents to enter the battlefield under international treaties such as Articles 10 paragraphs 3 of the Geneva Conventions I, II, and III<sup>608</sup> and Article 11 paragraph 3 of the Geneva Convention IV,<sup>609</sup> which states that

If protection cannot be arranged accordingly, the Detaining Power shall request or shall accept, subject to the provisions of this Article, the offer of the services of a humanitarian organization, such as the International Committee of the Red Cross, to assume the humanitarian functions performed by Protecting Powers under the present Convention.”

And Article 5 (4) of the Additional Protocol I to the Geneva Conventions<sup>610</sup> states that

If, despite the foregoing, there is no Protecting Power, the Parties to the conflict shall accept without delay an offer which may be made by the International Committee of the Red Cross or by any other organization which offers all guarantees of impartiality and efficacy, after due consultations with the said Parties and taking into account the result of these consultations, to act as a substitute. The functioning of such a substitute is subject to the consent of the Parties to the conflict; every effort shall be made by the Parties to the conflict to facilitate the operations of the

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<sup>607</sup> Bouvier, *Protection of the Natural Environment*, *supra* note (81) at 570.

<sup>608</sup> Geneva Convention (I), *supra* note (56) art. 10 par. 3; Geneva Convention (II), *supra* note (56) art. 10 par. 3; Geneva Convention (III), *supra* note (56) art. 10 par. 3.

<sup>609</sup> Geneva Convention (IV), *supra* note (56) art. 11 par. 3.

<sup>610</sup> Additional Protocol (I), *supra* note (79) art. 5 (4).

substitute in the performance of its tasks under the Conventions and this Protocol.

Additionally, ICRC can enter a battlefield under formal agreements with belligerents, or because of the decades-old custom that permits it to intervene as an “impartial humanitarian body”<sup>611</sup> in order to ease the plight of civilian populations by protecting their lives and health, and insuring respect for their dignity. Usually, the ICRC plays a remarkable role in both internal and international armed conflicts by calling the warring parties to adhere to IHL principles. Such efforts start with contacts between ICRC delegates and representatives of the involved parties. Later, these contacts are summed up in a public statement. The public statement could be “a press release, as in the Greek Civil War (February 26, 1947) or to the Jewish and Arab populations of Palestine (March 12, 1948), or a radio announcement, as in Guatemala (1954), Hungary (1956), and Cuba (1958).”<sup>612</sup> Further, ICRC appeals can take the form of “an extensive campaign of dissemination by the press and the radio, and the distribution of booklets and posters as in Rhodesia/Zimbabwe or with the armed forces of the government in El Salvador.”<sup>613</sup> For instance, a group of Peruvian rebels broke into the Japanese Ambassador’s residence in Lima, Peru in December 1996, and took some diplomats, Peruvian government officials, and members of the press as hostages. Thereafter, the ICRC played a significant role by entering the Ambassador’s residency to verify the condition of the hostages.<sup>614</sup> Moreover, it played the role of a negotiator and handed the Peruvian government a statement from the rebels.<sup>615</sup> Further, the ICRC supplied various items to alleviate the hostages’ conditions, such as “canned meats, greens, fruit, toilet paper, disinfectant, cards, chess sets, dominoes and portable

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<sup>611</sup> The title of “impartial humanitarian body” was given to the ICRC by the Geneva Conventions. *See*, Geneva Convention (I), (II), and (III), *supra* note (56) common arts. 3 & 9; Geneva Convention (IV), *supra* note (56) arts. 3 & 10.

<sup>612</sup> Michel Veuthey, *Implementation and Enforcement of Humanitarian Law and Human Rights Law in Non-International Armed Conflicts: The Role of the International Committee of The Red Cross*, 33 AM. U. L. REV. 83, 91-92 (1983).

<sup>613</sup> *Id.*, at 92.

<sup>614</sup> Calvin Sims, *Guerrillas in Peru Threaten to Kill Hostages*, N.Y. TIMES, Dec. 19, 1996, at A6.

<sup>615</sup> Tim Johnson, *Red Cross Emerges Big Winner in Standoff*, THE OTTAWA CITIZEN, Dec. 31, 1996, at B2.

toilets,”<sup>616</sup> as well as blankets, pillows, daily clothing, bottled water and food.<sup>617</sup> The Red Cross also delivers messages from hostages’ families.<sup>618</sup> The ICRC undertakes “the bulk of protective activities conducted under humanitarian law,”<sup>619</sup> and has a general right of humanitarian intervention. This right is subject to the consent of the parties concerned.<sup>620</sup> The statute of the ICRC provides in Article 4 (2) that ICRC “may take any humanitarian initiative which comes within its role as a specifically neutral<sup>621</sup> and independent institution and intermediary, and may consider any question requiring examination by such an institution.”<sup>622</sup>

Since the ICRC has been mandated by the international community “to work for the understanding and dissemination of knowledge of international humanitarian law applicable in armed conflicts and to prepare any development thereof,”<sup>623</sup> it is naturally directly concerned by the problem of the protection of the environment in time of armed conflict.<sup>624</sup> The ICRC has a vital role to play, in cooperation with other bodies expert in environmental matters, in taking the initiative to fight environmental hazards in wartime.<sup>625</sup> However, ICRC cannot replace environmental organizations such as the IUCN, in its task of safeguarding nature and the environment, and by analogy, the IUCN cannot replace the ICRC in its task of protecting people in times of armed conflicts. But both can be unified in the task of environmental protection, for the ICRC as a necessary

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<sup>616</sup> Linda Diebel, *Gradual Freeing of Hostage Promised by Rebel Leader*, THE TORONTO STAR, Dec. 22, 1996, at B2.

<sup>617</sup> *Id.*, at A15.

<sup>618</sup> Clifford Krauss, *Aid Worker Wins Fame in Cooling Peru Crisis*, N.Y. TIMES, Dec. 30, 1996, at A8.

<sup>619</sup> Neil A.F. Popovic, *Humanitarian Law: Protection of the Environment, and Human Rights*, 8 GEO. INT’L ENV’T L. REV. 67, 67 (1995) [hereinafter Popovic].

<sup>620</sup> Geneva Conventions (I)-(III), *supra* note (56), art. 9; Geneva Convention (IV), *supra* note (56) art. 10.

<sup>621</sup> According to the neutrality principle, the ICRC can provide effective aid to the warring parties. For example, in the late 1980s, the Ethiopian authorities allowed the ICRC to continue its humanitarian activities while other humanitarian organizations, such as Médecins Sans Frontières were obliged to leave as a result of “publicizing governmental actions”, which was considered as a violation the neutrality principle. *See*, Cobey, *supra* note (140) at 311.

<sup>622</sup> ICRC Statutes, *supra* note (74) at 537-543.

<sup>623</sup> ICRC Statute, *supra* note (74) art. 4 (1) (g).

<sup>624</sup> Antoine Bouvier, *Recent Studies on the Protection of the Environment in Time of Armed Conflict*, 291 INT’L REV. OF THE RED CROSS 554, 556 (1992).

<sup>625</sup> Glen Plant, *Responses to the London Conference and the Ottawa Conference of Experts on the Use of the Environment as a Tool of Conventional Warfare, 10-12 July 1991*, in ENVIRONMENTAL PROTECTION AND THE LAW OF WAR: A ‘FIFTH GENEVA’ CONVENTION ON THE PROTECTION OF THE ENVIRONMENT IN TIME OF ARMED CONFLICT 166 (GLEN PLANT ED., 1992) [hereinafter Plant, ENVIRONMENTAL PROTECTION AND THE LAW OF WAR: A ‘FIFTH GENEVA’ CONVENTION].



element of humanitarian protection, and for the environmental organization because of its specific mandate.

A number of environmental organizations, such as the International Union for the Conservation of Nature and Natural Resources (IUCN), may play a consultative role to ICRC agents during both peacetime and times of armed conflicts. For example, a neutral body could act as a representative of the environment, and be involved with establishing and supervising environmental sanctuaries, rendering advisory opinions as to whether regarding whether certain military activities are permissibly ‘proportional,’ and supervising or assisting with cleanup or remediation actions conducted in the zone of military operations.<sup>626</sup>

Consequently, humanitarian organizations and environmental organizations should maintain a kind of cooperation, in order to introduce environmental agents into humanitarian missions. Environmental agents could report any situations related to their competence regarding environmental matters, while humanitarian agent report violations of civilians’ and/or combatants’ rights. Therefore, it is important that ICRC establish a sort of cooperation with environmental organizations. Such cooperation will make possible an enviro-humanitarian mission, composed of both environmental agents and humanitarian agents, to prevent, control, and treat any humanitarian or environmental violations.

### ***B-The Environmental Protection Provisions in the IHL***

The laws of war focus on the treatment of civilians and prisoners of war, and the use of weapons of mass destruction, but neglect environmental protection. However, IHL does not ignore environmental protection completely. Its modest environmental concerns related to the human protection. As long as environmental degradation does not affect human health and welfare, IHL does not formally encompass it.<sup>627</sup> For example, IHL does not condemn desertification, or deforestation of unoccupied areas, because such

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<sup>626</sup> Michael D. Diederich, *Law of War and Ecology, A Proposal for a Workable Approach to Protecting the Environment through the Law of War*, 136 MIL. L. REV. 137, 160 (1992) [hereinafter Diederich].

<sup>627</sup> GÉZA HERCZEGH, *La Protection de l’Environnement Naturel et le Droit Humanitaire*, in STUDIES AND ESSAYS ON INTERNATIONAL HUMANITARIAN LAW AND RED CROSS PRINCIPLES 732 (CHRISTOPHE SWINARSKI ED., 1984).

events do not affect human health or welfare directly. Therefore, in spite of the inclusion of some environmental protection provisions in the IHL, the environment is still subject to flagrant abuses, and the actual mechanism of environmental protection in the IHL is defective.

The environmental protection provisions that adopted by the IHL might be divided into general provisions and specific provisions as follows:

## 1. General Provisions

For the purpose of this thesis, general provisions will be identified in IHL instruments that can be read broadly to include both humanitarian protection and environmental protection. The goal of these provisions is to limit the ability of belligerents to choose methods and means of warfare that might affect the environment.

### **a. The Choice of Methods or Means of Warfare or Injuring the Enemy is not Unlimited**

The U.N. Charter prohibits war and most armed conflicts. Nevertheless, the use of force is justified if used in self-defense, as authorized in Article 51 of the U.N. Charter.<sup>628</sup> However, when war occurs, combatants should seek specifically to neutralize the other party's armed forces, and not to cause unnecessary harm to civilian population or the natural environment. Therefore, environmental warfare should be prohibited completely. The limit on belligerents' choice of methods of warfare was set forth in the Declaration of St. Petersburg of 1868 as follows:

[T]he only legitimate object which States should endeavor to accomplish during war is to weaken the military forces of the enemy; that for this purpose it is sufficient to disable the greatest possible number of men; that this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable; that the

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<sup>628</sup> U.N. CHARTER, *supra* note (71) art. 51.

employment of such arms would, therefore, be contrary to the laws of humanity.<sup>629</sup>

This rule, established 132 years ago, condemns the use of arms that exceed the goal of war, which is to weaken the military forces of the enemy. This limit might be extended to protect the environment, since the use of weapons in a way that affected the environment is also likely to “aggravate” the suffering of disabled men, or render their death inevitable.”

Thirty one years later, this limit was confirmed in Article 22 of the Regulations Annexed to The Hague Conventions Respecting the Laws and Customs of War on Land of 1899 and 1907. Article 22 states that “the right of belligerents to adopt means of injuring the enemy is not unlimited.”<sup>630</sup> Unlike the terms used by the St. Petersburg Declaration, the language of The Hague Conventions was quite broad. That language may be interpreted to protect both civilian populations and the environment as well enemy combatants. Humanitarian harm may be inflicted through environmental destruction. For example, polluting drinking water supplies, destroying chemical or nuclear complexes and releasing toxic emissions in the air, and destroying sewage treatment facilities and dumping raw materials in water bodies, will affect the environment primarily and the people secondarily.

Seventy years later, Article 35 (1) of the Additional Protocol I to the Geneva Conventions of 1949, iterates The Hague Convention’s terms, except that the limit imposed on belligerents was extended to apply also to internal armed conflict. Article 35 (1) states that “in any armed conflict, the right of the Parties to the conflict to choose methods or means of warfare is not unlimited.”<sup>631</sup>

Unlike The Hague Conventions, the Additional Protocol I does not limit the means of injuring the enemy, but it does limit the choice of methods or means of warfare. The technological development of modern armaments evoked the adoption of the new term; high-tech means of warfare do not necessarily injure people despite their ability to

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<sup>629</sup> Declaration Renouncing the Use in Time of War of Certain Explosive Projectiles under 400 Grams in Weight, para. 2 St. Persburg, 1868, 1 AM. J. INT’L L. (Supp.) 95.

<sup>630</sup> Convention Respecting the Laws and Customs of War on Land , July 29, 1899, Annex art. 22, 32 Stat. 1803 [hereinafter The Hague Convention (II) of 1899]; The Hague Convention (IV) of 1907, *supra* note (205) Annex, art. 22.

devastate the environment. Therefore, the term used by Article 35 (1) of Additional Protocol I as a general provision is the most advanced and effective regarding the environmental protection.

## **b. Principle of Discrimination**

To be lawful, weapons and tactics must clearly **discriminate** between military and non-military targets, and be confined in their application to military targets. Indiscriminate warfare is illegal *per se*, although indirect damage to civilians and civilian targets is not necessarily illegal.<sup>632</sup>

The term ‘discriminate’ is a purely military term, under which the combatant “must always distinguish between civilians and civilian objects on the one hand, and combatants and military targets on the other.”<sup>633</sup> During armed conflict, harm should be limited to the combatants and military targets only. Civilians or civilian objects should be immunized from being attacked by the involved parties. For example, schools, hospitals, worship places, parks, bridges and dams should be excluded from military operations. Therefore, indiscriminate warfare including the carpet-bombing<sup>634</sup> or an attack likely to cause collateral damage to civilian population or objects “which would be excessive in relation to the concrete and direct military advantage anticipated,”<sup>635</sup> is considered illegal *per se*.

Practically, the application of this principle is not easy, especially when military commanders protect their combatants and targets by placing them under the cover of civilian objects. For example, during World War I the “Germans were using a particular

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<sup>631</sup> Additional Protocol (I), *supra* note (79) art. 35 (1).

<sup>632</sup> Richard Falk, *The Environmental Law of War: An Introduction*, in ENVIRONMENTAL PROTECTION AND THE LAW OF WAR: A ‘FIFTH GENEVA’ CONVENTION ON THE PROTECTION OF THE ENVIRONMENT IN TIME OF ARMED CONFLICT 84 (GLEN PLANT ED., 1992) [hereinafter Falk, *The Environmental Law of War*].

<sup>633</sup> Heike Spieker, *Civilian Immunity*, in CRIMES OF WAR “WHAT THE PUBLIC SHOULD KNOW,” 84 (Roy Gutman & David Rieff Eds., 1999) [hereinafter Spieker].

<sup>634</sup> Carpet-bombing intensively used by the American military in Vietnam, Gulf War II and in Afghanistan 2001.

<sup>635</sup> Spieker, *supra* note (633) at 84.

church belfry as a sniper's post in a town in the Rhineland, making it a legitimate military target for the Allies."<sup>636</sup> Similarly, during Gulf War II, the Iraqi President, Saddam Hussein, in order to protect some strategic sites from the coalition's attack, resorted to this illegal method of warfare. He placed some Western citizens, which he described as 'Iraq's guests,' as a human shield around these sites. Later he placed a civilian shelter on top of a military communication center in Ameriyya, which thus became a legitimate military target, even though attacks on it caused "an estimated 200-300 casualties."<sup>637</sup> Moreover, the massacre occurred in Ghana, Lebanon, in April 11, 1995, Israel, under the pretext of striking back over Hizballah Guerrillas targeting Israeli cities, attacked civilians sheltered in a United Nations installation, in Ghana, Lebanon.<sup>638</sup> Around 100 civilian casualties resulted directly from this attack.<sup>639</sup> This attack also destroyed the United Nations building that sheltered the victims. Therefore, under the means of attacking military targets or combatants, the environment will be frequently subject to military atrocities.

This rule was created to restrict warfare operations to military objects and combatants. However, armed forces may go beyond this rule, to the minimum extent possible, in order to eliminate an enemy's force, especially when the enemy uses civilian populations as a cover for military targets and personnel.

### c. Principle of Proportionality

To be lawful, weapons and tactics must be **proportional** to their military objective. Disproportionate weaponry and tactics are excessive, and as such, illegal.<sup>640</sup>

<sup>636</sup> Ruth Wedgwood, *Responding to Terrorism, The Strikes Against Bin Laden*, 24 YALE J. INT'L L. 559, 569 (1999) [hereinafter Wedgwood, *Responding to Terrorism*].

<sup>637</sup> Normand & Jochnick, *supra* note (593) at 396 fn. 34.

<sup>638</sup> Joel Greenberg, *Civilian, Illegal Target of*, in CRIMES OF WAR "WHAT THE PUBLIC SHOULD KNOW," 85 (Roy Gutman & David Rieff Eds., 1999).

<sup>639</sup> NADA AL-DUAIJ, THE MANDATE SYSTEM OF THE SECRETARY GENERAL: A COMPARATIVE STUDY TO THE SYSTEMS IN THE UNITED NATIONS, ARAB LEAGUE AND THE GULF COOPERATION COUNCIL 84 (L.L.M. paper presented in Arabic to the Faculty of Law, Kuwait University, 1997-8).

<sup>640</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 84.

The proportionality principle places limits on belligerents in choosing methods and tactics of warfare. The proportionality principle requires the comparison between two elements, the military target and the environmental effects. Prior to destroying a natural resource site by military activity, the military authority should balance the expected environmental harm vis-à-vis the military benefits expected to be gained.<sup>641</sup> Whenever the environmental damage outweighs the military advantage, the military operation should be avoided. Even when the enemy misuses the civilians, the “attacking forces are still obliged to meet the test of whether predictable harm would be proportional to the military advantage.”<sup>642</sup> If the harm is “excessive in relation to the concrete and direct military advantage anticipated,” it is considered a war crime.<sup>643</sup> Similarly, military operations that cause environmental damage are illegal if they are disproportional to the military advantage. For example, destroying a protected area of endangered species, and may be judged as a ‘war crime’<sup>644</sup> if that destruction outweighs any military benefit. According to Article 57 (2) (b) of the Additional Protocol I, “an attack shall be suspended if it becomes apparent that the objective is not a military one or is subject to special protection [...] which would be excessive in relation to the concrete and direct military advantage anticipated.”

For example, the direct environmental assault during the Vietnam war - when the United States sought to subdue its guerrilla enemy using among other things herbicides, high explosive ammunitions, and mechanical land clearing to effectuate large-scale deforestation and crop destruction- was disproportional, because the environmental loss clearly outweighed the realized military objectives.<sup>645</sup> Another example is the oil well fires by Iraqi troops in Kuwait, in 1991. To decide whether a military action is proportional or not is a commander’s responsibility. Even though such decision may be “performed under condition of imperfect information,”<sup>646</sup> military commanders should be held responsible before the competent international court, or tribunal.

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<sup>641</sup> Diederich, *supra* note (626) at 160.

<sup>642</sup> Gaby Rado, *Legitimate Military Targets*, in CRIMES OF WAR “WHAT THE PUBLIC SHOULD KNOW,” 228 (ROY GUTMAN & DAVID RIEFF EDS., 1999) [hereinafter Rado].

<sup>643</sup> *Id.*,

<sup>644</sup> *Id.*,

<sup>645</sup> Diederich, *supra* note (626) at 149.

<sup>646</sup> Rado, *supra* note (642) at 228.

The proportionality principle may be particularly relevant when a more sophisticated army is involved in a war with a developing force that lacks equally advanced weaponry. The advanced force “should employ only weapons similar to those in the possession of its weaker opponent”<sup>647</sup> or the war, in such case, will be deemed an unjust war.

The proportionality principle is set forth in Articles 35 (2), 51 (5)(b), and 57 (2)(a)&(b) of the Additional Protocol I of Geneva conventions as follows:

It is prohibited to employ weapons, projectiles and material and methods of warfare of a nature to cause superfluous injury or unnecessary suffering,<sup>648</sup> [...or to engage in a]n attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated<sup>649</sup> [...w]ith respect to attacks, the following precautions shall be taken: (a) those who plan or decide upon an attack shall: (i) do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protection but are military objectives within the meaning of paragraph 2 of Article 52 and that it is not prohibited by the provisions of this Protocol to attack them; (ii) take all feasible precautions in the choice of means and methods of attack with a view to avoiding, and in any event to minimizing, incidental loss of civilian life, injury to civilians and damage to civilian objects; (iii) refrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated; (b) an attack shall be canceled or suspended if it becomes apparent that the objective is not a military one or is subject to special protection or that the attack may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.”<sup>650</sup>

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<sup>647</sup> See Fenrick, *The Role of Proportionality and Protocol I in Conventional Warfare*, 98MIL. L. REV. 91 (1982) [hereinafter Fenrick].

<sup>648</sup> Additional Protocol (I), *supra* note (79) art. 35 (2).

<sup>649</sup> Additional Protocol (I), *supra* note (79) art. 51 (5) (b).

<sup>650</sup> Additional Protocol (I), *supra* note (79) art. 57 (2) (a) (b).

The Additional Protocol I offers great protection to civilians and civilian objects. This protection can be extended to apply to the environment. However, that will create two dilemmas, First, such protection does not prohibit environmental damage that may be considered proportional, from a military point of view. Second, it does not offer a criteria or a standard upon which military commanders can determine whether a particular operation is or is not proportional to a legitimate military objective.

Moreover, it is obvious that military targets are always placed in the environment, whether on the ground, water, or the air. Consequently, any attack would necessarily affect the environment or at least one of its elements. Therefore, the need to minimize unnecessary environmental harm suggests that a new provision should be created to strictly prevent any attack directed to civilians, civilian objects, military personnel, or military targets, that may cause environmental harm disproportional to the military advantage. Accordingly, combatants will avoid any use of force that may cause excessive environmental harm.

#### **d. Principle of Humanity**

To be lawful no weapon or tactic can be validly employed if it causes **unnecessary suffering to its victims**, whether this is by way of prolonged or painful death or is in a form calculated to cause severe fright or terror. Accordingly, weapons and tactics that spread poison or disease or do genetic damage are generally illegal *per se*, as they inflict unacceptable forms of pain, damage, death and fear; all forms of deliberate ecological disruption would appear to fall within the sway of this overall prohibition.<sup>651</sup>

The duty to refrain from targeting civilian populations was iterated in the U.N. General Assembly Resolution 2444, “Respect for Human Rights in Armed Conflict” adopted on December 18, 1969.<sup>652</sup> The Resolution states that “a) the right of parties to a conflict to adopt means of injuring the enemy is not unlimited; b) it is prohibited to launch attacks against the civilian population as such; c) a distinction must be made at all

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<sup>651</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 84-85.



times between persons taking part in the hostilities and members of the civilian population to the effect that the latter be spared as much as possible...”<sup>653</sup> Accordingly, IHL attempts to humanize war to the extent possible, by preventing the unnecessary suffering of victims. Therefore, a number of tactics and methods of warfare were prohibited, such as spreading poisons, diseases, or doing genetic damage.

Modern arms technology make possible both adherence to, and violation of, this Principle. First, technology makes it possible to electronically direct ammunitions to destroy the intended military target without causing non-military damage. However, the second, the negative side of this technology, allows combatants to affect both military and civilian population by threatening very wide-scale damage. The second face of the technology should be eliminated and prohibited. For example, despite the use of the United States Army to the most modern arms technology, in 2001 a number of civilian objects, such as the Red Cross installation, mosques, and hospital were mistakenly targeted in Afghanistan.<sup>654</sup> Another casualties occurred in 1991 in Ameriyya Shelter, Iraq.<sup>655</sup>

Despite international efforts to eliminate and prohibit such tactics and methods of warfare, a number of states are still offering fortunes to get this fatal technology, and use them against their enemies and their own population too. A significant example was when Iraq used chemical agents against Kurds in Halabjah, located in the Sulaimaniya province near the Iraq-Iran border, in 1988.<sup>656</sup> Iraqi forces dropped cluster bombs, containing a combination of mustard gas, nerve gas and cyanide on Halabjah.<sup>657</sup> Within a few hours approximately 5,000 people were dead, the majority children, women, and

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<sup>652</sup> G.A. Res. 2444, Respect for Human Rights in Armed Conflict, 23 U.N. GAOR Supp. (No. 18) at 164, U.N. Doc. A/7433(1968).

<sup>653</sup> *Id.*

<sup>654</sup> See, Cnn.com, *Walter Rodgers: U.N. take on hospital bombing*, Oct. 23, 2001, available at <<http://www.cnn.com/2001/WORLD/asiapcf/central/10/23/ret.rodgers.otsc/index.html>>, (last visit Nov. 12, 2001); Cnn.com, *Taliban accuse U.S. of 'genocide'*, Oct. 22, 2001, available at <<http://www.cnn.com/2001/WORLD/asiapcf/central/10/22/ret.taliban.ambassador/index.html>>, (last visit Nov. 12, 2001); Cnn.com, *U.S. admits mistakenly targeting Red Cross warehouse*, Oct. 17, 2001, available at <<http://www.cnn.com/2001/US/10/17/ret.pentagon.redcross/index.html>>, (last visit Nov. 12, 2001).

<sup>655</sup> Normand & Jochnick, *supra* note (593) at fn 34.

<sup>656</sup> BRENDA K. UEKERT, *RIVERS OF BLOOD: A COMPARATIVE STUDY OF GOVERNMENT MASSACRES* 71 (Praeger, 1995) [hereinafter UEKERT].

<sup>657</sup> JOHN BULLOCH & HARVEY MORRIS, *NO FRIENDS BUT THE MOUNTAINS: THE TRAGIC HISTORY OF THE KURDS* 142 (Oxford University Press, 1992.)

elderly.<sup>658</sup> Mustard gas is one of the fatal chemical agents that is long-lived in the environment, which means that long-term environmental effects will occur.<sup>659</sup> Similarly, in World War I, mustard gas was used in some battlefields; however, in 1997 there is still some exposure from mustard gas to underwater disposal areas.<sup>660</sup> However, despite the Halabjah massacre that impacted people and the environment, the international community did not respond. Even countries in the Middle East did not monitor such atrocity, nor condemn the act. Further, there are a number of signs that Iraq also used chemical weapons, including mustard gas and the nerve agent known as Tabun, against Iran in 1984,<sup>661</sup> and against the coalition during the Gulf War II.<sup>662</sup> The massacre, and the absence of response to it, should be a call to the United Nations Environment Program (UNEP) and other humanitarian and environmental organizations to cooperate to prevent such actions in order to save the globe.

The use of such methods and tactics of warfare will certainly affect the environment, and its prohibition will ameliorate the actual environmental situations. In the case of Halabjah, for example, the city was clean and healthy before the chemical attack, and after the attack, corpses lay undisturbed for months, seeping deadly toxins into the earth, and reportedly contaminating the soil and the water.<sup>663</sup> Furthermore, “agricultural output has dropped dramatically, pomegranate orchards have dried out, and other fruit trees have become unproductive.”<sup>664</sup> Chemical agents had a direct impact on reptiles, so that “snakes and scorpions have become more poisonous since the attack.”<sup>665</sup>

In fact, war to some extent has been humanized. But always there are outlaw states, which do not care about their international obligations, and violate the minimum

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<sup>658</sup> UEKERT, *supra* note (656) at 71.

<sup>659</sup> Mitretek Systems, *Environmental Effects, How Long Do Mustard Gas And Lewisite Remains in the Environment?* available at <<http://www.mitretek.org/mission/envene/faq/faq%205.html>>, (last visit Dec. 14, 2000).

<sup>660</sup> *Id.*

<sup>661</sup> Peter Pringle, *Chemical Weapons*, in CRIMES OF WAR “WHAT THE PUBLIC SHOULD KNOW,” 74 (Roy Gutman & David Rieff Eds., 1999).

<sup>662</sup> See, *Reproductive Hazards and Military Service: What are the Risks of Radiation, Agent Orange, and Gulf War Exposure?* Hearing Before the Committee on Veterans’ Affairs, United States Senate, 103<sup>rd</sup> Cong. 2<sup>nd</sup> Sess. (Aug. 1994)[hereinafter Hearing Before the Committee of Veteran’s affairs].

<sup>663</sup> Gwynne Roberts, *Poisonous Weapons*, in CRIMES OF WAR “WHAT THE PUBLIC SHOULD KNOW,” 279-280 (Roy Gutman & David Rieff Eds., 1999) [hereinafter G. Roberts].

<sup>664</sup> *Id.*, at 280.

<sup>665</sup> *Id.*

standards of humanitarian principles. They should be subject to international liability, as the final part of this thesis will discuss.

#### **e. Principle of Necessity**

To be lawful, weapons and tactics involving the use of force must be reasonably **necessary** to the attainment of their military objective. No superfluous or excessive application of force is lawful, even if the damage done is confined to the environment, thereby sparing people and property.<sup>666</sup>

As a rule, the use of force is prohibited, except in the case of self or collective defense<sup>667</sup> according to Article 51 of the U.N. Charter, which states that “nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security.”<sup>668</sup> Any other use of force will be considered illegal.

In both legal and illegal wars belligerents should be restricted by the principle of necessity, which means that the use of tactics and methods of war should be limited to the minimum extent possible. For example, the use of gases by the Iraqi army against the Kurd population in Halabjah was not necessary to repress their resistance, because the Iraqi regime could have used other methods of warfare against them, such as air force attacks, terrestrial attacks, or even by siege. Moreover, the level of arms and ammunitions used by the coalition during the Gulf War II exceeded any necessity. Weapons of mass destruction were used for the first time in the Gulf, and they impacted the environment severely. Recurring to the use of force to settle any international or national matter is a declaration of a failure of diplomacy. By successfully using diplomacy, a country can

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<sup>666</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 84.

<sup>667</sup> In the introduction to his Annual Report to the 15<sup>th</sup> General Assembly for the Year 1959-60, Dag Hammarskjöld, the second Secretary General of the United Nations, described the role of the U.N. in maintaining peace and security by clarifying that the U.N. can be beneficially deployed in “conflicts, but which, unless solved or localized, might widen the bloc conflicts and seriously aggravate them.” *See*, GEORGES ABI-SAAB, *INTERNATIONAL CRISES AND THE ROLE OF LAW: THE UNITED NATIONS OPERATION IN THE CONGO 1960-1964*, at 2 (Oxford University Press, 1978).

realize its goal without using any arms or ammunitions, and without causing any humanitarian or environmental harm.

The observance of this principle will assure the minimization of humanitarian and environmental loss, especially when armed conflict is taking place between a developed armed force and developing one, such as the war against terrorist in Afghanistan occurred between the U.S. Army with the most universal sophisticated arms and the Taliban armed forces on the horses back.

#### **f. Principle of Neutrality**

To be lawful, no weapon or tactic can be relied upon if it seems likely that it will do harm to human beings, property, or the natural environment of **neutral** or non-participating countries. A country is **neutral** or non-participating if its government declares its **neutrality** and acts in a **neutral** manner, pursuing in relation to the armed conflict a policy that can be assessed to be impartial in view of its behaviour and situation.<sup>669</sup>

The law of neutrality is codified in The Hague Convention V in the Case of War on Land<sup>670</sup> and The Hague Convention XIII in the Case of Naval War.<sup>671</sup> Moreover, The Hague Convention V provides that “the territory of neutral powers is inviolable.”<sup>672</sup> The inviolability concept includes transboundary damage, along with environmental damage.<sup>673</sup>

Armed conflict involves the parties directly concerned. Any other parties will be considered neutral. A country can demonstrate its neutrality by avoiding making any statement, or casting any vote in international organizations, to condemn one party

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<sup>668</sup> U.N. CHARTER, *supra* note (71) art. 51.

<sup>669</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 85.

<sup>670</sup> The Hague Convention (V), *supra* note (82).

<sup>671</sup> The Hague Convention (XIII) Concerning the Rights and Duties of Neutral Powers in Naval War, October 18, 1907, in ICRC, IHL Databases, available at <<http://www.icrc.org>>, (last visit Feb. 20, 2001).

<sup>672</sup> The Hague Convention (V), *supra* note (82) art. 1.

<sup>673</sup> Glen Plant, *Environmental Damage and the Laws of War: Points Addressed to Military Lawyers*, in 2 ARMED CONFLICT AND THE NEW LAW 159, 164 (H. FOX & M. MEYER EDS., 1993) [hereinafter Plant, *Environmental Damage and the Laws of War*].

against the other. This act will protect the neutral state's population and environment<sup>674</sup> against any attack from the parties in conflict. Any attack directed against a neutral power, its population, or its environment, will be considered as an act of aggression. For instance, during World War II, "[c]ompensation was paid to Switzerland [a neutral State] in cases where collateral damage was caused in Swiss territory from attacks on targets in neighboring areas of Germany [...]"<sup>675</sup>

During the Gulf War II, neutral powers were harmed by Iraq. For example, Iraq required the closing of all the foreign embassies in Kuwait, claiming that because Kuwait is its nineteenth Province there should be no embassies in Kuwait. Further, the Iraqi armed forces threatened that after a specific period of time, refusal to close an embassy could result in the loss of diplomatic immunity.<sup>676</sup> Another example is the pollution caused to the air, land, and water pollution in the Gulf region during the Gulf War II, which affected Saudi Arabia, Qatar, Oman, Bahrain, and Iran, most of which are neutral States. Last but not least, on January 18, 1991, Iraq "launched 39 ground-to-ground ballistic missiles into Israel,"<sup>677</sup> which was not involved in the war, killing a total of thirteen people.<sup>678</sup>

In any armed conflict, the environment of a neutral and non-participating country should be protected from any violation. Otherwise, environmental harm should be considered as an aggression, as the environmental impact has a transboundary effect and it is not limited to the first place of the incident.

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<sup>674</sup> Adam Roberts, *Failures in Protecting the Environment in the 1990-91 Gulf War*, in THE GULF WAR 1990-91 IN INTERNATIONAL AND ENGLISH LAW 118 (Sweet & Maxwell, 1993)[hereinafter A. Roberts].

<sup>675</sup> Michael Bothe, *The Protection of the Environment in Times of Armed Conflict: Legal Rules, Uncertainty, Deficiencies and Possible Developments*, 34 GERMAN Y.B. INT'L L. 54, 59-60 (1991) [hereinafter Bothe, *The Protection of the Environment*].

<sup>676</sup> Theodor Meron, *The Gulf Crisis in International and Foreign Relations Law: Prisoners of War, Civilians and Diplomats in the Gulf Crisis*, 85 A.J.I.L. 104, 108 (1991).

<sup>677</sup> HUMAN RIGHTS WATCH, NEEDLESS DEATHS IN THE GULF WAR: CIVILIAN CAUSALITIES DURING THE AIR CAMPAIGN AND VIOLATIONS OF THE LAWS OF WAR 317 (A Middle East Watch Report, 1991) [hereinafter HUMAN RIGHTS WATCH].

<sup>678</sup> *Id.*

### **g. Principle of Intergenerational Equity**

No weapon or tactic can be employed if it inflicts pain, risk of harm and damage, or if it can be reasonably apprehended to do so upon those **unborn**.<sup>679</sup>

In biology, a species that does not care for future generations will be replaced by another that does. However, humans comparatively do care for their future generations.<sup>680</sup> The term “intergenerational equity” term was used nationally for the first time in 1993, when the Philippines Supreme Court referred to intergenerational responsibility in a case involving a group of children as representatives of themselves and future generations to protect their rights to a healthy environment.<sup>681</sup> The Court held that “their personality to sue in behalf of the succeeding generations can only be based on the concept of intergenerational responsibility insofar as the right to a balanced and healthful ecology is concerned.”<sup>682</sup>

Moreover, Principle 3 of the Rio Declaration of 1992 on Environment and Development recognizes the intergenerational equity principle when stating that: “[T]he right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”<sup>683</sup> The term was used internationally for the first time in the 1993 case of Denmark v. Norway, a maritime boundary delimitation case,<sup>684</sup> where the Separate Opinion of Judge Weeramantry declared that “[r]espect for these elemental constituents of the inheritance of succeeding generations dictated rules and attitudes based upon a concept of an equitable sharing which was both horizontal in regard to the present generation and vertical for the benefit of generations yet to come.”<sup>685</sup>

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<sup>679</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 85.

<sup>680</sup> Edith Brown Weiss, *A Reply to Barresi's "Beyond Fairness to Future Generations"*, *Sustainable Development Symposium*, 11 TUL. ENV. L. J. 89, 89 (1997) [hereinafter Weiss].

<sup>681</sup> Minors Oposa v. Secretary Of the Department of Environment and Natural Resources, 33 I.L.M. 173 (1994) [hereinafter Oposa].

<sup>682</sup> *Id.*, at 11-12.

<sup>683</sup> *United Nations Conference on Environment and Development*, Principle 3, U.N. Doc. A/Conf. 15/26, vol. I (1992) [hereinafter Rio Declaration].

<sup>684</sup> Maritime Delimitation in the Area Between Greenland and Jan Mayen (Den. v. Nor.) 1993 I.C.J. 38 (June 1993) [hereinafter (Den. v. Nor.)].

<sup>685</sup> *Id.*, at Separate Opinion of Judge Weeramantry at 277.

The intergenerational equity principle also arose in 1995, when New Zealand challenge the proposed French underground tests in the Pacific before the ICJ, as discussed earlier. Judge Weeramantry declared in his dissenting opinion that the intergenerational equity principle is “an important and rapidly developing principle of contemporary environmental law [...] which must inevitably be a concern of this Court.”<sup>686</sup>

Further, the Preamble of the 1997 Resolution of the Institut de Droit International on Responsibility and Liability under International Law for Environmental Damage recognized that “international environmental law is developing significant new links with the concept of intergenerational equity [which is] influencing the issues relating to responsibility and liability.”<sup>687</sup>

Accordingly, the wrongful act of a generation should never affect the future generations. When an armed conflict occurred, combatants should keep future generations in their consideration. No methods of warfare or tactics should be used if they might affect future generations. The effects of warfare, if they cannot be completely eliminated, should be limited to the generation who decided to recur to the force, or who cannot prevent the war from occurring.

For instance, the effect of atomic radiation in Hiroshima and Nagasaki surpassed the 1945 generation, to affect the future generations.<sup>688</sup> Similarly, the American veterans who returned from the Gulf were contaminated with D.U., and many of their babies were born with different kinds of defects, such as “missing eyes, missing ears, blood infections, respiratory problems and fused fingers.”<sup>689</sup> The intergenerational equity principle was confirmed after the Vietnam war,<sup>690</sup> by the conclusion of the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), of 1976, which uses the term ‘long-lasting’ and the Additional

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<sup>686</sup> (N.Z. v. Fr.), *supra* note (315) Dissenting Opinion of Judge Weeramantry at 341.

<sup>687</sup> Eighth Commission, Rapporteur: Mr. Francisco Orrego Vicuña, *Responsibility and Liability Under International Law for Environmental Damage Resolution, Adopted on September 4, 1997*, 10 GEO. INT’L ENVTL L. REV. 269, 269 (1998.)

<sup>688</sup> GOODWIN, *supra* note (158) at 43.

<sup>689</sup> Leonard A. Dietz, *DU Spread and Contamination of Gulf War Veterans and Others*, in METAL OF DISHONOR: DEPLETED URANIUM, HOW THE PENTAGON RADIATES SOLDIERS & CIVILIANS WITH DEPLETED URANIUM WEAPONS 148 (ROSALIE BERTELL ET AL. EDS., 1997) [hereinafter Dietz].

<sup>690</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 86.

Protocol I to the Geneva conventions, which uses the term ‘long-term’.<sup>691</sup> Thus, both ENMOD and the Additional Protocol I realized that environmental effects cannot be limited to the present generation only, and can impact future generations also.

## **2. Specific Provisions**

A number of IHL instruments include a kind of environmental protection during armed conflict. Some of these instruments refer to the protection of one environmental element or more, without addressing the environmental protection in general. Examples include the protection of private and public properties, and the protection of cultural heritage. Some other instruments address environmental protection more broadly.

Here, we will examine these instruments, classified according to their date of conclusion, starting from The Hague Conventions, the fourth Geneva Convention of 1949, the Additional Protocol I of 1977, the Additional Protocol II of 1977, and the Marten’s Clause.

### **a. The Hague Conventions Respecting the Laws and Customs of War on Land of 1899 and 1907**

The Hague Conventions are part of The Hague law, which

consists of the treaties adopted by the two Hague conferences. The first Hague Peace Conference in 1899, which was a step towards international disarmament, resulted in three conventions: for the peaceful adjustment of international differences; regarding the laws and customs of war on land; and for the adaptation of maritime warfare of the 1864 Geneva Convention. There were also three declarations: to prohibit the launching of projectiles and explosives from balloons or by other similar new methods; to prohibit the use of projectiles, the only object of which is the diffusion of the asphyxiating or deleterious gases; and to prohibit the use of bullets which expand or flatten easily in the human body (‘dum-dum’ bullets). A second Hague Peace Conference was held in 1907. This conference revised the three 1899

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<sup>691</sup> Additional Protocol (I), *supra* note (79) art. 35 (3).



conventions and adopted ten new conventions: respecting the limitation of the employment of force for the recovery of contract debts; relative to the opening of hostilities; relative to the status of enemy merchant ships at the outbreak of hostilities; respecting the rights and duties of neutral powers and persons in case of war on land; relative to the conversion of merchant ships into warships; relative to the laying of automatic submarine contact mines; respecting bombardment by naval force in time of war; relative to the creation of an International prize Court; and concerning the rights and duties of neutral powers in naval war. Also the 1899 declaration prohibiting the discharge of projectiles and explosives from balloons was revised.<sup>692</sup>

The 1899 and 1907 Hague Conventions, which are considered authoritative sources of customary international law, provide that “the right of belligerents to adopt means of injuring the enemy is not unlimited.”<sup>693</sup> The laws of war were comprehensively codified in the 1907 Hague Convention, which presents a degree of protection to the environment. Article 23 (g) of the 1907 Hague Convention proscribed the destruction or seizure of the enemy’s property, “unless imperatively demanded by the necessities of war.”<sup>694</sup> That provision does not offer real protection to the environment because it justified the wanton destruction of the environment, when military necessity arises.

For example, in World War II, the German General Lothar Rendulic ordered the evacuation of all the inhabitants in Finnmark province, Norway, and destroyed all villages.<sup>695</sup> Although the Nuremberg Military Tribunal later accused General Rendulic of wanton property destruction, the tribunal excuplated him on the basis that military necessity justified his actions at that time.<sup>696</sup> On the other hand, some scholars consider Article 23 (g) of the 1907 Hague Convention, an adequate protection of the environment,

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<sup>692</sup> KEITH SUTER, AN INTERNATIONAL LAW OF GUERRILLA WARFARE, 5-6 (St. Martin’s Press) (1984)[hereinafter SUTER].

<sup>693</sup> The Hague Convention (II) of 1899, *supra* note (630) Annex art 22; The Hague Convention IV, *supra* note (205) Annex art 22.

<sup>694</sup> The Hague Convention (IV) of 1907, *supra* note (205) Annex art. 23 (g).

<sup>695</sup> Ensign Florencio J. Yuzon, *Deliberate Environmental Modification Through the Use of Chemical and Biological Weapons: “Greening” the International Laws of Armed Conflict to Establish an Environmentally Protective Regime*, 11 AM. U. J. INT’L L. & POL’Y 793, 815 (1996) [hereinafter Yuzon].

<sup>696</sup> United States v. List, XI Trials of War Criminals before the Nuremberg Military Tribunals 757, 1295-97 (1946-49), *see, Id.*, at 815.

since the environmental resources of a country are the property of a state or of its citizens, which the Article seeks to protect.<sup>697</sup>

In addition, Article 23 (a) of the 1907 Hague Convention forbids the use of poisonous weapons, stating that it is “especially forbidden to employ poison or poisoned weapons,” and 23 (b) prevents the unnecessary suffering of civilians and combatants.<sup>698</sup> Poison gas had been used in World War I in violation of the Convention.

Additionally, both instruments, the 1899 and the 1907 Hague Conventions, put the invaders in the position of “administrator and usufructuary of the public buildings, real property, forests and agricultural works belonging to the hostile state, and situated in the occupied country”<sup>699</sup> and require the invaders to “protect the capital of these properties.”<sup>700</sup> These elements are not classified as spoils of war, and the invaders are prohibited from treating them as such. The destruction of public buildings may affect the cultural heritage, especially when such buildings are deemed a history for the nation. Therefore, for example, destroying the Seif Palace in Kuwait, the Satellite Station of Omm Eleish, and Kuwait University, by the Iraqi troops should be considered a violation of Article 23 of the Annexed Regulations of The Hague Conventions II and IV.

The Annexed Regulations of the 1899 Hague Convention II and the Annexed Regulations of the 1907 Hague Convention IV further enumerate more prohibited actions, including actions that cause unnecessary suffering or destroy the enemy’s property, towns and cultural artifacts. Under those provisions, it is forbidden to “destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessity of war.”<sup>701</sup> Further, Article 27 of the Annexed Regulations of the 1899 Hague Convention II and the Annexed Regulations of the 1907 Hague Conventions IV protect cultural monuments and charitable enterprises,<sup>702</sup> as a part of

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<sup>697</sup> Schwabach, *supra* note (477) at 124.

<sup>698</sup> The Hague Convention (IV) of 1907, *supra* note (205) Annex, art. 23 (a) & (b).

<sup>699</sup> *Id.*, Annex, art. 23; The Hague Convention (II) of 1899, *supra* note (630) Annex, art. 23;

<sup>700</sup> *Id.*

<sup>701</sup> “In addition to the prohibitions provided by special Conventions, it is especially forbidden [...] (g) To destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war.” The Hague Convention (II) of 1899, *supra* note (630) Annex, art. 23 (1)(g); The Hague Convention (IV) of 1907, *supra* note (205) Annex art. 23 (1)(g).

<sup>702</sup> “In sieges and bombardments all necessary steps must be taken to spare, as far as possible, buildings dedicated to religion, art, science, or charitable purposes, historic monuments, hospitals, and places where the sick and wounded are collected, provided they are not being used at the time for military purposes. It is the duty of the besieged to indicate the presence of such buildings or places by distinctive and visible

cultural heritage.<sup>703</sup> In fact, cultural artifacts, monuments, and historical sites are of a great value and may take a long time to be rebuilt with the risk of the loss of their historical value. However, harm to nature often cannot be restored or repaired, and even if it can be restored it may take decades if not centuries. Thus, these provisions can be read to prohibit environmental damage as well.

Article 53 of the Annexed Regulations to the Hague Convention IV provides that

[a]n army of occupation can only take possession of cash, funds, and realizable securities which are strictly the property of the State, depots of arms, means of transport, stores and supplies, and, generally, all movable property belonging to the State which may be used for military operations. All appliances, whether on land, at sea, or in the air, adapted for the transmission of news, or for the transport of persons or things, exclusive of cases governed by naval law, depots of arms, and, generally, all kinds of munitions of war, may be seized, even if they belong to private individuals, but must be restored and compensation fixed when peace is made.<sup>704</sup>

Some scholars interpret this article to include rubber, timber, and cotton, as munitions, thus justifying their destruction in their natural environment.<sup>705</sup> However, this interpretation of Article 53 confuses the natural environment with the tools of war. The natural environment, like civilian populations, is not created for military purposes or to be used as a weapon. For example, if combatants target civilian populations during armed conflicts, this does not legitimize the destruction of civil populations. And in the worst case, civilian objects can be destroyed only under the precautionary and proportionality principles. Similarly, destroying the environment, including rubber, timber, and cotton, is always illegal, but when the environment is targeted precautionary and proportionality principles should be considered.

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signs, which shall be notified to the enemy beforehand.” The Hague Convention (II) of 1899, *supra* note (630) Annex, art. 27; The Hague Convention (IV) of 1907, *supra* note (205) Annex, art. 27.

<sup>703</sup> The Convention on the Protection of the World Cultural and Natural Heritage, will be examined latter in Part IV “The Environmental Law Rules.”

<sup>704</sup> Hague Convention (IV) of 1907, *supra* note (205) annex art. 53.

<sup>705</sup> STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE, CBW AND THE LAW OF WAR 69 (1973) [hereinafter CBW AND THE LAW OF WAR], cited in Yuzon, *supra* note (695) 831 fn. 200.

In order to update the humanitarian provisions, forty-two years later, the Geneva law appeared. It included much more specific environmental protection and became the source for more effective humanitarian protection.

**b. The Geneva Convention Relevant to the Protection of Civilian Persons in Time of War (Fourth Convention of 12 August 1949)**

The four Geneva Conventions of 1949 replaced the two Geneva Conventions of 1929.<sup>706</sup> They were created in response to the World War II,<sup>707</sup> to be applied in armed conflict to provide special protections for ‘protected persons.’<sup>708</sup> The Geneva law is composed of four conventions and two protocols. The four conventions are the Geneva Convention I Relevant to the Wounded and Sick in the Field; II Relevant to the Wounded, Sick and Shipwrecked at Sea; III Relevant to the Prisoners of War; IV Relevant to Civilians. In addition, Geneva IHL includes the Additional Protocol I Relevant to the Protection of Victims of International Armed Conflicts, and the Additional Protocol II Relevant to the Protection of Victims of Non-International Armed Conflicts. Of the four Geneva Conventions, the fourth one is the only one that protects both civilians and elements of the environment.<sup>709</sup> Several non-combatant provisions of the Geneva Convention IV cover some aspects of environmental harm.<sup>710</sup>

Article 53 of the fourth Geneva Convention<sup>711</sup> prohibits the destruction of real or personal property, by articulating that:

Any destruction by the Occupying Power of real or personal property belonging individually or collectively to private persons, or to the State, or to other public authorities, or to social or cooperative organizations, is prohibited, except where such destruction is rendered absolutely necessary by military operations.<sup>712</sup>

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<sup>706</sup> L. C. GREEN, *THE CONTEMPORARY LAW OF ARMED CONFLICT* 41 (Manchester University Press, 1993).

<sup>707</sup> Popovic, *supra* note (619) at 73.

<sup>708</sup> *Id.*

<sup>709</sup> *Id.*, at 74.

<sup>710</sup> *Id.*

<sup>711</sup> Geneva Convention (IV), *supra* note (56) art. 53.

<sup>712</sup> *Id.*

In all cases, this rule protects State, co-operative, and individual property. It is notable that Article 53 protects one environmental element, which is property.<sup>713</sup> However, this limitation is unsuitable for indigenous people, many of whom do not recognize or follow “western” concepts of property or property law.<sup>714</sup> However, some legal systems identify all valuable things, including the environment, as the property of the state if it has no owner. For example, the Kuwaiti legal system grants the government the ownership of all properties that have no owner, along with all the territories situated beyond the municipality line.<sup>715</sup> Thus, any violation of such properties will be considered as destruction of co-operative, private, or state’s property.

Furthermore, Article 55 of the fourth Geneva Convention ensures maintenance of food and medical supplies of the population.<sup>716</sup> Article 55 fails to protect the environment *per se* or the many other things the environment contribute to human survival and fulfillment.<sup>717</sup>

Finally, Article 56 of the Convention provides for maintenance of medical facilities and services.<sup>718</sup> Article 56 also indirectly provides protection for the environment, through measures to control diseases.

### **c. Additional Protocol I Relevant to the Protection of Victims of International Armed Conflicts**

The 1949 Geneva Conventions do not address environmental warfare expressly. However, in 1977, in light of the Vietnam War, the United Nations added Protocol I to the 1949 Geneva Conventions. The Additional Protocol I to the Geneva Conventions Relevant to the Protection of Victims of International Armed Conflict<sup>719</sup> was drafted by

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<sup>713</sup> Popovic, *supra* note (619) at 74.

<sup>714</sup> *Id.*

<sup>715</sup> Ghanon Ragom 18/1969 Fy Sha’an Tahdeed Amlak Adawlah Kharij Khat Atantheem Ala’am, [Law No. 18/1969 Concerning the Indication of the State Properties beyond the Public Organization Limit], May 7, 1969, art. 1.

<sup>716</sup> Geneva Convention (IV), *supra* note (56) art. 55.

<sup>717</sup> Popovic, *supra* note (619) at 74.

<sup>718</sup> Geneva Convention (IV), *supra* note (56) art. 56.

<sup>719</sup> Additional Protocol I, *supra* note (79).

the ICRC between 1974 and 1977.<sup>720</sup> The United States signed the Protocol in 1978, but has not yet ratified it. Nevertheless, the United States considers Protocol I as international customary law and thus binding.<sup>721</sup>

Protocol I represents a considerable development of the IHL regarding environmental protection in times of armed conflict. It contains the most explicit environmental protection provisions of humanitarian law, aimed at limiting ecological destruction during armed conflicts.<sup>722</sup> This protocol recognizes that environmental protection is necessary to human health and survival. Protocol I thus makes explicit the environmental protection requirements its predecessors only imply.<sup>723</sup>

Article 35 establishes the basic rules regarding environmental protection. It forbids the use of weapons and methods of warfare that may cause unnecessary injury to humans or the environment. Article 35 states that

1. In any armed conflict, the right of the parties to the conflict to choose methods or means of warfare is not unlimited...3. It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.<sup>724</sup>

However, despite the great environmental protection offered by Protocol I,<sup>725</sup> it does not govern all environmental destruction. It affects only the destruction intended or reasonably expected to cause widespread, long-term, and severe damage to the

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<sup>720</sup> Schwabach, *supra* note (477) at 126.

<sup>721</sup> *Id.*

<sup>722</sup> Popovic, *supra* note (619) at 75.

<sup>723</sup> *Id.*

<sup>724</sup> Additional Protocol (I), *supra* note (79) art. 35 (1)(3).

<sup>725</sup> Here, it is necessary to alert the reader that international experts and authors used to mention the environmental protection offered by the Additional Protocol I along with the environmental protection that included in ENMOD, *see*, Peter J. Richards & Michael N. Schmitt, *Mars Meets Mother Nature: Protecting the Environment During Armed Conflict*, 28 STETSON L. REV. 1047 (1999) [hereinafter Richards & Schmitt]; Schwabach, *supra* note (477) at 126; Major Richard M. Whitaker, *Environmental Aspects of Overseas Operations*, Jul. ARMY LAW. 17 (1995)[hereinafter Whitaker]; Betsy Baker, *Legal Protections for the Environment in Times of Armed Conflicts*, 33 VA.J.INT'L L. 351 (1993)[hereinafter Baker]; Okordudu-Fubara, *supra* note (331) at 187; Captain William A. Wilcox, *Environmental Protection in Combat*, 17 S. ILL. L. J. 299, 306-09 (1993). However, for the purposes of this thesis, I will follow different path by including the Additional Protocol I in the IHL provisions, and mentioning ENMOD in the enviro-humanitarian law, a term uses to refer to the international instruments usually formulated by military commandors, and offers a protection to both people and environment.

environment.<sup>726</sup> It would seem that all three elements must be met for the prohibition to apply,<sup>727</sup> a very stringent standard. Arguably, environmental damage that meets any of the three elements is more than the international community should tolerate, even in wartimes.<sup>728</sup> Therefore, some experts do not consider the environmental damage caused by the Iraqi Army from the oil well fires in Kuwait, and the oil spill in the Gulf water, to be violations of Additional Protocol I.<sup>729</sup>

Further, Article 55 provides that:

1) Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population. 2) Attacks against the natural environment by way of reprisals are prohibited.<sup>730</sup>

Here, similarly, the environmental protection of Article 55 requires the presence of the three elements together. Additionally, Protocol I contains further provisions, in Article 54 and 56, which contribute indirectly to environmental protection in times of armed conflict.

Article 54 (2) prohibits the destruction of the means of survival of the civilian population:

It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as food-stuffs, agricultural areas for the production of food-stuffs, crops, livestock, drinking water installations and supplies and irrigation works, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive.<sup>731</sup>

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<sup>726</sup> Popovic, *supra* note (619) at 75.

<sup>727</sup> MCCOUBREY, *supra* note (588) at 236.

<sup>728</sup> Popovic, *supra* note (619) at 76.

<sup>729</sup> L. C. Green, *supra* note (842) at 237.

<sup>730</sup> Additional Protocol (I), *supra* note (79) art. 55 (1)&(2).

<sup>731</sup> Geneva Convention (IV), *supra* note (56) art. 54 (2).

And Article 56 (1) protects works and installations, whose destruction would endanger the civilian population:

Works or installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population. Other military objectives located at or in the vicinity of these works or installations shall not be made the object of attack if such attack may cause the release of dangerous forces from the works or installations and consequent severe losses among the civilian population.<sup>732</sup>

Thus, these provisions do provide significant and explicit protection of the environment and natural resources. On the other hand, Article 85 (3) of the Additional Protocol I requires “human injury” for a violation to be considered a grave breach. It does not mention the environment in the provisions on grave breaches. However, the environment is included in the prohibition of “extensive destruction of property” contained in the definition of grave breaches in the relevant articles common to the Geneva Conventions of 1949.<sup>733</sup>

Moreover, the failure of many major powers, including the U.S.,<sup>734</sup> to ratify Protocol I limits the environmental protection of such instrument. At the time of signature of the Additional Protocol I, the United States delegation formally requested the exclusion of environmental damage resulting from using nuclear weapons from the scope of Articles 35 (3) and 55.<sup>735</sup> In addition, it appears that Articles 35 (3) and 55 of the Additional Protocol I need to be reformulated to include the precautionary principle as “a

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<sup>732</sup> Additional Protocol (I), *supra* note (79) art. 56 (1).

<sup>733</sup> Geneva Convention (I), *supra* note (56) art. 50; Geneva Convention (II), *supra* note (56) art. 51; Geneva Convention (IV), *supra* note (56) art. 147.

<sup>734</sup> Popovic, *supra* note (619) at 80.

<sup>735</sup> Richard Falk, *The Inadequacy of the Existing Legal Approach to Environmental Protection in Wartime*, in *THE ENVIRONMENTAL CONSEQUENCES OF WAR: LEGAL, ECONOMIC, AND SCIENTIFIC PERSPECTIVES* 147 (JAY E. AUSTIN & CARL E. BRUCH EDS., 2000) [hereinafter Falk, *The Inadequacy*].



limit on military activities,” since Additional Protocol I appeared at a time when that principle had not yet taken its position in international law.<sup>736</sup>

Further, the prohibition of Protocol I applies only when environmental damage is “widespread, long-term, and severe,” thus limiting the effectiveness of that provision.<sup>737</sup> Moreover, Additional Protocol I applies only to the situations of international armed conflicts, not to civil wars. Provisions related to internal armed conflicts are set forth in the Additional Protocol II Relevant to the Protection of Victims of Non-International Armed Conflicts.

#### **d. Additional Protocol II Relevant to the Protection of Victims of Non-International Armed Conflicts**

The Additional Protocol II Relevant to the Protection of Victims of Non-International Armed Conflicts<sup>738</sup> specifically addresses internal conflicts, but it is less accepted among States than the 1949 Geneva Conventions. The Additional Protocol II does not mention environmental protection. However, its Article 14 states, “[s]tarvation of civilians as a method of combat is prohibited. It is therefore prohibited to attack, destroy, remove or render useless for that purpose, objects indispensable to the survival of the civilian population such as food-stuffs, agricultural areas for the production of food-stuffs, crops, livestock, drinking water installations and supplies and irrigation works.” Article 14 is parallel to Protocol I’s Articles 54 (protection of objects indispensable to the survival of the civilian population) and 56 (prohibition of attacks on environmental-related targets.)<sup>739</sup> Moreover, Article 16 of the Additional Protocol II provides considerable protection for monuments, works of art, and places of worship, because they are part of the human environment. Article 16 states that “without prejudice to the provisions of the Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict of 14 May 1954, it is prohibited to commit any acts of hostility directed against historic monuments, works of art or places of worship which constitute

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<sup>736</sup> Bothe, *The Protection of the Environment*, *supra* note (675) at 58.

<sup>737</sup> Falk, *The Inadequacy*, *supra* note (735) at 146.

<sup>738</sup> Additional Protocol (II), *supra* note (76).

<sup>739</sup> Popovic, *supra* note (619) at 76.

the cultural or spiritual heritage of peoples, and to use them in support of the military effort.”<sup>740</sup>

It appears that Protocol II provides indirect protection for the environment. And to apply Protocol II, one of the involved parties to the conflict must be a government, that is, a recognized regime that has a right and duty to practice its authority over a population whenever a violation of Protocol II is committed.<sup>741</sup>

#### **e. The Marten’s Clause**

The Marten’s Clause, one of the IHL’s landmarks, was originally designed to provide supplementary humanitarian rules for the protection of all persons in times of armed conflict.<sup>742</sup> The Marten’s Clause was drafted originally in 1899, when there were relatively few agreed laws about armed conflict. It provided that unforeseen situations should not be left to the arbitrary and capricious judgment of military commanders, but should be governed by articulated rules.<sup>743</sup>

The Marten’s Clause inspired a comparable further action by the international environmental law community, in 2000, a century later, when the IUCN Amman Clause was adopted to govern environmental matters.<sup>744</sup>

The “Amman Clause” Resolution states that

“RECALLING that Recommendation 1.75 (*Armed Conflict and the Environment*), which was adopted by the 1<sup>st</sup> Session of the World Conservation Congress, endorsed the promotion of the Draft Convention on the Prohibition of Hostile Military Activities in Internationally Protected Areas;  
REAFFIRMING the awareness expressed in the World Charter for Nature that mankind is a part of nature and life depends on the uninterrupted functioning of natural system;

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<sup>740</sup> Additional Protocol (II), *supra* note (76) art. 16.

<sup>741</sup> Allison & Goldman, *supra* note (84) at 158.

<sup>742</sup> Theodor Meron, *The Martens Clause, Principles of Humanity, and Dictates of Public Conscience*, 94 A.J.I.L. 78, 78 (2000)[hereinafter Meron].

<sup>743</sup> Dina Shelton & Alexandre Kiss, *Adoption of The Marten’s Clause for Environmental Protection 2*, a paper prepared for the Second World Conservation Congress, Amman, Jordan (Oct. 4-11, 2000)[hereinafter Shelton & Kiss]. The full text of the 1899 Marten’s Clause will be examined in the next few pages.

<sup>744</sup> For purposes of this thesis, The Marten’s Clause that was adopted in the IUCN World Conservation Congress in Amman to cover environmental matters will be called IUCN Amman Clause.

ALSO REAFFIRMING that every form of life is unique, warranting respect regardless of its apparent worth to man;  
 CONSIDERING the adoption of the 8th Preambular paragraph in *the Hague Convention (IV) Respecting the Laws and Customs of War on Land* (18 October 1907), which is also known as the Marten's Clause, and which is reiterated in Article 1 (2) of the *Protocol Additional to the Geneva Conventions of 12 August 1949 and Relating to the Protection of Victims of International Armed Conflicts*;  
 RECOGNISING the fundamental importance of The Marten's Clause in providing a judicial standard governing the conduct of all persons in times of armed conflict in the absence of conventional law;  
 REAFFIRMING the need for appropriate measures to protect the environment at the national and international, individual and collective, private and public levels;  
 The World Conservation Congress at its 2<sup>nd</sup> Session in Amman, Jordan, 4-11 October 2000:  
 URGES all United Nations Member States to endorse the following policy:  
*Until a more complete international code of environmental protection has been adopted, in cases not covered by international agreements and regulations, the biosphere and all its constituent elements and processes remain under the protection and authority of the principles of international law derived from established customs, from dictates of the public conscience, and from the principles and fundamental values of humanity acting as steward for present and future generations.*<sup>745</sup>

This clause was adopted unanimously by the seventy-two States in the IUCN World Conservation Congress in Amman, Jordan, 4-11 October, 2000. That action was one of the most fruitful efforts of the Amman Congress.<sup>746</sup> The Marten's Clause provides

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<sup>745</sup> The Marten's Clause for environmental protection Resolution No. CGR2.CNV019, Adopted by the 2<sup>nd</sup> World Conservation Congress, Amman, Jordan 4-11 Oct. 2000, available at <<http://www.iucn.org>>, (last visit Jan. 14, 2001) [hereinafter IUCN Amman Clause].

<sup>746</sup> The International Union for the Conservation of Nature and Natural Resources (IUCN) also known as the World Conservation Union founded in 1948. IUCN is unique among international organizations in that it is a membership organization comprising governments, both international and national non-governmental organizations (NGO's), as well non-voting affiliate Members. The IUCN objectives "shall be to influence, encourage and assist societies throughout the world to conserve the integrity and the diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable." It includes six commissions: Education and Communication, Environmental Law, Environmental, Economic, and Social Policy, World Commission on Protected Areas, Species, Survival, and Ecosystem Management. IUCN headquarters is in Switzerland. Comprising a staff of 930. It has eight Regional Offices: Meso-America,

a foundation for all contemporary IHL, from its adoption for the first time in the 1899 Hague Convention, its iteration in the four Geneva Conventions of 1949, its reiteration in the 1977 Additional Protocol I and II to the Geneva Conventions, its inclusion in Resolution XXIII of the 1968 U.N. Conference on Human Rights, its revision in the 1980 Convention on the Prohibition or Restriction on the Use of Certain Conventional Weapons, and recently, its adoption by the IUCN Second World Conservation Congress, in Amman. This background is also important to understand the potential future scope of the IUCN Amman Clause which will be discussed in section 4. In order to discuss IUCN Amman Clause, it is necessary to address the origin and the application of The Marten's Clause, the dictates of public conscience, and the adoption of the IUCN Amman Clause.

### 1) The Origin and the Application of The Marten's Clause

The Marten's Clause is "based on paragraph 3 of the Declaration of June 20, 1899, read by Friedrich von Marten's, the Russian delegate who chaired the 11<sup>th</sup> meeting of the Second Committee of the Second Commission on the occasion of the First Hague Peace Conference of 1899."<sup>747</sup> Later, The Hague Convention of 1899 with Respect to the Laws and Customs of War on Land and its revision of 1907 adopted the following text of The Marten's Clause,<sup>748</sup> and it has been included in the Preambular paragraph nine of the 1899 Hague Convention as follows:

Until a more complete code of the laws of war has been issued, the high contracting Parties deem it expedient to declare that, in cases not included in the regulations adopted by them, the

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North America, Central Africa, East Africa, West Africa, Northern Africa, South and South East Asia, and West Asia. See Statutes of 5 October 1948, revised 22 October 1996 (Including Rules of Procedures of the World Conservation Congress), and Regulations revised 22 October 1996 (ISBN2-8317-0410-3)(published for IUCN by Imprimerie SADAG, Belgrade, France 1997), at 2, see also, Nicholas A. Robinson, *Note on the Legal Status of IUCN*, Opinion of the Legal Advisor of IUCN 1-2 (Gland, Switzerland, 1998)[hereinafter Robinson, *Note on the Legal Status of IUCN*]. See in general MARTIN HOLDGATE, *THE GREEN WEB: A UNION FOR WORLD CONSERVATION* (Earthscan Publications Ltd, 1999) [hereinafter HOLDGATE].

<sup>747</sup> Shigeki Miyazaki, *The Martens Clause and International Humanitarian Law*, in *STUDIES AND ESSAYS ON INTERNATIONAL HUMANITARIAN LAW AND RED CROSS PRINCIPLES* 129, at 132 (CHRISTOPHE SWINARSKI ED., 1984) [hereinafter Miyazaki].

<sup>748</sup> The Hague Convention (II) of 1899, *supra* note (630) pmbl para. 9; The Hague Convention (IV) of 1907, *supra* note (205) pmbl. para. 8.

inhabitants and the belligerents remain under the protection and the rule of the principles of the law of nations, as they result from the usage established among civilized peoples, from the laws of humanity, and the dictates of the public conscience.<sup>749</sup>

The revised Hague Convention IV of 1907 also includes The Marten's Clause in the Preambular Paragraph eight.<sup>750</sup> The preamble of the 1899 and the 1907 Hague Conventions is considered a significant part of these conventions, and showed the real will of the contracting parties to be bound by The Marten's Clause.<sup>751</sup>

The Marten's Clause of the 1899 and the 1907 Hague Conventions was adopted to protect two categories of persons: inhabitants and belligerents. It does not cover the environment. However, it is hard to separate people from their environment, since any harm that may affect the environment will reflect on the people, as they need to live in a clean and healthy environment. Thus, the protection offered to inhabitants and belligerents by The Marten's Clause will primarily safeguard their lives, and secondarily secure the environment where they live. The inclusion of The Marten's Clause in the Preamble of the 1899 and the 1907 Hague Conventions provided a foundation for protecting inhabitants and belligerents directly, and in maintaining the environment indirectly. The Marten's Clause reflects a basic principle of law, and as discussed earlier, since it is included in the preamble of an international treaty, The Clause binds to the contracting parties.<sup>752</sup>

Further, the four Geneva Conventions of 1949, in order to restrict the impact of denouncing the Conventions states that:

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<sup>749</sup> The Hague Convention (II) of 1899, *supra* note (630) pmbl. para. 9.

<sup>750</sup> The Hague Convention (IV) of 1907, *supra* note (205) pmbl. para. 8.

<sup>751</sup> According to Article 31 (2) of the Vienna Convention on the Law of the Treaties: "the context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes." Vienna Convention on the Law of Treaties, May 23, 1969, art. 31 (2), 1155 U.N.T.S. 331[hereinafter Vienna Convention on the Law of Treaties].

<sup>752</sup> According to the ICRC report of the directional principles of the military booklets and principles directives regarding the environmental protection in times of armed conflict, the environment remains under the protection of international law principles derived from established custom, from the principles of humanity, and from the dictates of public conscience in other situations not covered by international agreements. International Committee of the Red Cross, *Following up the Works of the International Conference on the Protection of War Victims* (1993), 48 INT'L REV. OF THE RED CROSS 247, 250 (1996) (Arabic Version.)

[T]he denunciation [of the convention] shall have effect only in respect of the denouncing Power. It shall in no way impair the obligations which the Parties to the conflict shall remain bound to fulfill by virtue of the principles of the law of nations, as they result from the usage established among civilized peoples, from the laws of humanity and the dictates of the public conscience.<sup>753</sup>

The denouncing party remains bound to fulfill obligations arising from the principles of the law of nations. Thus, the Marten's Clause still binds even a country that denounces the Convention generally. Moreover, unlike The Hague Conventions, the Geneva Conventions apply the protection of The Marten's Clause generally, without any limitation to inhabitants and belligerents. This generality could offer the protection to the environment along with the protection of inhabitants and belligerents.

In 1968, the Tehran Conference on Human Rights<sup>754</sup> paraphrased The Marten's Clause in Resolution XXIII, which stated that "inhabitants and belligerents are protected in accordance with the principles of law of nations derived from the usages established among civilized peoples, from the laws of humanity and from the dictates of the public conscience."<sup>755</sup> That text is similar to the text of the Geneva Conventions, except that it delimited, again, the protection of The Marten's Clause to inhabitants and belligerents. In order to protect the environment, this delimitation requires a nexus between belligerents or inhabitants and the environment, otherwise The Marten's Clause will be incompetent to protect the environment. Thus its reach under this Resolution is more limited and less effective than it could be. Significantly, according to Marten's Clause, the protection of inhabitants and belligerents will be seen as a short-term goal, while the environmental protection will be considered as a long term objective.

Furthermore, the Additional Protocol I to the Geneva Conventions<sup>756</sup> included The Marten's Clause in Article 1 (2), which states that "in cases not covered by the Protocol or by other international agreements, civilians and combatants remain under the protection and authority of the principles of international law derived from established

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<sup>753</sup> Geneva Convention (I), *supra* note (56) art 63; Geneva Convention (II), *supra* note (56) art 62; Geneva Convention (III), *supra* note (56) art 142; Geneva Convention (IV), *supra* note (56) art 158.

<sup>754</sup> International Conference on Human Rights, Tehran, 22 Apr.-13 May 1968.

<sup>755</sup> FINAL ACT OF THE INTERNATIONAL CONFERENCE ON HUMAN RIGHTS, Tehran, Apr. 25-May 9, 1968, 5 Res. XXIII, A/CONF.32/41 (1968), U.N. Sales No. E. 68.XIV.2, [hereinafter Res. XXIII/1968].

<sup>756</sup> The Additional Protocol (I), *supra* note (79).

custom, from the principles of humanity and from dictates of public conscience.”<sup>757</sup> A remarkable shift in The Marten’s Clause text was witnessed during the adoption of the 1977 Additional Protocol I, when the negotiators of this instrument replaced the term “usages” with “established custom,” which according to some international humanitarian experts may have deprived The Marten’s Clause of its coherence and legal logic.<sup>758</sup> By such replacement, “the protocol conflates the emerging product (principles of international law) with one of its component factors (established custom) and raises questions about the function, role, and necessity of the uncoded principles of humanity and dictates of public conscience.”<sup>759</sup> However, it is not clear that such conclusion was intended by the protocol’s negotiators.

On the other hand, the Additional Protocol II of 1977 adopted The Marten’s Clause in its Preamble, which states that “in cases not covered by the law in force, the human person remains under the protection of the principles of humanity and the dictates of the public conscience.”<sup>760</sup> Protocol II did not distinguish between combatants and civilians, and offers its protection for all human persons. Unlike all other documents, Protocol II did not point to the international law, or the law of nations, as a source of The Marten’s Clause rules, which might be attributed to the fact that it deals with non-international armed conflicts. In extending its protection to internal armed conflicts, the Clause of Additional Protocol II guarantees basic rights to all people, regardless of the nature of the combat. It also extends protection against environmental damage regardless of the nature of the combat. Thus, it seeks to focus on protection, rather than on the source of damage.

Moreover, in 1980, The Marten’s Clause was been adopted by the Preambular paragraph five of the Convention on the Prohibition or Restrictions on the Use of Certain Conventional Weapons.<sup>761</sup> That paragraph declares that “the civilian population and the combatants shall at all times remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity

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<sup>757</sup> Additional Protocol (I), *supra* note (79) art 1 (2).

<sup>758</sup> Meron, *supra* note (742) at 81.

<sup>759</sup> *Id.*

<sup>760</sup> Additional Protocol (II), *supra* note (76) pmb.

and from the dictates of public conscience.”<sup>762</sup> The inclusion of The Marten’s Clause in that document affirmed its importance again in protecting civilian populations and combatants as they consider substantial part of the environment.

This review of The Marten’s Clause makes clear that the evolution of the Clause has excluded large areas of environmental issues. For example, The Marten’s Clause just covers civilians and belligerents without any explicit reference to the environment or its components such as biodiversity, lithosphere, hydrosphere, and atmosphere which need to be protected in times of armed conflict as well. However, environmental protection principles may be derived from The Marten’s Clause indirectly, since protection of civilians seems necessarily to include protection of their environment. The Amman Clause reaches that conclusion, and explicitly excludes the Marten’s Clause to include environmental safeguards. The environment should be protected from war and any other hostilities.

## 2) The Dictates of Public Conscience

It is necessary to analyze the dictates of public conscience to address the following issues: the origins of general principles of international law, whether The Marten’s Clause is a general principle of international law, or is only soft international law, or only binding if in a treaty, and the same questions about the nature of The IUCN Amman Clause.

### a) The Origins of General Principles of International Law

General principles of the international law, known as *jus cogens*, present a common foundation for the international legal system.<sup>763</sup> *Jus cogens* norms are peremptory<sup>764</sup> and have a magnificent status within international law.<sup>765</sup>

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<sup>761</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons Which may Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, Oct. 10, 1980, 1342 U.N.T.S. 137 [hereinafter Convention on Prohibition or Restriction on the Use of Certain Conventional weapons].

<sup>762</sup> *Id.*, pmbl. para. 5.

<sup>763</sup> PAUL REUTER, DROIT INTERNATIONAL PUBLIC 118 (Presses Universitaires De France, 1983) [hereinafter REUTER].



Jus cogens norms were defined by Article 53 of the Vienna Convention on the Law of Treaties of 1969 as the “norms recognized by the international community of states as a whole as norms from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having the same character.”<sup>766</sup> The Vienna Convention did not list specific jus cogens norms, because of the absence of an agreement on the content of these norms.<sup>767</sup> Nevertheless, the International Court of Justice can determine whether a norm is considered a jus cogen or not,<sup>768</sup> since according to Article 9 of the Court Statute it is the sole international court that has judges elected to represent all countries.<sup>769</sup> Thus, their decisions regarding the creation of general principles of international law will be recognized by all civilized nations.<sup>770</sup>

Moreover, jus cogens norms may not derive from the international legal system solely. National legal systems may serve as a rich source of these general principles of international law.<sup>771</sup> Some international law experts believe that only the international legal system is a valid source of the general principles.<sup>772</sup> Others believe that the general principles of international law should include general principles derived from national legal systems<sup>773</sup> along with those of the international legal system in order to enrich the international law sources and treat all its lacunas.<sup>774</sup> Further, Article 38 (1)(c) of the ICJ Statute states that general principles are those “recognized by civilized nations.”<sup>775</sup> This

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<sup>764</sup> Joseph G. Bergen, Note, *The Federal Republic of Germany: Why the Courts Should Find That Violating Jus Cogens Norms Constitutes An Implied Waiver of Sovereign Immunity* 14 CONN. J. INT'L L. 169, 171 (1999) [hereinafter Bergen].

<sup>765</sup> Committee of U.S. Citizens Living in Nicaragua v. Reagan, 859 F.2d 929, 940 (D.C. Cir. 1988).

<sup>766</sup> The Vienna Convention on the Law of Treaties, *supra* note (751) art. 53.

<sup>767</sup> See LAURI HANNIKAINEN, PEREMPTORY NORMS (JUS COGEN) IN INTERNATIONAL LAW: HISTORICAL DEVELOPMENT, CRITERIA, PRESENT STATUS 178 (Lakimieslton Kustannus Finish Lawyers' Publishing Company, 1988) [hereinafter HANNIKAINEN].

<sup>768</sup> See Siderman de Blake v. Republic of Argentina, 965 F.2d 699 (9<sup>th</sup> Cir. 1992).

<sup>769</sup> STATUTE OF THE INTERNATIONAL COURT OF JUSTICE, 26 June 1945, art 9, 1976 Y.B.U.N. 1052 [hereinafter STATUTE OF THE ICJ].

<sup>770</sup> Michel Virally, *The Sources of International Law*, in MANUAL OF PUBLIC INTERNATIONAL LAW 116, 146 (SORENSEN ED., 1968).

<sup>771</sup> REUTER, *supra* note (763) at 118.

<sup>772</sup> DAVID RUZIÉ, DROIT INTERNATIONAL PUBLIC 48 (Daloz 1989) [hereinafter RUZIÉ].

<sup>773</sup> RASHEED AL-ENEZY, PUBLIC INTERNATIONAL LAW, AND A SPECIFIC STUDIES REGARDING THE ATTITUDE OF THE INTERNATIONAL LAW OF THE IRAQI OCCUPATION TO KUWAIT, (in Arabic) 53 (Kuwait, 1997) [hereinafter AL-ENEZY].

<sup>774</sup> *Id.*

<sup>775</sup> STATUTE OF THE ICJ, *supra* note (769) art. 38 (1)(c).

Article sets forth the importance of national legal systems in providing general principles of international law. For instance, some juridical substantive principles such as the “pacta sunt servanda,” acquisition of rights, abuse of rights, and good faith, in addition to some juridical procedural principles such as res judicata, and the equality of parties before the law that apply to the ICJ legal system were inspired by national legal systems.<sup>776</sup>

The jus cogens norms hold the highest hierarchical position in international law.<sup>777</sup> As a consequence, jus cogens norms are deemed to be peremptory and non-derogable.<sup>778</sup> However, subsequent to the definition of the general principles of international law, it is necessary to clarify why are they binding.

There exist two theories in which the jus cogens norms may find their foundation. The first theory is derived from the law of nature. The law of nature, natural law, is not a system of legal norms, but a system of ethical principles.<sup>779</sup> According to this theory, the jus cogens norms find their power in the nature of their original source whether from international custom, from moral or religious principles, or from some combination of such factors.<sup>780</sup> It may be believed that the traditional Marten’s Clause of 1899 emerged from the natural law, because it “recognized the existence of absolute ideals or principles higher than positive law.”<sup>781</sup> Jus cogens norms, thus, may derive from moral or religious concepts prohibiting causing harm to people, and counseling peace, since man is an essential part of the universe, and has a special position among its other parts. For example, in Sharia, the Islamic law, the duty “of care and nurture for man’s good works are not limited to the benefit of the human species, but rather extend to the benefit of all created beings; and (there is a reward in doing good to every living thing).”<sup>782</sup> Moreover,

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<sup>776</sup> AL-ENEZY, *supra* note (773) at 55-56.

<sup>777</sup> M. Cherif Bassiouni, *A Functional Approach to “General Principles of International Law”* 11 MICH. J. INT’L L. 768, 801-09 (1990).

<sup>778</sup> M. Cherif Bassiouni, *States of Emergency and States of Exception: Human Rights Abuse and Impunity Under Color of Law*, in NON-DEROGABLE RIGHTS AND STATES OF EMERGENCY 125 (Daniel Premont ed., 1996.)

<sup>779</sup> Lester H. Woolsey, *Editorial Comment: Natural Law Thinking in the Modern Science of International Law*, 55 AM. J. INT’L L. 951, 958 (1961.)

<sup>780</sup> Michael Akehurst, *The Hierarchy of the Sources of International Law*, 5 BRIT. Y. B. INT’L L. 273, 282 (1975).

<sup>781</sup> JOHN E. NOYES, CHRISTIANITY AND LATE NINETEENTH-CENTURY BRITISH THEORIES OF INTERNATIONAL LAW, IN THE INFLUENCE OF RELIGION ON THE DEVELOPMENT OF INTERNATIONAL LAW 85 (Martinus Nijhoff Publishers, 1991) [hereinafter NOYES].

<sup>782</sup> ABUBAKAR AHMED BAGADER ET AL., ENVIRONMENTAL PROTECTION IN ISLAM 2 (IUCN, Gland & Cambridge, 1994) [hereinafter BAGADER ET AL.].

Islamic rules and principles prohibit torture and killing whether in times of armed conflicts or in peacetime. Such acts interfere with the mercy principle that Islam based on,<sup>783</sup> as shown by the Prophetic Speech that “God will curse those who torture people.”<sup>784</sup>

Another such principle can be derived from ancient Hindu India, where wars were to be fought according to “Dharma Yuddha, the rules of righteousness in war.”<sup>785</sup> Civilian populations ( non combatants) such as “those who look on without taking part in the fight, those afflicted with grief, those who have set their hearts on emancipation, those who are asleep, thirsty or fatigued, or are walking along the road, or have a task on hand unfinished, or are proficient in fine art,”<sup>786</sup> were exempted from warfare atrocities. Significantly, the protection extended to include even combatants, who “should not be killed, including a warrior whose armour has fallen off, who has laid down his weapon, is mortally wounded, who is weak with wounds, or is fighting with another.”<sup>787</sup>

These religious principles offer great protection to human life whether in times of armed conflicts or peacetime, combatant or civilian, and these same principles are reflected in the traditional Marten’s Clause. Natural law pre-exists treaties, and under the theory of natural law, thus gives the jus cogens norms power, even if they are not written in an international agreement.

The power of jus cogens depends on the number of States that recognize a norm as a jus cogen. For example, to consider a norm as a jus cogens the consent of a large majority of States, reflecting the essential components of the international community, is required<sup>788</sup> A state or a small group of states cannot veto the formation of jus cogens

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<sup>783</sup> ABDULGHANI MAHMOOD, *INTERNATIONAL HUMANITARIAN LAW: A COMPARATIVE STUDY WITH THE ISLAMIC SHARIA*, (in Arabic) 22 (Dar Al-Nahda Al-Arabia, 1991).

<sup>784</sup> *Id.*

<sup>785</sup> Ved P. Nanda, *International Law in Ancient Hindu India*, in *THE INFLUENCE OF RELIGION ON THE DEVELOPMENT OF INTERNATIONAL LAW*, 54 (Martinus Nijhoff Publishers, 1991) [hereinafter Nanda].

<sup>786</sup> Translation by Georg Buhler, *The Laws of Manu* (Sacred Books of the East, Vol. 25, 1886.) Manusmriti is divided into twelve Books and has 2,694 couplets or slokas. Citations to Manusmriti are to books and slokas. See generally Manusmriti, VII, 91-3; Nanda, *supra* note (785) fn. 64.

<sup>787</sup> *Id.*, fn. 65.

<sup>788</sup> Statement of U.N. Reps. Yasseen (Iraq) at U.N. Conference on the Law of Treaties (Vienna, Mar. 26-May 28, 1968), in U.N. Conference on the Law of Treaties, 1<sup>st</sup> Sess., at 427, U.N. Doc. A/Conf.39/11 (1969), see also HANNIKAINEN, *supra* note (767) at 210 etc.

norms.<sup>789</sup> Nonetheless, both the majority that consider them as jus cogens norms, and the minority that did not, are bound by the jus cogens norms.<sup>790</sup>

However, the second theory is derived from the positive law. One of the positivists, Lassa Oppenheim, wrote in 1905 that “we know nowadays that a Law of Nature does not exist. The philosophy of the positive law has overcome the fanciful rules of the so-called Law of Nature.”<sup>791</sup> According to this theory, jus cogens norms find their power in existing treaties, i.e. written law. Thus, party states are bound by the jus cogens norms integrated in the international conventions. However, such norms are applicable even against those states that have not accepted them.<sup>792</sup>

#### b) Is The Marten’s Clause a General Principle of International Law?

To define whether The Marten’s Clause is a general principle of international law, and therefore a jus cogens, it is necessary to refer to the United Nations International Law Commission Report, which states that “there is no simple criterion to identify a general rule of international law as having the character of jus cogens.”<sup>793</sup> Nonetheless, in order to develop a means of identifying jus cogen norms, Uhlmann, an international law expert, created four criteria<sup>794</sup>: the norm should aim to protect the state community interests, it must have a foundation in morality, it must be of an absolute nature, and vast majority of states should accept it as a jus cogens.<sup>795</sup> By applying these criteria to Marten’s Clause, it will appear that The Marten’s Clause is a well accepted general principle of international law.

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<sup>789</sup> Eva M. Kornicker Uhlmann, *State Community Interests, Jus Cogens and Protection of the Global Environment: Developing Criteria for Peremptory Norms* 11 GEO. INT’L ENVTL. L. REV. 101, 113 (1998) [hereinafter Uhlmann].

<sup>790</sup> R. St. J. Macdonald, *Fundamental Norms in Contemporary International Law*, 25 CAN. Y.B. INT’L L. 115, 131 (1987).

<sup>791</sup> NOYES, *supra* note (781) at 85.

<sup>792</sup> Uhlmann, *supra* note (789) at 101.

<sup>793</sup> Report of the United Nations International Law Commission to the General Assembly, [1966] 2 Y.B. INT’L L. COMM’N 247-48, U.N. Doc. A/CN.4/Ser.A/1966.

<sup>794</sup> See, Uhlmann, *supra* note (789).

### *The Marten's Clause and the Protection of the State Community Interests*

The Marten's Clause does aim to protect state community interests, by seeking the protection of individuals or groups of individuals,<sup>796</sup> specifically the belligerents or combatants and civilian populations. The protection of these groups serves the benefit of the community,<sup>797</sup> by seeking to prevent harm to large segments of the population. Moreover, the ultimate purpose of the international legal order is to guarantee respect for human beings,<sup>798</sup> which The Marten's Clause seeks directly to promote.

### *The Marten's Clause and its Foundation in Morality*

A moral norm generates obedience not because of a juridical incentive, but because of an internal incentive.<sup>799</sup> A moral obligation forces the application of the jus cogens norms, even if they were not adopted by an international convention. Consequently, the derogation of such moral obligation, even if it is not legally enforceable, is internationally condemned. This was the situation prior to 1899, date of the first legal adoption of Marten's Clause, when the combatants and the populations were not covered by any kind of legal protection, and morality was the only basis for humanitarian protection.

At that time, the protection of civilians "can partly be explained by fear that the gods or the spirits of victims might wreak vengeance, or by a desire to restore normal relations with a neighboring tribe."<sup>800</sup> Other instances of humanitarian treatments were based on "justice and integrity,"<sup>801</sup> or on a religion requirement, such as passages in the Bible.<sup>802</sup> The Judeo-Christian tradition proclaimed that all men are created in the image of God, that all were children of the same father and all were offered eternal life.<sup>803</sup> If all

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<sup>795</sup> See W.T. Gangl, *The Jus Cogens Dimensions of Nuclear Technology*, 13 CORNELL INT'L L.J. 63, 74-77 (1980).

<sup>796</sup> Uhlmann, *supra* note (789) at 108.

<sup>797</sup> *Id.*

<sup>798</sup> *Id.*

<sup>799</sup> IMMANUEL KANT, *THE METAPHYSICAL ELEMENTS OF JUSTICE, PART I OF THE METAPHYSICS OF MORALS* 20 (John Ladd Trans., 1965).

<sup>800</sup> JEAN PICTET, *DEVELOPMENT AND PRINCIPLES OF INTERNATIONAL HUMANITARIAN LAW*, 7 (Martinus Nijhoff Publishers, 1984) [hereinafter PICTET].

<sup>801</sup> *Id.*, at 8.

<sup>802</sup> *Id.*

<sup>803</sup> *Id.*, at 12.

men were brothers then to kill was a crime, and there would be no more slaves.<sup>804</sup> Nations follow this guidance by adoption of criminal laws establishing the act of killing as the crime of murder. In peacetime, the killer is put in prison or even put to death sometimes. On the other hand, in wartime, a person who kills enemies on behalf of his country is considered a hero granted medals, and may be “immortalized in a statue or on a postage stamp.”<sup>805</sup> Additionally, other religions had a great influence in the development of international law at the time of the first adoption of The Marten’s Clause (1899) as we discussed earlier.

### *The Marten’s Clause as an Absolute*

A norm is absolute if it applies to all situations, international and internal, against member States that approved it and those who contest it, and is not be limited to the law of treaties but is also applicable to unilateral acts.<sup>806</sup> A norm can be considered absolute if it applies at all times, in all places, and under all circumstances.<sup>807</sup> This is the case with The Marten’s Clause, which is applicable in international conflicts governed by The Hague Conventions of 1899 and 1907,<sup>808</sup> the four Geneva Conventions of 1949,<sup>809</sup> the Additional Protocol I of 1977,<sup>810</sup> and the Convention on the Prohibition or Restriction on the Use of Certain Conventional weapons of 1980.<sup>811</sup> Moreover, The Marten’s Clause is applicable in situations of internal armed conflicts that governed by the Additional Protocol II of 1977.<sup>812</sup> Thus, the clause applies both to internal and to international conflicts. The Clause applies both to actions by nations and by individuals. Moreover, the United Nations International Law Commission Draft Articles on State Responsibility maintained, in Articles 18, 29, and 33, a close relation between the concept of

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<sup>804</sup> *Id.*

<sup>805</sup> SPANIER & WENDZEL, *supra* note (134) at 468-469.

<sup>806</sup> Uhlmann, *supra* note (789) at 110.

<sup>807</sup> PICTET, *supra* note (800) at 159.

<sup>808</sup> The Hague Convention (II) of 1899, *supra* note (630) at pmbl. para. 9; The Hague Convention (IV) of 1907, *supra* note (205) at pmbl. para. 8.

<sup>809</sup> Geneva Convention (I), *supra* note (56) art 63; Geneva Convention (II), *supra* note (56) art 62; Geneva Convention (III), *supra* note (56) art 142; Geneva Convention (IV), *supra* note (56) art 158.

<sup>810</sup> Additional Protocol (I), *supra* note (79) art. 1 (2).

<sup>811</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) pmbl.

<sup>812</sup> Additional Protocol (II), *supra* note (76) pmbl.

international crime in Article 19 and the violation of jus cogens norm.<sup>813</sup> Thus, the Clause can be considered to have universal, or absolute, application.

#### *The Vast Majority of States Have Accepted The Marten's Clause*

The vast majority of the States have accepted the Marten's Clause throughout its historical development. For instance, The Hague Convention on the Laws and Customs of War of 1899 has been accepted by forty-nine states,<sup>814</sup> The Hague Convention on the Laws and Customs of War of 1907 has been accepted by thirty-five states,<sup>815</sup> the four Geneva Conventions of 1949 were being accepted by 186 states,<sup>816</sup> the Additional Protocol I of 1977 has been accepted by 157 states,<sup>817</sup> the Additional Protocol II of 1977 has been accepted by 150 states,<sup>818</sup> and the Convention on the Prohibition or Restriction on the Use of Certain Conventional weapons of 1980 has been accepted by eighty four states.<sup>819</sup>

Thus, it can be concluded that the Marten's Clause meets all four criteria, and therefore, it should be classified as a general principle of international law that has a jus cogen character.

#### c) Soft International Law

Soft law is refers to “(1) treaty provisions, capable of entailing legally-binding obligations, that are drafted in weak substantive terms, and (2) declarations, guidelines, standards, and other international materials adopted by States, intergovernmental organizations, or their organs that are not normative in character but which have some pre-or subnormative effect, usually on the immediate behavior of States or on the future

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<sup>813</sup> Draft Articles on State Responsibility, *infra* note (2051) arts. 18, 29, 33, *see also*, *Report of the International Law Commission to the General Assembly*, INT'L L. COMM'N, U.N. GAOR, 48<sup>th</sup> Sess., U.N. Doc. A/51/10 (1969).

<sup>814</sup> International Red Cross, The International Humanitarian Law Databases <[www.icrc.org](http://www.icrc.org)> (last visit Dec. 14, 2000).

<sup>815</sup> *Id.*

<sup>816</sup> *Id.*

<sup>817</sup> *Id.*

<sup>818</sup> *Id.*

<sup>819</sup> *Id.*

formation of principles of customary international law.”<sup>820</sup> However, traditionally, treaty law (hard international law,) is the primary source of binding international law. Nonetheless, soft law provides a form of international law that usually obtains more readily than in the case of treaties. Moreover, when a principle expressed in a soft law instrument, its character may not be exclusively “soft”. A soft law instrument can refer to a treaty or a general principle of law which is re-affirmed in a hard law instrument. For example, the Tehran Conference on Human Rights imported much of The Marten’s Clause in Resolution XXIII,<sup>821</sup> as mentioned earlier.

Further, some international environmental law experts note that soft international law can be a reflection of a vary well-accepted general principle of international law arising from the dictate of public conscience, and therefore a principle may be binding even though it is not in a treaty, such as the Stockholm Conference’s Principle 21,<sup>822</sup> and The Marten’s Clause as well. Soft international law can also be a reflection of the duty that positivists would say is only advisory for the States, such as “the duty to restrain consumption of resources through avoiding waste.”<sup>823</sup> Thus, IUCN’s Commission on Environmental Law found that as States debated the Draft Covenant on Environment and Development,<sup>824</sup> the well accepted general principles of international law would be considered as “hard law,” while the reflection of the duty remains “soft law.”<sup>825</sup> On the other hand, the draft Covenant contains three types of provisions: “(a) those which consolidate existing principles of international law, including those ‘soft-law’ principles which were considered ripe for ‘hardening’; (b) those which contain very modest

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<sup>820</sup> Linda C. Rief, *Multidisciplinary Perspectives on the Improvement of International Environmental Law and Institutions*, 15 MICH. J. INT’L L. 723, fn. 11 (1994).

<sup>821</sup> Res. XXIII/1968, *supra* note (755).

<sup>822</sup> *Declaration of the United Nations Conference on the Human Environment*, Principle 21, U.N.Doc. A/Conf. 48/14 (1972)[hereinafter Stockholm Declaration].

<sup>823</sup> Nicholas A. Robinson, *The “Rio” Environmental Treaties Colloquium: “Colloquium: The Rio Environmental Law Treaties” IUCN’s Proposed Covenant on Environment & Development* 13 PACE ENVTL. L. REV. 133, 142 (1995) [hereinafter Robinson, *The “Rio” Environmental Treaties*].

<sup>824</sup> IUCN Draft of the International Covenant on Environment and Development, Commission on Environmental Law of IUCN-The World Conservation Union in Cooperation with the International Council of Environmental Law (1995) [hereinafter IUCN Draft of the International Covenant on Environment & Development].

<sup>825</sup> Robinson, *The “Rio” Environmental Treaties*, *supra* note (823) at 142.



progressive developments; and (c) those which are more progressive than in (b) which we felt were absolutely necessary.”<sup>826</sup>

The international community often turns to soft law in order to develop international environmental law. For instance, Charles Di Leva, an international environmental specialist, provides a significant example when stating that when “a native Indian tribe filed a civil action in a Nicaraguan court, they claimed that the World Bank’s policy, [which reflects soft international law], on the territorial rights of indigenous people supported their request that the court require government action on their behalf.”<sup>827</sup>

Such reliance on soft law within a national jurisdiction may help in recognizing soft law in state practice, and therefore, it may become binding international law.<sup>828</sup> However, even documents approved at the highest level of the United Nations acknowledge that “the boundaries of positive law (or between ‘law’ ‘and pre-law’ or ‘soft law’) cannot always be clearly defined.”<sup>829</sup>

In sum, it can be argued that The Marten’s Clause is a reflection of a very well-accepted general principle of international law arising from the dictates of public conscience, and therefore The Marten’s Clause itself is binding even though it is not in a treaty. Moreover, since the traditional Marten’s Clause and its iteration were included in international treaties, as discussed earlier, its binding character as a jus cogen norm should be respected by the international community.

#### d) The Nature of the IUCN Amman Clause

Like the traditional Marten’s Clause adopted in the 1899 Hague Convention, the IUCN Amman Clause is a general principle of international law that has jus cogens character. The IUCN Amman Clause has a duplicate nature. On one hand, it was adopted by the IUCN, an intergovernmental organization, as a resolution that was not included in an international treaty. In addition, the IUCN Amman Clause is a reflection of a genuine

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<sup>826</sup> IUCN Draft of the International Covenant on Environment & Development, *supra* note (824) at xv-xvi.

<sup>827</sup> Layla A. Hughes, *The Role of International Environmental Law in the Changing Structure of International Law*, 10 GEO. INT’L ENVTL. L. REV. 243, 247 (1998).

<sup>828</sup> *Id.*, at 247.

well-accepted general principle of international law arising from the dictates of public conscience, and therefore it is binding by itself even though it is not included in a treaty. No single treaty includes The IUCN Amman Clause. Some aspects of the principle are found in treaties, such as ENMOD and the Additional Protocol I to the 1949 Geneva Conventions, but not expressed as fully or completely as in Amman. Both ENMOD and the Additional Protocol I are applicable in wartime exclusively, while The IUCN Amman Clause can be applied both in times of armed conflicts and peacetime as well. Thus, the IUCN Resolution is in its form considered a soft international law. On the other hand, the IUCN Amman Clause arises from a general environmental law principle, which is the right to a clean and healthy environment for present and future generations, as expressed in Principle 21 of the Stockholm Declaration, and Principle 2 of the Rio Declaration. The inclusion of that right in these declarations reflect that it is a well accepted general principle of international environmental law, which is the responsibility of not to harm other States environment. For instance, Principle 21 of the Stockholm Declaration has been relied upon “by governments to justify their legal rights and duties.”<sup>830</sup> Similarly, the Philippines Supreme Court in Minors Oposa v. Secretary Of the Department of Environment and Natural Resources<sup>831</sup> found that the Philippines Constitution, and natural law, required the government to preserve a balanced and healthful environment for children and future generations.<sup>832</sup> Remarkably, the Court stated that although the right to a balanced and healthful ecology

is to be found under the Declaration of Principles and State Policies [in the Constitution of the Philippines] and not under the Bill of Rights, it does not follow that it is less important than any other of the civil and political rights enumerated in the letter. Such a right belongs to a different category of rights altogether for it concerns nothing less than self-preservation and self-perpetuation – aptly and fittingly stressed by the petitioners – the advancement of which may even be said to predate all

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<sup>829</sup> G. M. DANILENKO, LAW-MAKING IN THE INTERNATIONAL COMMUNITY 20 (Martinus Nijhoff Publishers, 1993) [hereinafter Danilenko].

<sup>830</sup> Pierre-Marie Dupuy, *Soft Law and the International Law of the Environment*, 12 MICH. J. INT’L L. 420, 422 (1991)[hereinafter Dupuy].

<sup>831</sup> Oposa, *supra* note (681).

<sup>832</sup> Ted Allen, *The Philippine Children’s Case: Recognizing Legal Standing for Future Generations*, 6 GEO. INT’L ENVTL. L. REV. 713, 718 (1994) [hereinafter Allen].

governments and constitutions. As a matter of fact, these basic rights need not even be written in the Constitution for they are assumed to exist from the inception of mankind. If they are now explicitly mentioned in the fundamental charter, it is because of the well-founded fear of its framers that unless the rights to a balanced and healthful ecology and to health are mandated as state policies by the Constitution itself, thereby highlighting their continuing importance and imposing upon the state a solemn obligation to preserve the first and protect and advance the second, the day would not be too far when all else would be lost not only for the present generations, but also for those to come – generations which stand to inherit nothing but parched earth incapable of sustaining life.<sup>833</sup>

That decision affirms that the right to live in a healthy environment is a basic right and pre-exists any constitution. Thus, the environmental protection is confirmed by natural law prior to any positive law.

In sum, the IUCN Amman Clause is binding from two sides, first as a soft international law that reflects a well-accepted general principle of international law arising from the dictates of public conscience, and second as general environmental law principle which has existed the inception of mankind, however, both mankind. Therefore, humanitarian protection cannot be brought into fruition without real environmental protection.

#### e) The Adoption of the IUCN Amman Clause

Recently a clause inspired by The Marten's Clause was adopted unanimously by seventy-two States, ministries, and NGO's assembled in the Second World Conservation Congress held in Amman, Jordan, 8-11 October 2000 to govern armed conflict and environmental matters. The IUCN Amman Clause states that:

Until a more complete international code of environmental protection has been adopted, in cases not covered by international

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<sup>833</sup> Oposa, *supra* note (681) at 14. See also Nicholas A. Robinson, *The Draft Covenant on Environment and Development: A Sustainable Model for International Lawmaking*, in HUMAN RIGHTS ENVIRONMENTAL LAW AND THE EARTH Charter 37 (Boston Research Center for the 21<sup>st</sup> Century, 1998) [hereinafter Robinson, *The Draft Covenant*].

agreements and regulations, the biosphere and all its constituent elements and processes remain under the protection and authority of the principles of international law derived from established customs, from dictates of the public conscience, and from the principles and fundamental values of humanity acting as steward for present and future generations.<sup>834</sup>

The IUCN Amman Clause was drafted by the Commission on Environmental Law<sup>835</sup> (CEL) members, Dinah Shelton, Professor of Law, Notre Dame University and Alexander Kiss, President of the IUCN Scientific Committee (CIEL). The IUCN Amman Clause was sponsored by:

- The International Commission for the Protection of Alpine Regions, Liechtenstein.
- Schutzgemeinschaft Deutscher Wald Bundesverband, Germany.
- Vereinigung Deutscher Gewässerschutz (VDG), Germany.
- Berhm Fonds Für Internationalen Vogelschutz, Germany.
- Verband Deutscher Sportfisher, Germany.

The draft resolution of the IUCN Amman Clause was forwarded to the representatives of the Amman Congress, in order to have their opinions and comments. For example, in the case of the U.S.A., it was forwarded to Washington D.C. for review by several agencies, headed by the Department of State, which had no objection on it. Later, the resolution was presented to the plenary meeting of the IUCN Congress which was headed by the IUCN President, the IUCN Director General, and the IUCN Legal Advisor, and was adopted by consensus.

The IUCN Amman Clause is unlike the traditional Marten's Clause because The Marten's Clause focused on environmental protection only during wartime. The Amman Clause, in contrast, applies in times of armed conflicts as well as peacetime. The text of The Marten's Clause specifically noted that it was intended to apply "until a more complete code of the laws of war has been issued." Thus, it was designed as part of a

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<sup>834</sup> IUCN Amman Clause, *supra* note (745).

<sup>835</sup> A formal Working Group of IUCN's Commission on Environmental Law was established in November 1989 under the chairmanship of Dr. Wolfgang E. Burhenne. The Group included international law experts, governmental lawyers, judges, academics, and private practitioners. See Robinson, *The "Rio" Environmental Treaties*, *supra* note (823) at 139.

wartime code, and meant to apply only in times of armed conflict. On the other hand, the IUCN Amman Clause text articulated that it was intended to apply “until a more complete international code of environmental protection has been adopted,” which reflects the drafters’ intention to promote environmental protection, both in peacetime and times of armed conflicts as well. The Amman Clause reflects the fact that environmental destruction may result from military activities in peacetime. For example, military sites and bases generate huge amount of toxic and hazardous wastes; military testing, storage, and stockpile of ammunitions, and military maneuvers can result severe environmental impacts even during peacetime. Consequently, the Amman Clause sought to guarantee the same environmental standards under all conditions.

Further, civilian activities may be considered a real threat to the environment. Particularly in developing countries, environmental concerns may attract little attention, and many activities may degrade the environment, e.g., deforestation, desertification, the increasing use of greenhouse gases which deplete the Ozone Layer, disposing of raw sewage or industrial waste in water bodies, and the overuse of farmlands which may affect the topsoil.

All the above activities can affect environmental resources even when they are not owned by a specific nation or country, and what affects one country can affect others as well. Accordingly, it was important to adopt the IUCN Amman Clause to provide both peacetime and wartime environmental protection.

Further, the IUCN Amman Clause urges the U.N. member states to adopt a comprehensive international code of environmental protection.<sup>836</sup> Such a code would address environmental matters not governed by existing international environmental laws, or by laws that do not provide real environmental protection. For example, the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques does not include peacetime environmental modification techniques. However, military activities and operations even in peacetime may cause long-lasting, widespread, or severe environmental effects, and these operations are not covered by the Convention. The Amman Clause would seek to provide protection in those circumstances, although it does not set forth specific criteria for doing so. In

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<sup>836</sup> IUCN Amman Clause, *supra* note (745).

attempting to begin the formulation of a comprehensive code of environmental protection the Amman Clause goes far beyond the Marten's Clause from which it sprang. While the Marten's Clause mentioned environmental concerns only as a small part of its focus on the regulation of war, the Amman Clause focuses directly on the environment. That fact certainly reflects the increased global awareness of the importance of environmental concerns.

Last but not least, Amman Clause does not consider the present generation only, but future generations as well. The Clause specifically refers to the "...fundamental values of humanity acting as steward for present and future generations."<sup>837</sup> That language reflects the fact that environmental harm may take decades to be repaired, and even if it is repaired, the natural resources may lose their original values. As a result, humans will suffer and bear the burden of such degradation. Not only will the present generation suffer, but future generations as well.

Significantly, the IUCN Amman Clause was adopted by both environmental ministries and NGO's,<sup>838</sup> and its hybrid status is considered unique among international instruments. Moreover, according to the United Nations General Assembly resolution 50/195 of 17 December, 1999, the IUCN is participating in the work of the U.N. General Assembly as an observer. The consensus needed for the IUCN Amman Clause is somewhat limited. The IUCN Amman Clause is "soft international law," if it is viewed as merely a declaration, and is not binding. However, if it is a general principle of law arising from the "dictates of public conscience," then it is binding.

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<sup>837</sup> Amman Clause, *supra* note (745).

<sup>838</sup> States in principle are not obliged only by decision that adopted by intergovernmental organizations in which its official representatives participate. Article 7 of the Vienna Convention on the Law of Treaties states that "1. A person is consider as representing a State for the purpose of adopting or authenticating the text of a treaty or for the purpose of expressing the consent of the State to be bound by a treaty if: (a) he produces appropriate full powers; or (b) it appears from the practice of the States concerned or from other circumstances that their intention was to consider that person as representing the State for such purposes and to dispense with full powers. 2. In virtue of their functions and without having to produce full powers, the following are considered as representing their State: (a) Heads of State, Heads of Government and Ministers for Foreign Affairs, for the purpose of performing all acts relating to the conclusion of a treaty; (b) heads of diplomatic missions, for the purpose of adopting the text of a treaty between the accrediting State and the State to which they are accredited; (c) representatives accredited by States to an international conference or to an international organization or one of its organs, for the purpose of adopting the text of a treaty in that conference, organization or organ." Vienna Convention on the Law of Treaties, *supra* note (751) art. 7.

The effect of the IUCN Amman Clause depends on each state separately. For example, at the national level, most of the representatives have to engineer a long chain of initiatives to convince their national governments about the importance and the necessity of adopting the IUCN Amman Clause. Some of the NGO's delegations can bring great pressure on their governments, which may result in a national adoption of the IUCN Amman Clause. However, non-members now need to press their defense ministries to honor the IUCN Amman Clause.

In sum, for all the above mentioned reasons, the international community, represented by the seventy two States that attended the IUCN Congress, adopted the IUCN Amman Clause, which will offer great environmental protection by itself and will pave the way for additional environmental protection. Under the Clause, States are required to apply the international minimum standard of environmental protection derived from principles of international law, the laws of humanity, and the dictates of the public conscience in peacetime and during armed conflicts as well.

### ***C-The Shortcomings of IHL in Protecting the Natural Environment***

Most jurists admit the shortcomings of the IHL regarding the environmental protection.<sup>839</sup> They attribute this lacuna to the fact that the environmental law is a new field that appeared only in the 1970s. Therefore, IHL texts adopted before then made no reference to the environment as such, because the concept did not even exist at the time.<sup>840</sup>

Moreover, even after the 1970s, two famous documents-the Additional Protocols I and II to Geneva Conventions- were introduced as IHL without offering a real and direct environmental protection. They were designed to ameliorate human suffering, and any environmental benefit was merely secondary.<sup>841</sup> The priority given to human suffering vis-à-vis environmental harm necessarily reflected on the level of environmental protection, especially when there is interference between these two interests.

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<sup>839</sup> Bouvier, *Protection of the Natural Environment*, *supra* note (81) 577; Jozef Golbalt, *Legal Protection of the Environment Against the Effects of Military Activities*, 22 BULL. OF PEACE PROPOSALS 399, 299-403 (1991).

<sup>840</sup> *Id.*, at 571-72.

<sup>841</sup> Diederich, *supra* note (626) 143.

Even when the ICRC itself condemned the use of weapons of mass destruction<sup>842</sup> in 1973, in the introduction to the draft Protocol I, it affirmed that ICRC would not address environmental problems when declaring that:

[P]roblems relating to atomic, bacteriological, and chemical warfare, including the environmental effects, are subjects of international agreements or negotiations by governments, and in submitting these draft Protocols the ICRC does not intend to broach these problems.<sup>843</sup>

That provision shows that ICRC had no intention of getting involved in environmental protection in times of armed conflict. Even if it works on this issue occasionally, it is not considered a significant goal of the ICRC.

[T]he IHL, including its environmental protection, is dependent on the application of customary principles and on the sweeping generalization of Article 35 (3) of the Geneva Protocol I. Such a dependency is a major deficiency, as considerations of military expediency are specially difficult to constrain in the absence of treaty norms, and even allegations about enemy conduct tend to sound propagandistic if based purely upon such general, vague, prescriptive principles.<sup>844</sup>

The legal norms embodied in IHL are very general, vague, and subject to ‘military necessity’ exceptions, and are not directed to stop belligerent practices of the sort most likely to generate environmental harm.<sup>845</sup> Unfortunately, the effect of IHL is limited by the ‘military necessity’ concept; most IHL provisions are subject to that constraint, such as the ‘necessity of war’ term used in article 23 (1)(g) of the 1907 Hague Convention IV<sup>846</sup> or the ‘necessary by military operations’ term used by article 53 of the fourth Geneva Convention.

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<sup>842</sup> L. C. Green, *The Environment and the Law of Conventional Warfare*, 29 THE CANADIAN Y.B. OF INT’L L. 223, 228 (1991) [hereinafter L. C. Green].

<sup>843</sup> *Id.*

<sup>844</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 93.

<sup>845</sup> *Id.*, at 79.

<sup>846</sup> The Hague Convention of (IV) 1907, *supra* note (205) art 23 (1)(g).



Military necessity is a “legal concept used as a part of the legal justification for attacks on legitimate military targets that may have adverse, even terrible, consequences for civilians and civilian objects.”<sup>847</sup> A great deal environmental destruction has taken place during armed conflict under the pretext of military necessity. For example, during the Vietnam War, the United States considered environmental modification techniques necessary to interfere with the guerrilla tactics of North Vietnam.<sup>848</sup>

Even under the Additional Protocol I, action is limited to preventing only “widespread, long-term, and severe” environmental damage, thus weakening the environmental protection offered by the IHL.<sup>849</sup> The Additional Protocol I does place some limit on the mindless mayhem which normally accompanies war. However, precisely what limit is as yet unclear.<sup>850</sup>

Punishment plays a great role in assuring the respect and the applicability of law. Therefore, IHL considers ‘the grave breach’ of its rules and principles as a war crime.<sup>851</sup> Some experts affirmed this idea by saying that:

[t]he use of napalm in Vietnam and the deliberate burning of oil in the Persian Gulf probably qualify as grave breach. The perpetrators should therefore be subject to criminal prosecution and the other Geneva law parties should be required to bring the perpetrators to justice.<sup>852</sup>

IHL criteria as to whether a breach is grave depends on its effects on civilian populations. Thus, if civilian populations are directly and considerably affected by the environmental breach, the act then it will be considered a ‘grave breach’ of IHL principles.

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<sup>847</sup> Françoise Hampson, *Military Necessity*, in CRIMES OF WAR “WHAT THE PUBLIC SHOULD KNOW,” 251 (Roy Gutman & David Rieff Eds., 1999) [hereinafter Hampson].

<sup>848</sup> Guerrilla warfare in Vietnam was based on the teachings of Mao Tes-Tung, who stressed the need of quick and effective actions to surprise the enemy. It requires the use of natural environment for cover and camouflage during attack, and to disguise supply bases. Lawrence Juda, *Negotiating a Treaty on Environmental Modification Warfare: The Convention on Environmental Warfare and Its Impact Upon Arms Control Negotiations*, 32 INT’L ORG. 975, 976 (1978) [hereinafter Juda].

<sup>849</sup> Falk, *The Environmental Law of War*, *supra* note (632) at 93.

<sup>850</sup> Schafer, *supra* note (384) at 308.

<sup>851</sup> Additional Protocol (I), *supra* note (79) art. 85 (5).

<sup>852</sup> Popovic, *supra* note (619) art. 78.

However, to address the problems of the IHL in protecting the natural environment, it would be necessary to cover the IHL enforcement, the difficulty of public access to information, the inapplicability of the IHL on revolutions and disorders, and finally, the failure of IHL in controlling terrorism.

## 1. The Enforcement of IHL

IHL rules applicable to international armed conflicts are largely unenforceable and often disregarded.<sup>853</sup> However, even where IHL might apply to environmental effects of armed conflict, limitations in application and enforcement mechanisms hinder the effectiveness of its provisions.<sup>854</sup>

Theoretically, IHL provisions apply not only to the contracting parties, but also the non-contracting States, because they “are so broadly accepted as to be considered customary law.”<sup>855</sup> Practically, however, a number of violations of these provisions have been detected in times of armed conflicts. The IHL provide a number of rules to backup the States fulfillment to their obligation. For example, Article 80 of the Additional Protocol I requires the parties to take all necessary measures for the execution of their obligations.<sup>856</sup> And Article 81 requires that parties accommodate the needs of ICRC to carry out its appointed mission.<sup>857</sup> Article 82 calls on making legal advisors available to their armed forces.<sup>858</sup> Further, Article 83 demands the application of the Conventions and this Protocol in both peace and times of armed conflicts.<sup>859</sup> Article 84 calls on the engagement in interstate communication of implementation measures.<sup>860</sup> Article 87 instructs the parties “to require military commanders, with respect to members of the armed forces under their control, to prevent and where necessary, to suppress and report

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<sup>853</sup> Carrillo-Suarez, *supra* note (121) at 122.

<sup>854</sup> Popovic, *supra* note (619) at 77.

<sup>855</sup> MCCOUBREY, *supra* note (588) at 257.

<sup>856</sup> Additional Protocol (I), *supra* note (79) art. 80.

<sup>857</sup> *Id.*, art. 81.

<sup>858</sup> *Id.*, art. 82.

<sup>859</sup> *Id.*, art. 83.

<sup>860</sup> *Id.*, art. 84.

to competent authorities breaches of the Convention and of this Protocol.”<sup>861</sup> But if the local authorities are ignorant of a breach, this provision provides little help.<sup>862</sup>

The ICRC is supposed to act as a tool to enforce IHL rules. For example, when a violation of an IHL rule or principle detected by the ICRC, a confidential report will be sent to the responsible authority urging it to comply with the applicable norms. However, the ICRC only rarely will issue a public statement of the violations. For example, the ICRC issued a statement to express its concern about the Iraqi resort to illegal chemical warfare, during the 1980-1988 Iran-Iraq war,<sup>863</sup> which is a rare occurrence.

## 2. The Difficulty of Public Access to Information

It is necessary to provide public access to information, about environmental damage, particularly in cases like the destruction of a nuclear facility or the contamination of a drinking water supply, where the harm may affect human life, health, and the environment on a broad scale.<sup>864</sup> The duty to inform concept appeared in the Stockholm Declaration of 1972<sup>865</sup> by a proposed Principle 20 that would have imposed a duty to inform, by providing that “[r]elevant information must be supplied by States on activities or developments within their jurisdiction or under their control whenever they believe, or have reason to believe, that such information is needed to avoid the risk of significant adverse effects on the environment in areas beyond their national jurisdiction.”<sup>866</sup> The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, of 1998 Åarhus, Denmark,<sup>867</sup> affirms the right of every person of present and future generation to live in a healthy and balanced environment through guaranteeing the right to access to information, public participation in decision-making, and access to justice in

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<sup>861</sup> *Id.*, art. 87.

<sup>862</sup> Popovic, *supra* note (619) at 77.

<sup>863</sup> MCCOUBREY, *supra* note (588) at 258.

<sup>864</sup> Popovic, *supra* note (619) at 79.

<sup>865</sup> Stockholm Declaration, *supra* note (822).

<sup>866</sup> U.N. Doc. A/CONF.48/4, Annex, para. 20, at 4 (1972), quoted in Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT’L. L. J. 423, 496 (1973).

<sup>867</sup> Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters, opened for signature June 25, 1998, available in 1998 WL 750201 [hereinafter Åarhus Convention].

environmental matters. Article 4 (1) of the Convention states that “Each Party shall ensure that [p]ublic authorities, in response to a request for environmental information, make such information available to the public [i]ncluding copies of the actual documentation containing or comprising such information.”<sup>868</sup> Such a duty would enhance the quality and the implementation of decisions, public awareness of environmental matters, public expression of its concerns, and therefore, would enable responsible officials to respond to such concerns.

However, the IHL does not consistently guarantee public access to information. Often information about environmental or humanitarian damage is not made known until decades after the fact, or perhaps not at all. Article 90 of the Additional Protocol I,<sup>869</sup> created a fact-finding commission, but provides that it “shall not report its findings publicly, unless all parties to the conflict have requested the commission to do so.”<sup>870</sup> For example, throughout the Russian-Chechen armed conflict no independent human rights monitors have been allowed to enter Chechnya by Russian authorities, and so could not obtain information. Nevertheless, the Council of Europe’s Commissioner for Human Rights was authorized to enter the Republic at the end of February 2000,<sup>871</sup> which gives the perpetrators enough time after the armed conflict to cleanup the scene of their crimes. Public access to information under the IHL may be achieved in three ways. First, military commands should inform civilians about any prospective attack, its time, and the nature of the weapons that will be used in the attack so the civilian population can abandon their homes and lands in order to protect their lives from the military attack. Second, once an attack takes place, there should be a kind of initial assessment of the civilian casualties and the environmental damage in order to inform people as to what exactly happened. Finally, after the military attack there should be a full ecological evaluation and a systematic survey of the direct and indirect effects of war on public health, in order to take the necessary and immediate measures to rehabilitate both the affected population and the impacted environment. For example, following the death of an Italian soldier who

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<sup>868</sup> *Id.*, art. 4 (1).

<sup>869</sup> Additional Protocol (I), *supra* note (79) art. 90.

<sup>870</sup> Additional Protocol (I), *supra* note (79) art. 90 (5)(C).

<sup>871</sup> Amnesty International’s Recommendations to the 56<sup>th</sup> Session of the U.N. Commission on Human Rights, Russian Federation Violations of Human Rights and International Humanitarian Law in the

served in the peace-keeping troops in Kosovo and Bosnia, the Italian Prime Minister said that Italy would seek a probe regarding the use and effects of uranium at the next meeting of NATO's Atlantic Council in Brussels, as the uranium may be the cause of cancer among soldiers and civilians.<sup>872</sup> An Italian foreign ministry official added: "[w]e are looking to get the maximum exchange of information about the issue between NATO countries and the alliance's headquarters."<sup>873</sup>

### 3. The Difficulty of Applying IHL to Revolutions and Disorders

The IHL rules are applicable in times of armed conflict. Armed Conflicts may be internal or international. But if the conflict does not meet the criteria set out by either common Article 3 of the 1949 Geneva Conventions, or the 1977 Additional Protocol II, then the situation cannot be described as an armed conflict<sup>874</sup> and it will not be subject to IHL enforcement.<sup>875</sup> Thus, in situations of revolutions and disorders, the environmental protection provisions in IHL will be inoperative, and the environment will be subject to severe abuse. This inadequacy is a direct result of the fact that the environment is not protected *per se* in the IHL.

Further, ICRC humanitarian intervention will be greatly restricted in times of revolutions and disorders. ICRC intervention depends on the consent of the concerned State. For example, ICRC can visit places of internment or detention in order to urge humanitarian observance.<sup>876</sup> An ongoing disorder, started in September 29<sup>th</sup>, 2000, in Gaza Strip, West Bank, and Jerusalem, clearly affects both human life and the environment. However, because it is not deemed to be an "armed conflict," IHL can play no effective role. IHL provisions should be amended to include revolutions and disorders, so that humanitarian violations and the environmental damage caused by these events can also be addressed.

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Chechen Republic, available at <<http://www.amnesty.org>>, (last visit March 14, 2001) [hereinafter Amnesty International's Recommendations].

<sup>872</sup> Blitz & Nicoll, *supra* note (24) at. 2.

<sup>873</sup> *Id.*

<sup>874</sup> MCCOUBREY, *supra* note (588) at 326.

<sup>875</sup> David P. Forsythe, *International Humanitarian Assistance: The Role of the Red Cross*, 3 BUFF. J. INT'L. L. 325, 238 (1996-97).

<sup>876</sup> MCCOUBREY, *supra* note (588) at 326.

#### 4. The Inadequacy of IHL in Controlling Terrorism

Incidents of terrorism can have a major effect on the environment as well as on civilians and soldiers, even if no governmental military operations are involved.

Terrorism is violence, or a threat of violence, calculated to create an atmosphere of fear and alarm.<sup>877</sup> According to Article 1 (2) of the Convention of the Organization of the Islamic Conference on Combating International Terrorism of 1999,<sup>878</sup> terrorism means “any act of violence or threat thereof notwithstanding its motives or intentions perpetrated to carry out an individual or collective criminal plan with the aim of terrorizing people or threatening to harm them or imperiling their lives, honor, freedoms, security or rights or exposing the environment or any facility or public or private property to hazards or occupying or seizing them, or endangering a national resource, or international facilities, or threatening the stability, territorial integrity, political unity or sovereignty of independent States.”

During the last decade, terrorists became increasingly interested in mass destruction,<sup>879</sup> which is a real threat to human life and the environment. A number of incidents, such as the Oklahoma City bombing of 1995,<sup>880</sup> the Tokyo Subway Sarin gas attack in 1995,<sup>881</sup> the detonation of the American Navy Warship in Yemen in October 12, 2000, the terrorist attacks of the World Trade Center (WTC) in New York and the Pentagon in Washington D.C. on September 11, 2001, underscore this trend.

The environmental terrorism can cause the same kind of environmental damage as conventional warfare. Terrorists can use destructive ammunitions and arms in their attacks nowadays, such as poisonous gases and high capacity explosions. Moreover, the environmental effects resulting from terrorist acts are similar to those resulting from

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<sup>877</sup> See KEVIN J. RILEY & BRUCE HOFFMAN, DOMESTIC TERRORISM: A NATIONAL ASSESSMENT OF STATE & LOCAL PREPAREDNESS 3 (1995, The Rand Corporation).

<sup>878</sup> Convention of the Organization of the Islamic Conference on Combating International Terrorism, July 1, 1999, Ouagadougou, in INTERNATIONAL INSTRUMENTS RELATED TO THE PREVENTION AND SUPPRESSION OF INTERNATIONAL TERRORISM, (United Nations Publication, 2001) Sales No. E.01.V.3, at 187 [hereinafter The OIC Convention on Combating International Terrorism].

<sup>879</sup> See, Stephan H. Leader, *The Rise of Terrorism*, SEC. MGMT., Apr. 1, 1997, available at 1997 WL 9533016.

<sup>880</sup> Gavin Cameron, *Nuclear Terrorism: A Real Threat?*, 8 JANE'S INTELLIGENCE REV. 422, 422 (1996) [hereinafter Cameron], cited in Timothy Schofield, *The Environment as an Ideological Weapon: A Proposal to Criminalize Environmental Terrorism*, 26 B.C. ENV'T'L AFF. L. REV. 619, 623 (1999) [hereinafter Schofield].

armed conflicts. Both involve the utilization of the environment as a weapon. The sole difference between environmental warfare and environmental terrorism is that the first is committed publicly under the cloak of international disagreement between two nations or more, whereas terrorism is committed as an act of reprisal or revenge. This difference raises the danger of the environmental terrorism vis-à-vis environmental warfare. Additionally, environmental warfare is controlled by the law of war. However, environmental terrorism is subject to the national laws of each State, and each State applies its own rules. An act of environmental destruction might be classified as an act of terrorism in one State, but not in another State.

Examples of the environmental terrorism can be highlighted through the terrorist attacks committed against the United States establishments, interests, citizens, and environment by a group terrorist called “AlQaeda,” that takes from Afghanistan a location to plan their activities and train their personnel. AlQaeda is a group of fundamental Muslims, leaded by militant, exiled Saudi millionaire Osama Bin Laden,<sup>882</sup> interpret the humanitarian Principles of Islam in a wrongful way to serve their goals.

This group was behind the explosion of an American establishment located in Alkobar, Saudi Arabia, in 1996. A powerful truck bomb tore through apartment buildings at U.S. Air Force complex in Saudi Arabia killed at least 23 Americans and injured more than 300.<sup>883</sup> The explosion was so powerful, it blasted a crater 35 feet deep and 85 feet across, hit an U.S. military housing area at the edge of a Saudi base near Dhahran in eastern Saudi Arabia. British, French and Saudi troops were there too. Officials said that the Saudis also might have suffered casualties.<sup>884</sup>

Furthermore, AlQaeda was behind the car bomb explosion that took place outside the American embassies in Nairobi, Kenya, and Dar El Salaam, Tanzania, on August 7,

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<sup>881</sup> *Id.*

<sup>882</sup> Osama Bin Laden is a Saudi-born millionaire and radical Muslim leader suspected of international terrorism. He strongly opposes United States policies in the Middle East, particularly the U.S. support of Israel and the presence of the U.S. troops in Saudi Arabia. *See, World Book Online Americas Edition*, available at <<http://www.aolsvc.worldbook.aol.com/wbol/wbPage/na/ar/co/749895>>, (last visit Sep. 24, 2001).

<sup>883</sup> Houston Chronicle News Services, *23 Die, Hundreds Injured in Saudi Arabia Explosion*, (June, 25, 1996) available at <<http://www.chron.com/content/chronicle/page1/96/06/26/saudi.html>>, (last visit Sept. 24, 2001).

<sup>884</sup> *Id.*

1998,<sup>885</sup> which wounded 4,500 people, and killed twelve Americans and 200 or more Kenyans and Tanzanians.<sup>886</sup> This group of terrorists acts in a dramatical way against human health and the environment. For example, their attack against the American Navy's Warship U.S.S. Cole in Yemen, took place in the Gulf of Aden, and caused various casualties, as well as environmental harm to the Gulf itself. Nevertheless, the environmental damage was largely ignored by the involved countries in particular, and the international community in general.

The forecited attacks were committed against the United States, but outside its territory. However, the most recent, blatant and devastate acts of terrorism were committed by AlQaida in the United States mainland.<sup>887</sup> On September 11, 2001, terrorists committed the most active attacks in New York and Washington (D.C.), when four planes hijacked, two of them smashed into New York's World Trade Center (WTC), and the third one rammed into the Pentagon. However, the fourth hijacked plane crashed south of Pittsburgh, Pennsylvania.<sup>888</sup>

The twin towers of the WTC is considered a historical architectural site in New York City, each contains 110 stories. However, the American Airlines Flight 11, carrying 92 people from Boston to Los Angeles, crashed into the first tower. Eighteen minutes later, the United Airlines Flight 175, carrying 65 people on the same Boston to Los Angeles route, tore through the South Tower with an even larger explosion.<sup>889</sup> Both crashes killed all passengers and crew members. The unprecedented attacks sent a huge fireball into the air and spread debris over the city.<sup>890</sup> According to the latest information, human casualties in the WTC are 276 dead, 2,250 wounded and 6,453 missing and

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<sup>885</sup> Wedgwood, *Responding to Terrorism*, *supra* note (636) at 560.

<sup>886</sup> *Id.*

<sup>887</sup> It was the first time in the modern history, after Oklahoma explosion, that an act of terrorist committed on the United States territory. Peter Fowler, *Unprecedented Attack In USA*, available at <<http://www.newsroom.co.nz/story/64516-99999.html>>, (last visit Sept. 23, 2001) [hereinafter Fowler].

<sup>888</sup> *Id.*

<sup>889</sup> Michael Grunwald, *Terrorists Hijack 4 Airlines, Destroy World Trade Center, Hit Pentagon; Hundreds Dead*, THE WASH. POST, Sept. 12, 2001, available at <<http://www.washingtonpost.com>>, (last visit Sept. 24, 2001) [hereinafter Grunwald].

<sup>890</sup> Fowler, *supra* note (887).



presumed dead.<sup>891</sup> Almost 300 emergency personnel in New York -- 78 missing police officers and 200 firefighters -- are presumed dead.<sup>892</sup>

Debris from the collapse of concrete from the twin towers had damaged the surrounding buildings. Gas lines in the areas were affected as well.<sup>893</sup> Flames shrouded the south side of the structure for 30 minutes before it fell.<sup>894</sup> About “2,000 rescue workers have been moving debris at a rate of 3,000 cubic yards a day, but estimated 2 million cubic yards remains.” When they tunnel into “the pile,” as the wreckage has become known, “it lets in more air and often has the effect of feeding oxygen to the smoldering fires and hot debris.”<sup>895</sup>

Additionally, further massive environmental impacts resulted from such violent attacks. For instance, the asbestos, pulverized concrete dust, burning plastic, sediment, glass, and the chemical products of combustion, including materials such as rubber, and paper are sprayed after the attacks in the surrounded environment,<sup>896</sup> and washed into the Hudson River surrounding New York during the heavy precipitation. Moreover, according to the Environmental Protection Agency (EPA) Reports, toxic chemicals such as dioxins, PCBs, benzene, lead and chromium have been detected in the soil and air around the rubble of the WTC at levels exceeding federal safety standards.<sup>897</sup> These substances can irritate the lungs, trigger asthma attacks and otherwise aggravate lung conditions, as well as irritate the eyes, nasal passages and throat.<sup>898</sup> Allergists do not

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<sup>891</sup> U.S.A. Today.com, *Casualties from Terrorist Attacks*, Sept. 24, 2001, available at <<http://www.usatoday.com/news/nation/2001/09/11/death-toll.htm>>, (last visit Sept. 24, 2001) [hereinafter *Casualties from Terrorist Attacks*].

<sup>892</sup> CNN.com, *FBI targets Florida sites in terrorist search, Survivors May Be Still in Trade Center Rubble*, Sept. 11, 2001, available at <<http://www.cnn.com/2001/US/09/11/america.under.attack/index.html>>, (last visit Sept. 24, 2001)

<sup>893</sup> CNN.com, *Collapsed Trade Center Towers Still Dangerous*, Sept. 12, 2001, available at <<http://www.cnn.com/2001/US/09/11/new.york.terror/>>, (last visit Sept. 24, 2001).

<sup>894</sup> *Id.*

<sup>895</sup> ABC News.com, *Searching and Hoping Rescue Efforts Continue; Air Pockets Found, But No Survivors*, Sept. 17, 2001, available at <[http://abcnews.go.com/sections/us/DailyNews/WTC\\_recovery\\_010917.html](http://abcnews.go.com/sections/us/DailyNews/WTC_recovery_010917.html)>, (last visit Sept. 24, 2001).

<sup>896</sup> Mary J. Shomon, *Post-Terrorist Attack Health Updates: Concerns and Alerts for New Yorkers*, Sept. 15, 2001, available at <<http://ad.doubleclick.net/adi/N1684.TMP.com/B43920.2;sz=720x300;ord=0101?>>>, (last visit Sept. 24, 2001) [hereinafter Shomon]. See also, Monona Rossol, *Downing From Disaster*, A paper prepared by N.Y. ENV'T'L L. & JUST. PROJECT in the occasion of Sept. 11, 2001 attacks against the United States, Sept. 22, 2001.

<sup>897</sup> Cnn.com, *EPA Finds Toxic Chemicals Around WTC Ruins*, Oct. 27, 2001, available at <<http://www.cnn.com/2001/US/10/27/rec.attacks.airquality.ap/index.html>>, (last visit Oct. 27, 2001).

<sup>898</sup> Shomon, *supra* note (896).

believe asbestos is a significant health hazard beyond the very immediate center of the recovery effort.<sup>899</sup> The irritants in the dust can combine with other allergens in the air to make patients with lung conditions and allergies especially sick, allergists warned.<sup>900</sup> They also urged those with asthma or other chronic lung diseases to wear good quality masks and consult with their physicians quickly if they experience new or worsening respiratory symptoms.<sup>901</sup> It has been also reported by the CNN that the reported cases of West Nile Virus victims were increased fifty percents since September 11 attacks. Future assessments will necessarily show that even surrounded environment has been also harmed, some species may die or immigrate.

Flight 77 from Dulles to Los Angeles, a Boeing 757 slammed into the West Side of the Pentagon, killing all 64 passengers and crew members.<sup>902</sup> The five-sided building suffered heavy damage, with a portion of the structure collapsing.<sup>903</sup> Inside the Pentagon, 125 were dead, and 76 were wounded.<sup>904</sup> Witnesses reported that smoke could be seen miles away.<sup>905</sup> The fourth plane United Airlines Flight 93, carrying 45 people from Newark to San Francisco,<sup>906</sup> which crashed south of Pittsburgh,<sup>907</sup> left no one alive.

In fact, it should be noted that if killing innocent people considered one of the horrid pictures of terrorism, environmental destruction is considered another malicious picture of terrorism. Admittedly, September 11 terrorist attacks violated international law principles such as the laws of humanity, dictates of public conscience, and principles of law resulted from the usages established among civilized nations, which is what Marten's Clause about.<sup>908</sup>

The environment can be victimized by acts of terrorism, especially when terrorists use modern techniques of armament that cause indiscriminate harm. Nowadays,

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<sup>899</sup> *Id.*

<sup>900</sup> *Id.*

<sup>901</sup> *Id.*

<sup>902</sup> David Willman and Alan C. Miller, 'Watch List' Didn't Get to Airline, L.A. TIMES, Sept. 20, 2001, available at <<http://www.latimes.com>>, (last visit Sept. 24, 2001).

<sup>903</sup> Barbara Vobejda, 'Extensive Casualties' in Wake of Pentagon Attack, available at <<http://www.washingtonpost.com/wp-dyn/articles/A12920-2001sep11.html>>, (last visit Sept. 23, 2001) [hereinafter Vobejda].

<sup>904</sup> *Casualties from Terrorist Attacks*, *supra* note (891).

<sup>905</sup> Vobejda, *supra* note (903).

<sup>906</sup> Grunwald, *supra* note (889).

<sup>907</sup> Fowler, *supra* note (887).

"terrorist weaponry has not been limited merely to guns and explosive devices."<sup>909</sup> The hand of terrorists reaches modern technology, such as D.U., chemical and biological devices. "[T]he House of Representatives Internal Security Subcommittee investigated the DoD's policy of surplus explosives, and found that 26 million pounds have been sold to commercial applicants with almost no controls exerted over the sale. Apparently, some of these explosives have already found their way into the hands of the U.S. domestic terrorists."<sup>910</sup> American authorities believe that AlQaeda possesses chemical and biological weapons that may be used in future terrorist attacks.<sup>911</sup>

Two attacks by the Japanese cult, Aum Shinrikyo, also involved weapons of modern technology. The first was in 1994, in Matsumoto, in the central highlands of Honshu, Japan, where nerve gas was used in a terrorist attack causing the death of seven civilians and injuring dozens more.<sup>912</sup> The second attack was in 1995 in the Tokyo subway,<sup>913</sup> caused twelve deaths<sup>914</sup> and approximately 5,000 injured.<sup>915</sup> Moreover, a Chechen guerrilla leader, Shamil Bassayev, informed a Russian television network that four cases of radioactive cesium had been hidden around Moscow.<sup>916</sup> The network discovered thirty-two kilograms of explosives placed in Moscow's Ismailovo Park.<sup>917</sup>

Just as terrorist attacks can cause environmental damage, so too can acts of reprisal committed by the offended State. For instance, in 1998, the Americans attacked Afghani<sup>918</sup> sites classified as Bin Laden training camps.<sup>919</sup> They also attacked El Shifa

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<sup>908</sup> Nicholas A. Robinson, *Reflections : A Tragedy's Aftermath & the Role of Law*, A Comment on the Sept. 11 Attacks, at 3 (2001).

<sup>909</sup> ROBERT A. FRIEDLANDER, *TERROR VIOLENCE, ASPECTS OF SOCIAL CONTROL* 141 (Oceana Publication, 1983) [hereinafter FRIEDLANDER].

<sup>910</sup> Koziol, *Pentagon Auctions of Explosives Pose a Terrorist Peril*, CHI. TRIB., May 15, 1977, Sec. 2, at 4, Col. 3, *see Id.*

<sup>911</sup> Cnn.com, *Bush Goes After Terrorists' Assets*, Sept. 24, 2001, available at <<http://cnn.com/2001/US/09/24/inv.investigation.terrorism/index.html>>, (last visit Sept. 24, 2001) [hereinafter *Bush Goes After Terrorists' Assets*].

<sup>912</sup> Alan H. Lockwood, *The public Health Effects of the Use of Chemical Weapons*, in *WAR AND PUBLIC HEALTH* 93-94 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000) [hereinafter Lockwood].

<sup>913</sup> Schofield, *supra* note (880) at 624.

<sup>914</sup> Fitzgerald, *supra* note (501) at 454.

<sup>915</sup> Lockwood, *supra* note (912) at 94

<sup>916</sup> Cameron, *supra* note (880) at 422.

<sup>917</sup> *Id.*

<sup>918</sup> Leah M. Campbell, *Defending Against Terrorism: Legal Analysis of the Decision to Strike Sudan and Afghanistan*, 74 TUL. L. REV. 1067, 1089 (2000) [hereinafter Campbell].

<sup>919</sup> Wedgwood, *Responding to Terrorism*, *supra* note (636) at 566.

Pharmaceutical Factory, in Sudan,<sup>920</sup> which was also suspected as a source of production or transfer of gas chemical weapons and their precursors.<sup>921</sup> The United States knew that the site was used for producing chemical gases and weapons, from the soil sample taken from the factory's ground by an agent.<sup>922</sup> Thus, the attack clearly risked great environmental damage, and could result in the release of a deadly cloud of gas.<sup>923</sup> Similarly, the strike against Taliban and AlQaeda terrorist group in Afghanistan, on October 7, 2001, used several kind of military techniques, including P 52 bombers, which would necessarily cause collateral damage of humans and to the environment as well. Despite the great believes that Bin Laden possess weapons of mass destruction, the American troops bombed the training camps of the terrorist groups in Afghanistan, which, if these believes were facts, present a great threat to the environment.

Reprisal actions through military forces should not be considered as a primary choice. The United States of America adopted the principle of fighting terror through long and safe battle. In stead of recurring to massive military attacks that may cause another humanitarian and environmental losses. The U.S. adopted developed measures to eliminate any terrorist activities in the future, or at least make them almost impossible. The United States declared that States have two choices only, whether to support the U.S. in it war against terror, or support the terror itself.<sup>924</sup> The American President Bush signed an executive order to freeze the assets of suspected terrorists.<sup>925</sup> Such procedure would be able to weaken the terrorist groups and eliminate their activities without causing any harm to innocent people or the environment.

When an act of terrorism is committed, both humans and the environment are direct victims. But when there is only a threat of a terrorist act, while the civilian population will be affected by the fear and horror, there will be no actual harm to the environment. An example of a threat of terrorism was "in mid-November, 1977, when the Federal Bureau of Investigation (FBI) confirmed an extortionist threat to place a deadly

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<sup>920</sup> Campbell, *supra* note (918) at 1090.

<sup>921</sup> Wedgwood, *Responding to Terrorism*, *supra* note (636) at 566.

<sup>922</sup> *Id.*, at 570.

<sup>923</sup> McClintock, *supra* note (150) at 637-38.

<sup>924</sup> President George W. Bush, Statement before the Congress, Sept. 20, 2001.

<sup>925</sup> *Bush Goes After Terrorists' Assets*, *supra* note (911).

botulism poison in the Miami, Florida, water supply unless a demand for a 1.6 million dollar payment was met.”<sup>926</sup>

The IHL “cannot provide direct answers to most questions raised by terrorism,”<sup>927</sup> because IHL is applicable only to armed conflict as defined in IHL documents. Moreover, acts of terrorism are usually committed in times of peace, when IHL is inapplicable. Nevertheless, IHL prohibits terrorist acts and provides for their repression. In accordance with IHL principles, States can cooperate in prosecuting terrorists, or extraditing them to the competent State to prosecute them. The international community is united to face states that support terrorism. Under such pressure and according to the U.N. Security Council’s Resolution 731/1992<sup>928</sup> Libya handed over the two Libyan nationals<sup>929</sup> suspected of conducting the 1988 bombing of Pan American Flight 103 over Lockerbie,<sup>930</sup> to be prosecuted in the Netherlands, a neutral country, under the jurisdiction of the Scotch law. Recently, the three Scottish judges voted unanimously to find Al-Megrahi guilty and sentenced him to life imprisonment.<sup>931</sup> However, the second Libyan, Fhimah, was acquitted.<sup>932</sup> Here, the same attitude should be taken by Afghanistan by handing over Osama Bin Laden to the United States to stand before the justice for terrorist attacks committed against the United States interests, citizens, and environment. Facing the Afghani refusal to bring Bin Laden to the American justice, the United States should consider the Afghani proposal to hand over Bin Laden to a third neutral State, and The Hague, Netherlands, would be the best State to bring him to justice according to the American or the international laws.

Significantly, the Arab States signed the Arab Convention on the Suppression of Terrorism<sup>933</sup> at Cairo, Egypt on April 22, 1998. This Convention considers

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<sup>926</sup> FRIEDLANDER, *supra* note (909) at 147.

<sup>927</sup> Statement by the ICRC, *Draft Convention on the Suppression of Acts of Nuclear Terrorism*, U.N., G.A., 53<sup>rd</sup> Sess., 6<sup>th</sup> Committee Work Group (Oct. 6 1998) A/C.6/53/WG.1/INF/1.

<sup>928</sup> S/RES/731 (1992) January 21, 1992 “The Security Council Condemns Destruction of Pan American flight 103.”

<sup>929</sup> Abdelbaset Mohammed Al-Megrahi, and Al-Amin Khalifa Fhimah

<sup>930</sup> Wedgwood, *Responding To Terrorism*, *supra* note (636) at 574.

<sup>931</sup> David Johnston, *Courts a Limited Anti-Terror Weapon*, N.Y. TIMES, February 1, 2001, at A12 [hereinafter Johnston, Anti-Terror Weapon].

<sup>932</sup> *Id.*

<sup>933</sup> The Arab Convention on the Suppression of Terrorism, April 22, 1998, Cairo, in INTERNATIONAL INSTRUMENTS RELATED TO THE PREVENTION AND SUPPRESSION OF INTERNATIONAL

environmental protection in its provisions while stating that terrorism is any act or threat of violence that aims “to cause damage to the environment or to public or private installations or property or to occupy or seize them, or [aim] to jeopardize a national resource.”<sup>934</sup> The Convention excludes the destruction of public property and public services from being considered as political crimes.<sup>935</sup> Therefore, any environmental destruction, even if committed for political motives, is subject to this Convention’s provisions and considered a terrorist offense.<sup>936</sup>

Furthermore, Article 2 (a) of the Convention states that “[a]ll cases of struggle by whatever means, including armed struggle, against foreign occupation and aggression for liberation and self-determination, in accordance with the principles of international law, shall not be regarded as an offense[...].” According to international law rules, nations have rights to liberation and self-determination even though they recur to force. Here, however, environmental protection has no priority. Thus, the environment will be exposed to all forms of damage and destruction as an unprotected victim.

Additionally, the member States of the Organization of the Islamic Conference (OIC) adopted the Convention on Combating International Terrorism<sup>937</sup> at Ouagadougou, Burkina Faso, on 1 July 1999. The Convention requires all the Contracting States, as preventive measures, to bar their territories from being used to plan, organize, or execute terrorist acts.<sup>938</sup> The Convention also prevents the Contracting Parties from hosting, training, arming, or financing terrorists.<sup>939</sup>

Moreover, the Convention requires all the Contracting States to arrest perpetrators of terrorist acts and prosecute or extradite them.<sup>940</sup> Article 3 (II) (B) (5) of the Convention encourages cooperation between the concerned organs in the member States, and citizens, in order to help uncover terrorists and arrest them. For example, the

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TERRORISM(United Nations Publication, 2001) Sales No. E.01.V.3, at 152[hereinafter The Arab Convention on the Suppression of Terrorism].

<sup>934</sup> *Id.*, art. 1 (2).

<sup>935</sup> *Id.*, art. 2 (b) (v).

<sup>936</sup> Terrorist offense means “[a]ny offense or attempted offense committed in furtherance of a terrorist objective in any of the Contracting States, or against their nationals, property or interests, that punishable by their domestic law.” *See, Id.*, art. 1 (3).

<sup>937</sup> The OIC Convention on Combating International Terrorism, *supra* note (878).

<sup>938</sup> *Id.*, art. 3 (II) (A)(1).

<sup>939</sup> *Id.*

<sup>940</sup> *Id.*, art. 3 (II) (B)(1).

concerned authorities in each Contracting Party should extend appropriate incentives and ensure effective protection to witnesses on terrorists and their crimes, in order to urge citizens to inform on such crimes.

The Convention on Combating International Terrorism strongly excludes “[the] destruction of public properties and properties geared for public services [...]”<sup>941</sup> from being considered as political crimes even when politically motivated. Thus, environmental damage during any act of terrorism is considered a terrorist crime<sup>942</sup> and is subject to this Convention’s provisions.

This Convention not only considers that terrorism constitutes a severe violation of human rights in freedom and security, but also considers that damage to the environment caused as part of a terrorism act, including the destruction of public properties and public services is also a violation. It should be noted, however, that Article 2 (a) states that “[p]eoples’ struggle including armed struggle against foreign occupation, aggression, colonialism, and hegemony, aimed at liberation and self-determination in accordance with the principles of international law shall not be considered a terrorist crime.”

Finally, no State should protect terrorists, even if they are its citizens, in order to prevent terrorists from finding safety in “sympathetic States” that are unwilling to prosecute them despite the international pressure.<sup>943</sup> Under the current international legal system, and the competent international courts of justice, all governments should cooperate to respond to terrorist acts, by considering such acts as war crimes, rather than treating them as crimes within the national criminal jurisdictions.<sup>944</sup> “[T]errorism cannot be viewed as a criminal justice matter, like a bank robbery or a homicide. Instead, it is a national security threat that should be dealt with by military force when State sponsorship is proven.”<sup>945</sup> Recently, following the verdict against the two Libyans charged in the bombing of Pan American Flight 103, when the Justice Department brought charges

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<sup>941</sup> *Id.*, art. 2 (II) (c)(5).

<sup>942</sup> For the purposes of the Convention, terrorist crime means “any crime executed, started or participated in to realize a terrorist objective in any of the Contracting States or against its nationals, assets or interests or foreign facilities and nationals residing in its territory punishable by its internal law.” *See*, The OIC Convention on Combating International Terrorism, *supra* note (878) art. 1 (3).

<sup>943</sup> Wallace F. Warriner, *The Unilateral Use of Coercion Under International Law: A Legal Analysis of the United States Raid on Libya on April 14, 1986*, 37 NAVAL L. REV. 49, 78-79 (1988).

<sup>944</sup> Spencer J. Crona & Neal A. Richardson, *Justice for War Criminals of Invisible Armies: A New Legal and Military Approach to Terrorism*, 21 OKLA. CITY U. L. REV. 349, 356-66 (1996).

<sup>945</sup> Johnston, Anti-Terror Weapon, *supra* note (931) at A12.

against the two Libyans in 1991, William P. Barr, the attorney general said: “justice has been done in the case. But the main question is whether the criminal justice system is in itself the right response.”<sup>946</sup>

In conclusion, IHL contains formidable provisions to protect the environment. However, they can not prevent humanitarian and environmental disasters from occurring. Moreover, existing legal structures often allow perpetrators to avoid punishment, victims to remain without a remedy, and the environment to be left wrecked. The existing IHL rules should be ameliorated to provide better environmental protection. For example, victims of the environmental destruction, and NGO's, should be allowed to complain against atrocities committed during armed conflicts.

Another approach to strengthen IHL protection is to allow another field of law to reinforce the environmental protection of the IHL rules. Environmental law and the enviro-humanitarian rules would be helpful in this field.

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<sup>946</sup> *Id.*



### **Part III:**

## **The Environmental Law Rules**

Contemporary environmental law is not concerned primarily or narrowly with armed conflict, but rather focuses more broadly on maintenance of public health and conservation of natural systems. Nonetheless, environmental law does apply to the phenomenon of eco-war, i.e., aggression aimed deliberately against the environment as a means of gaining collateral advantage against the enemy. Since environmental law rules were created primarily to secure and maintain the environment, these rules should fully apply both in peacetime and in times of armed conflict, to the extent possible. This section examines the role of environmental law in both situations, by (1) defining environmental law in order to discuss when it can be applied, and what areas it covers, and (2) identifying the environmental law rules relative to military activities both in times of armed conflicts and peacetime, and classifying them into international environmental law rules, comparative environmental law rules, and national environmental law rules. Finally, (3) we will examine obstacles to effective environmental protection in times of armed conflicts and peacetime.

### ***A- Definition***

The environmental law deals with the “biosphere,”<sup>947</sup> and creates the rules for managing the effects of human society on the biosphere. Although environmental law can be simply defined as “that body of law to which the label environment has, to date, been attached,”<sup>948</sup> it can be more usefully defined as “the aggregate of all the rules and principles aimed at global protection of air, water, earth, and forms of life that are not unreasonably injurious to humans (environment) and controlling activities of man within national jurisdictions that may affect another state's environment or environments beyond

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<sup>947</sup> The Biosphere is “(A) [t]hat portion of the solid and liquid earth and its atmosphere where living organisms can be and are sustained; organic nature in general, (B) the portion of earth and its atmosphere that can support life.” See, Robinson, LEXICON, *supra* note (375) at B-7.

<sup>948</sup> JUSTINE THORNTON & SILAS BECKWITH, ENVIRONMENTAL LAW 2 (Sweet & Maxwell, 1997) [hereinafter THORNTON & BECKWITH].

national jurisdiction.”<sup>949</sup> This broad definition takes into account not only the narrower, more conventional conceptions of “environmental law,” but also has specific application to the effects of military conflict. The environmental law can also be defined as the “body of law [which] is concerned with protecting the natural resources of land, air and water and the flora and fauna which inhabit them.”<sup>950</sup>

Further, some regional groups of states have adopted a definition of environmental law in order to match the purposes of a specific convention. For example, the North American Agreement on Environmental Cooperation<sup>951</sup> defines the environmental law as “any statute or regulation of a Party, or provision thereof, the primary purpose of which is the protection of the environment, or the prevention of a danger to human life or health.”<sup>952</sup>

Environmental law consists of numerous rules and regulations designed to safeguard nature and promote environmental protection. If, for example, the environment has been harmed, the environmental law presents the legal norms for environmental rehabilitation, and therefore, defines the parties liable for the restoration and the governmental authority responsible for directing the cleanup.

In general, the wider the definition of environmental law, the more secure the environment will be. In its earliest stages, environmental law focused upon persons and individual property rights; now, however, the law often seek to develop rules for protecting shared resources, common ecosystems and natural values. Furthermore, environmental law has become increasingly integrated into other disciplines, such as international law, commercial law, administrative law, health law, labor law, safety law, agricultural law, military law, and transportation law. According to Agenda 21 the “[e]nvironmental law and regulation are important but cannot alone be expected to deal with the problems of environment and development.”<sup>953</sup> This provision shows that environmental law is not an isolated field of law that works independently. Environmental law extends across many sectors of socio-economic activity, and provides

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<sup>949</sup> Thomas Lundmark, *International Law and the Environment*, 21 *ECOLOGY L. Q.* 1073, 1076 (1994).

<sup>950</sup> THORNTON & BECKWITH, *supra* note (948) at 2.

<sup>951</sup> North American Agreement on Environmental Cooperation, Sept. 14, 1993, Can.-Mex.-U.S., 32 *I.L.M.* 1482 (entered into force Jan. 1, 1994).

<sup>952</sup> *Id.*, art 45 (1).

procedures for integration of environmental and development issues that will lead to the achievement of human basic needs, better protected ecosystems and a safer future.<sup>954</sup>

Historically, the Code Civil, promulgated in Ancient Rome, has been concerned with the protection of people and their properties more than anything else. Thus, civil law generally was never developed to protect environmental systems such as the lithosphere, the hydrosphere, the biosphere, and the atmosphere. Thus, environmental protection in the countries that adopted civil law must be accomplished through either public law or administrative law.

Having noted the ramifications of defining the environmental law, generally, we will survey the environmental law rules relative to the armed conflicts. Such rules can be international, comparative, or national. International environmental law rules can be classified into hard international law and soft international law. Hard international law encompasses global instruments, regional instruments. Hard law rules are compulsory. Soft international law encompasses the Stockholm Declaration, the Action Plan of the Stockholm Conference on the Human Environment (1972), the World Charter for Nature, the Rio Declaration, and the International Organizations' Resolutions of States Parties. Soft law rules are usually not binding, with some exceptions. For example, if a genuine well-accepted general principle of international law is included in an international declaration, such as Principle 21 of the Stockholm Declaration, then, this principle is binding on all States, because it is a general principle of law, and its status as such does not change because it was included in a soft law instrument. On the other hand, comparative environmental law rules will be classified into comprehensive environmental rules relevant to military activities, environmental protection in general, environmental pollution, fauna and flora protection, air pollution control, water resources conservation, soil pollution, hazardous wastes, and citizen suits. And finally, national environmental law rules that are both general and specific to the military cover military activity in peacetime, such as military bases and the preparation for armed conflicts. Additionally, national environmental law rules can encompass military operations during

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<sup>953</sup> Agenda 21, Approved by the U.N. Conference on Environment and Development (UNCED) at Rio De Janeiro, June 13, 1992, para. 8.27, U.N. Doc. A/CONF. 151/26 (vols. I, II, III) (1992).

<sup>954</sup> Mary Pat Williams Silveira, *International Legal Instruments and Sustainable Development: Principles, Requirements, and Restructuring*, 31 WILLAMETTE L. REV. 239, 240 (1995).

times of armed conflict. Since nations use widely varying definitions of national jurisdiction, national environmental law rules and regulations can vary also. For example, an issue which may be considered of a great environmental importance in the United States, may not be necessarily so in Kuwait, and vice versa.

On the other hand, since there is a major link between environmental law and environmental science, it is necessary to refer to the scientific definition of the environment. The definition of “environment” can be either a comprehensive one or one more narrowly applied to a specific aspect of natural systems. Nevertheless, there is broad “congruence” among these definitions.

Some international conventions define the environment. For example, the International Convention on Civil Liability for Environmental Damage<sup>955</sup> defines the environment as the “natural resources both abiotic and biotic, such as air, water, soil, fauna and flora and the interaction between the same factors; property which forms part of the cultural heritage; and the characteristic aspects of the landscape.”<sup>956</sup> Another example of the definition of the environment is found in Article II of the Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques: “the earth, [...] its biota, lithosphere, hydrosphere, and atmosphere, or of outer space.”<sup>957</sup> In the former Soviet Union, environmental protection is a synonymous with ecology, and environmental laws are referred to as ecological laws. For example, the sector that deals with environmental law in the Academy of Science’s Institute of State and Law is called “The Sector on Ecological Law.”<sup>958</sup> And according to the late Prof. Oleg S. Kolbasov, a corresponding member of the Academy of Science of the Russian Federation, the ecology is “understood to be a complex global, national, and historical problem. A major factor necessary to solve this problem is peace. [...] At the same time, the solution to this problem demands the mobilization of the attention and efforts of all peoples, the willingness to allocate the necessary resources and equipment, and the capability to balance and coordinate economic development with observance of

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<sup>955</sup> Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, June 21, 1993, 32 I.L.M. 1228 (1993).

<sup>956</sup> *Id.*, art (2) (10).

<sup>957</sup> Convention on the Prohibition of Military or Any other Hostile Use of Environmental Modification Techniques, Dec. 10, 1976, art. II, 1108 U.N.T.S. 152 [hereinafter ENMOD].

ecological requirements.”<sup>959</sup> It was provided in the USSR that, according to the Soviet Council of Ministries decree of April 12, 1983, “On the USSR Red Book”, any act that can result in the destruction of the habitat of endangered species, or populations is prohibited and a similar law is continued in the Russian Federation.<sup>960</sup>

Other definitions of the environment can be found at the national level. For example, the United States’ Toxic Substances Control Act (TSCA) provides that the environment “includes water, air, and land and the interrelationship which exists among and between water, air, and land and all living things.”<sup>961</sup> The Environmental Protection Agency (EPA) defines the environment as “[t]he sum of all external conditions affecting the life, development and survival of an organism.”<sup>962</sup> Moreover, the National Environmental Policy Act of 1969 (NEPA) in Section 101 (a) describes its environmental mission in terms of “the continuing policy of the Federal Government [...] to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations.”<sup>963</sup> In addition, NEPA Section 101 (b), while addressing the continuing responsibility of Federal Government to use all practicable means to impose Federal plans and programs, states in Paragraph (4) that it is necessary to preserve historic, cultural, and natural aspects of the national heritage, and to maintain an environment that supports “diversity and variety of individual choice.”<sup>964</sup> Accordingly, the Regulations implementing NEPA in the Code of Federal Regulations<sup>965</sup> provide that the term “environment” includes ecological, aesthetic, historic, cultural, economic, social, or health elements.<sup>966</sup> On the other hand, the Kuwaiti Law Establishing the Environmental Public Authority defines the environment as the “biosphere including living species such as man, animal and plant

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<sup>958</sup> Nicholas A. Robinson, *Perestroika and Priroda: Environmental Protection in the USSR*, 5 PACE ENV’T L. REV. 351, 379 (1988).

<sup>959</sup> Oleg S. Kolbasov, *Modern Ecological Policy and the Utilization of a Global International Protection Strategy*, 5 PACE ENV’T L. REV. 445, 446 (1988).

<sup>960</sup> *Id.*, at 453. *See*, The Federal Law on Protection of the Environment (No. 7-F2), adopted by Duma and Council of the Federation (Dec. 2001), signed by President Putin (Jan. 2002) [hereinafter The Federal Law on Protection of the Environment (No. 7-F2)]; *see, infra* note (1281).

<sup>961</sup> TSCA, 15 U.S.C. § 2602 (5), § 3 (5).

<sup>962</sup> EPA Terms of Environment, available at <<http://www.epa.gov/OCEPAterms>>, (last visit Feb. 16, 2001).

<sup>963</sup> NEPA, § 101 (a), 42 U.S.C.A. § 4331 (a).

<sup>964</sup> NEPA, § 101 (b) (4), 42 U.S.C.A. § 4331 (b)(4).

<sup>965</sup> The Regulations implementing NEPA in the CFR Title 40-Protection of Environment.

together with all its surroundings, air, water, soil and what they contain in the form of solid, liquid, gas or natural radiation plus fixed or mobile structure built by man.”<sup>967</sup>

Similarly, the United Kingdom Environmental Protection Act of 1990 defines the environment as “consist[ing] of all, or any of the following media, namely, the air water and land; and the medium of air includes the air within buildings and the air within other natural or man-made structures above or below ground.”<sup>968</sup>

In sum, in light of these definitions of the environment, and for the purposes of this thesis on the environmental law of armed conflict, the overall definition of the environment should be a comprehensive one, in order to cover all components of the ecosystem. Armed conflict threatens the degradation of all aspects of the human environment, natural environment, and cultural environment, including drinking water supplies, sewage treatment facilities, historical buildings, cultural monuments, fresh air, endangered species habitats, soil, forests, and national parks, in order to achieve military victory. Therefore, the definition of the environment should include all the elements that may be affected by wartime activities in order to provide effective environmental protection. This broad definition of environment will be the meaning intended in this thesis.

### ***B- Environmental Law Rules Relative to the Armed Conflicts***

Environmental law rules can be categorized into international and national levels. The first category includes hard law such as international treaties and conventions, in addition to the well-accepted customs and general principles of international law. These are supplemented by soft law such as international resolutions, declarations, and recommendations which, in general, are not binding on States. The second category includes national environmental statutes, rules, regulations, standards, and requirements applicable to military activities both at home and when deployed abroad. In addition, it is

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<sup>966</sup> CFR, Title 40-Protection of Environment Chapter V “Council on Environmental Quality” Part 1500 § 1508.8.

<sup>967</sup> Ghanoon Insha’a Alhaya’ah Alaamah Lilby’ah 21/1995-16/1996 [Law Establishing the Environmental Public Authority No. 21/1995, modified by Law No. 16/1996] art 1 (6) [hereinafter the Kuwaiti Environmental Public Authority Law].

<sup>968</sup> SUSAN WOLF & ANNA WHITE, PRINCIPLES OF ENVIRONMENTAL LAW 1 (Cavendish Publishing Limited, 1997).

relevant to address comparative environmental law rules in order to provide a whole image.

The fact that we can discuss the environmental protection in terms of international, comparative, and national environmental laws is itself a positive aspect, since it shows that environmental problems are being seriously addressed by lawmakers in all these contexts.

### ***C- International Environmental Law Rules***

Since the inception of the field of international environmental law in the late 1960s,<sup>969</sup> a number of international environmental law rules have been created to govern environmental relations among states.

The environmental law rules that apply in peacetime have been, more often than not, successful in reducing the environmental effects of human activities. But they frequently fail to protect the environment during armed conflicts. The use of weapons of mass destruction, such as nuclear weapons, can cause severe damage to human health and the environment.<sup>970</sup> Some international law scholars believe that all environmental law rules should be waived during armed conflicts, and that the law of war is the only source of law that would be applicable.<sup>971</sup> That attitude is favored by military personnel and governmental armed forces as they are concerned primarily, if not exclusively, with very immediate and short-term questions of winning an armed conflict. They try to waive environmental law rules according to the principle of military necessity, which may allow any humanitarian or environmental harm that cannot be avoided in the battlefields. Military personnel would aim to achieve their military objectives and attack their targets

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<sup>969</sup> Stephanie Simonds, *Conventional Warfare and Environmental Protection: A Proposal for International Legal Reform* 29 STAN. J. INT'L L. 165, 188 (1992) [hereinafter Simonds].

<sup>970</sup> The ICJ, in its Advisory Opinion of the World Health Organization request on August 27, 1993, to address the issue of the effect of war on international treaties, declared that "[t]he use of nuclear weapons can cause damage to human health and the environment in the territory of the State which uses a nuclear weapon, the target State or territory, third countries, and other areas beyond national jurisdiction. It can also violate fundamental human rights, including the right to life." See Roger S. Clark, *International Court of Justice: Advisory Proceedings on the Legality of the Threat or Use of Nuclear Weapons (Questions Posed by the General Assembly): The Laws of Armed Conflict And the Use or Threat of Use of Nuclear Weapons*, 7 CRIM. L. F. 265, 283 (1996).

<sup>971</sup> Michael N. Schmitt, *Green War An Assessment of the Environmental Law of International Armed Conflict*, 22 YALE J. INT'L L. 1, 46 (1997) [hereinafter Schmitt]; Baker, *supra* note (725) at 354.

even if those targets are historical sites, cultural monuments, a drinking water facility or any other natural resources. These waivers, clearly, cannot be allowed if the environment is to be worth having after the armed conflict is over. Furthermore, if the international environmental rules were waived, States that are not involved in the armed conflict, neutral States and global commons would never be protected from environmental damage caused by the armed conflict.

Other scholars believe that environmental law rules are applicable, along with the laws of war, in wartime since there is no authority that would preclude their application. This interpretation is the most internally consistent and can be defended for several reasons. For purposes of this discussion, activity related to war can be divided into three phases, before, during, and after armed conflict.

1) Military preparation for warfare. This phase should not pose a serious problem to the applicability of environmental law rules, where the warfare is not yet raging. Peacetime environmental law should apply fully to the military during peacetime as it does to all other human activities. However, some, if not most, States still avoid requiring their military to obey environmental laws, in order to give their armed forces the freedom to build a massive arsenal without any consideration to the environmental laws that apply to all other sectors of the government. There is no objective reason to excuse the military from compliance with environmental laws. For instance, the United States, as we will discuss later in this part, provides a great example by requiring its military to respect national environmental regulations and standards, whether at home or abroad, in peacetime.

2) During armed conflict. Some commentators agree that international environmental laws should be suspended during armed conflict because environmental protection is fundamentally inconsistent with the nature of war.<sup>972</sup> Others argue that environmental laws, along with the laws of war, should apply to armed conflicts. In particular, these writers argue that international customary law relating to armed conflict<sup>973</sup> prohibits belligerents from causing unnecessary damage to the environment,

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<sup>972</sup> PAUL FAUTEUX, THE USE OF THE ENVIRONMENT AS AN INSTRUMENT OF WAR IN OCCUPIED KUWAIT, IN VERIFYING OBLIGATIONS RESPECTING ARMS CONTROL AND THE ENVIRONMENT: A POST GULF WAR ASSESSMENT 42 (H.B. SCHIEFER ED., 1992).

<sup>973</sup> Such as principles of proportionality and military necessity.



and that existing international law instruments not only prohibit unnecessary environmental harm, but also provided for “personnel criminal liability and official financial liability.”<sup>974</sup> In this view, belligerents have a duty not to destroy the basic ecological systems that people need to live in, as well as the duty to protect human rights. Thus, military personnel need to be trained to protect the environment not only in peacetime, but during armed conflict also, and armed forces should be prohibited from destroying the environment in times of armed conflicts.

Some jurists hold civilians responsible for collateral damages caused during armed conflicts, based on the failure to use reasonable precaution to remove themselves from the area of military targets.<sup>975</sup> The environment is even more vulnerable, since it cannot run away from the severe effects of armed conflicts. Consequently, protection of the environment should receive as much attention as protection of persons. However, as the environment is increasingly used as a weapon in warfare, then there will be growing danger that environmental destruction will become a part of military strategy. As a rule, it is accepted that war, by itself, does not suspend peacetime treaties between belligerent States.<sup>976</sup> While there are no specific criteria to determine which treaties apply in times of armed conflicts and which do not, if the IUCN Amman Clause, which was examined in Part Two of this thesis, is taken as *jus cogen*, then the standing order to the military should be to protect the environment unless extreme military necessity dictates otherwise in the heat of military action.

3) Aftermath of Armed Conflict. In this phase the hostilities have ceased and the law of war no longer functions. In this phase, international environmental law rules, particularly rules regarding reparations, are the sole legal authority for regulating damage, rehabilitating the environment, and defining the liability. For example, following the Gulf War II, the United Nations Security Council adopted Resolutions 686 and 687/1991 that reaffirmed this rule when it held Iraq liable, under international law, for the environmental damage that occurred during its occupation of Kuwait in 1990. It was the

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<sup>974</sup> ICRC, Report of the Meeting of Experts on the Protection of the Environment in Time of Armed Conflict 15 (Geneva, April 27-29, 1992) [hereinafter ICRC Report of the Meeting of Experts of 1992].

<sup>975</sup> Infeld, *Precision-Guided*, *supra* note (157) at 123.

<sup>976</sup> Research in International Law of the Harvard Law School, *Draft Convention on the Law of Treaties*, 29 AM. J. INT'L L. 653, 1183, art. 1 (Supp. 1935); 1985 Resolution of Institute of International Law, cited in

first time the international community recognized that wartime environmental damage is compensable, reflecting the increasing international concern for the environment.<sup>977</sup>

The ICRC, at its meeting of experts in 1992, was the first international body to discuss State responsibility for wartime environmental damage and the need for a sound study of that issue.<sup>978</sup> Given that the environment is increasingly and deliberately exploited in times of armed conflict, it was significant that one expert declared that

[u]nder Security Council resolution 687, Iraq's responsibility for severe damage to the environment had led to a procedure of compensation for such damage, and that raised the important question of legal qualification of severe damage and the legal regime governing such damage. With regard to legal qualification, the damage perpetrated during the Gulf War might fall under Article 19 of Part 1 of the draft convention on State responsibility, currently being considered by the United Nations International Law Commission, which defined ecological crimes by States as violations of legal norms regarded as particularly important by the international community and listed such crimes, including massive damage to the environment, thus providing a certain legal basis for qualifying the violation. The applicable legal regime raised more difficult problems, however, and the Compensation Commission set up by the Security Council had not made much headway in defining the necessary criteria. On the other hand there was a clear need to lay down the special primary obligation of all States to refrain from inflicting massive damage on the environment, and such an obligation might be presumed to exist in general customary international law.<sup>979</sup>

A State, such as Iraq, may chose not to be bound by a rule of customary international law by displaying its opposition to the rule from the time of its inception.<sup>980</sup> However, Iraq did not oppose the rule establishing a duty to repair warfare environmental damage, and "failed to formally assert any right to deviate from" such duty until such customary rule was already established.<sup>981</sup> Therefore, Iraq still will be held liable for

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INGRID DETTER DELUPIS, *THE LAW OF WAR* 301 (1987); *see also*, LORD MCNAIR, *THE LAW OF TREATIES* 696 (1961).

<sup>977</sup> The State responsibility for wartime environmental damage will be examined in the final part of this thesis.

<sup>978</sup> ICRC Report of the Meeting of Experts of 1992, *supra* note (974) at 24 & 30.

<sup>979</sup> *Id.*, at 30-31.

<sup>980</sup> MALCOLM N. SHAW, *INTERNATIONAL LAW* 75 (Cambridge University Press, 1991).

<sup>981</sup> Suzanne M. Bernard, *Environmental Warfare: Iraq's Use of Oil Weapon During the Gulf Conflict*, 6 N.Y. INT'L L. REV. 106, 113-14 (1993)[hereinafter Bernard].

environmental damage caused in Kuwait and the region, despite its tentative to escape from environmental responsibility.

## **1. Hard International Law**

The main body of rules of international law is usually considered hard law, or treaty law. Treaty obligations must be compulsory or they will have no effect.<sup>982</sup> Treaties, together with general principles of law and international customs are the main sources of hard law rules.<sup>983</sup> Law developed in these areas requires time. For instance, “custom takes time, and often a lot of State practice, before it hardens into a legally enforceable rule.”<sup>984</sup> Likewise treaties usually take a considerable time, from their negotiation, draft approval, and signature, to their ratification, which is necessary for a treaty to enter into force.

Nonetheless, despite the long time required to produce hard law instruments, that time is necessary to assure the stability of the international society, because States do not easily accept changes to existing international law rules. Thus, States often prefer to modify an existing treaty rather than to introduce a new one, since a new treaty requires an often lengthy process of negotiation, acceptance and ratification.

Hard law instruments can be classified as either world-wide or regional. The first category covers all member States no matter where they are located. Regional instruments cover countries of the same region.

### **a. International World-wide Hard Law Instruments**

There are many international environmental law instruments that may be applied to armed conflicts. The basic agreements constituting world order today include the United Nations Charter, Draft Articles on State Responsibility of the International Law

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<sup>982</sup> Dupuy, *supra* note (830) at 420.

<sup>983</sup> Geoffrey Palmer, *New Ways To Make International Environmental Law* 86 AM. J. INT’L L. 259, 269 (1992) [hereinafter Palmer]. In the international law, there exist basic general principles that States must accept in order to effectuate treaty law and customary international law and unless States accepted such principles it would be impossible to regard any treaty as binding. One such principle would be “pacta sunt servanda” which reflects that promises should be kept. *See*, ANTHONY CLARK AREND, *LEGAL RULES AND INTERNATIONAL SOCIETY* 52 (Oxford University Press, 1999) [hereinafter AREND].

<sup>984</sup> Palmer, *supra* note (983) at 269.

Commission, Rome Statute of the International Criminal Court, Antarctic Treaty, and United Nations Convention on the Law of the Sea. Specific environmental agreements include the Vienna Convention for the Protection of the Ozone Layer, Climate Change Convention, Convention on Biological Diversity, Convention for the Protection of the World Cultural and Natural Heritage, the United Nations Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, and Convention on the Prevention of Marine Pollution by Dumping from Ships and Aircraft. Finally, this paper will examine general principles of law articulated under Principle 21 of the Stockholm Declaration, and Principle 2 of the Rio Declaration.

### 1) The United Nations Charter

The U.N. Charter<sup>985</sup> provides a foundation for all international relations. A number of international instruments refer to, or rely upon the U.N. Charter as a basis for their provisions. For example, the United Nations Convention on the Law of the Sea declares, in the Preambular paragraph seven, that “the development of the law of the sea will strengthen peace, security, cooperation and friendly relations among all nations according to the Purposes and Principles of the United Nations Charter.” Another example is the Convention on Environmental Impact Assessment in a Transboundary Context, which in Preambular paragraph five the relevant provisions of the U.N. Charter.

Article 1 (3) of the U.N. Charter encourages States to:

- 1- maintain international peace and security by taking effective measures to prevent threats to the peace,
- 2- develop friendly relations among nations, and
- 3- solve international problems of an economic, social, cultural or humanitarian character.

These purposes encourage the cooperation among nations, including cooperation in environmental protection. Similarly, Article 2 (3) and (4) of the Charter articulates, as general principles of the organization, that:

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<sup>985</sup> U.N. CHARTER *supra* note (71) art.1, para. 3.

3.All Members shall settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered.

4.All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.<sup>986</sup>

The direct goal of these principles is to preserve the international peace and security. However, these principles also reflect the need for international environmental protection, because “refrain[ing ...] from the threat or use of force against [...] any State” and “settl[ing the] international disputes by peaceful means” would necessarily preserve the environment from any harm may be caused by the use of force. Eventually, the prevention of the use of force in the international relations, and the appeal to the peaceful settlement of the international disputes were confirmed in the 1970 UN General Assembly’s Declaration on Principles of International Law Concerning Friendly Relations and Co-operation Among States in Accordance with the Charter of the United Nations.<sup>987</sup>

The U.N. has imposed international sanctions against a number of States that violated Article 2 (3) and (4). For instance, Iraq is still subject to the United Nations sanctions imposed by the Security Council’s Decision 661/1990,<sup>988</sup> since its aggression on Kuwait of August 2, 1990.

In effect, the ICJ found a duty to cooperate in the case concerning the Gabčíkovo-Nagymaros Project between Hungary and Slovakia. Hungary argued that if the proposed dam had been built, the “bed of the Danube upstream would have silted up and, consequently, the quality of the water collected in the bank-filtered wells would have deteriorated in this sector.”<sup>989</sup> Slovakia denied that the project would cause any kind

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<sup>986</sup> *Id.*, art. 2 (3) and (4).

<sup>987</sup> U.N. General Assembly’s Friendly Relations Resolution, *supra* note (86).

<sup>988</sup> S.C. Res. 661, U.N. SCOR, 45th Sess., 2933d mtg. (Aug. 6, 1990) [hereinafter S.C. Res. 661/1990].

<sup>989</sup> Case Concerning the Gabčíkovo-Nagymaros Project, (Hung. v. Slov.), 1997 I.C.J. 7 (Sept. 25) General List No. 92, at 35-36. [hereinafter Hungary v. Slovakia].

of “ecological state of necessity.”<sup>990</sup> The Court found that Hungary was not entitled to suspend work on the project, and required both countries to negotiate in good faith and to take all necessary measures to ensure the achievement of the goals of the Treaty of September 16, 1977 concerning the construction and operation of the Gabčíkovo-Nagymaros System of Locks.<sup>991</sup>

Significantly, in a separate opinion, Vice-president Christopher Gregory Weeramantry referred specifically to environmental concerns raised in the case, such as sustainable development, development, and environmental protection. Justice Weeramantry said that “[t]he Court must hold the balance even between the environmental considerations and the developmental considerations raised by the respective Parties. The Principle that enables the Court to do so is the principle of sustainable development.”<sup>992</sup> Justice Weeramantry added: “the protection given to Hungary [can be described] as the principle of continuing environmental impact assessment.”<sup>993</sup> Such decisions provide a framework, which would require U.N. member States to follow the rules of international law regarding international cooperation in order to protect the environment.

Moreover, the U.N. Charter prohibits any armed conflict except by an act of the Security Council. That prohibition on armed conflict should also apply to actions harmful to the environment, because it is considered as a logical extension of the obligation of the collective self-defense that they must take the necessary precautionary measures in order to protect civilian populations and the environment.

## 2) Draft Articles on State Responsibility of the International Law Commission

Among hard international law instruments, as yet not fully accepted, are the Draft Articles on the State Responsibility of the International Law Commission (ILC).<sup>994</sup> It is an effort to codify existing international law of State responsibility.<sup>995</sup>

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<sup>990</sup> *Id.*, at 37.

<sup>991</sup> Treaty Concerning the Construction and Operation of the Gabčíkovo-Nagymaros System of Locks, Sept. 16, 1977, Czech.-Hung., 32 I.L.M. 1247, 1249.

<sup>992</sup> Hungary v. Slovakia, *supra* note (989) The separate opinion of vice-president Weeramantry at 88.

<sup>993</sup> *Id.*, The separate opinion of vice-president Weeramantry at 88.

<sup>994</sup> International Law Commission Draft Articles on State Responsibility, 1980, 2 Y.B. INT'L L. COMM'N 26, U.N. Doc. A/35/10. In 1947 the U.N. General Assembly established the ILC for preparing research and drafting conventions purposes [hereinafter International Law Commission Draft Articles].

Although the Articles have not yet been offered for adoption by States, they have been offered for comment.<sup>996</sup>

Article 19 (3) (d) goes beyond recognizing the environmental effects of warfare, it recommends that “a serious breach of an international obligation of essential importance for the safeguarding and preservation of the human environment, such as those prohibiting massive pollution of the atmosphere or of the seas,” should be considered an international crime.<sup>997</sup> Although, the ILC Draft Articles are silent on responsibility for environmental damage directly caused by armed conflict,<sup>998</sup> it was significant that they identified certain kinds of environmental degradation as criminal.<sup>999</sup> That article appeared to be “aspirational” during the decades when environmental protection was becoming a major international concern.<sup>1000</sup> However, in 1998, the Rome Statute of the International Criminal Court was adopted, giving legal effect to the aspiration of the Draft Articles.

### 3) Rome Statute of the International Criminal Court

The Rome Statute of the International Criminal Court was adopted by the United Nations Diplomatic Conference of Plenipotentiaries on the Establishment of an International Criminal Court on July 17, 1998. Article 8 of the Rome Statute defines war crimes. In particular, Article 8 (2)(b)(iv) provided that, among other serious violations of the international law rules and customs that apply to international armed conflict, severe damage to the environment that exceeds military necessity is considered a war crime. Under that Article,

“‘war crimes’ means: [...] (b) Other serious violations of the laws and customs applicable in international armed conflict, within the established framework of international law, namely, any of the following acts: [...] (iv) [i]ntentionally launching an attack in the knowledge that such attack will cause [...] widespread, long-term and severe damage to the natural environment which would be

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<sup>995</sup> Cervi, *supra* note (347) at 383.

<sup>996</sup> *Id.*

<sup>997</sup> International Law Commission Draft Articles, *supra* note (994) art. 19 para. 3 (d).

<sup>998</sup> Schwabach, *supra* note (477) f.n. 93.

<sup>999</sup> Rome Statute, *supra* note (191) art. 8 (2)(b)(iv).

<sup>1000</sup> Schmitt, *supra* note (971) at 44.

clearly excessive in relation to the concrete and direct overall military advantage anticipated[.]”<sup>1001</sup>

By this definition, Rome Statute expresses a great concern for the natural environment. The language of the Rome Statute draws on both the 1977 Additional Protocol I and Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques (ENMOD). Articles 35 and 55 of the 1977 Additional Protocol I to the Geneva Conventions prohibit any “method of warfare which is intended, or may be expected, to cause widespread, long-term, and severe damage to the environment.” “Widespread” is defined as damage that affects several hundred square kilometers. “Long-term” should be measured in decades, twenty to thirty years, and “severe” refers to any act that “prejudices the health or survival of the population.”<sup>1002</sup> Protection under those Articles is triggered by the presence of all three elements together.<sup>1003</sup>

ENMOD prohibits the manipulation or use of the environment as a target. Article 1 states that: “[e]ach State party to the Convention 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...” This language seems to require the presence of any single element: widespread, long-lasting, or severe damage. According to ENMOD, the meaning of “widespread” includes several hundred square kilometers. The term “long-lasting” means damage extending beyond a season. “Severe” means serious damage to human life, natural or economic resources or other assets.<sup>1004</sup>

It appears that Article 8 (2)(b)(iv) of the Rome Statute requires the presence of the three elements together, like Article 35 of the Additional Protocol I. Moreover, Article 8 (2)(b)(iv) uses the same “long-term” language as do Articles 35 and 55 of the Additional Protocol I. Those Articles grant the environment a limited protection because they require the presence of all three elements together.

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<sup>1001</sup> Rome Statute, *supra* note (191) art. 8 (2)(b)(iv).

<sup>1002</sup> Whitaker, *supra* note (725) at 38.

<sup>1003</sup> *Id.*

<sup>1004</sup> Baker, *supra* note (725) at 368.



Nevertheless, the Rome Statute is significant in that it analogizes environmental damage to other war crimes such as killing and pillaging, which reflects an increase in environmental awareness within the international community, and that people cannot be separated from their environment.<sup>1005</sup>

#### 4) Antarctic Treaty

The Antarctic Treaty<sup>1006</sup> was the first agreement that sought to protect a specific portion of the earth's environment from nuclear weapons and warfare.<sup>1007</sup> Article 1 prohibits any aggressive military use of Antarctic. It states that "Antarctica shall be used for peaceful purposes only. There shall be prohibited, *inter alia*, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons."<sup>1008</sup> Thus, it prohibits any military activity, before, during, or after armed conflict on its territory. Establishing military bases, practicing means of warfare, storing or testing armaments, or dumping warfare debris a violation of the Antarctic Treaty. Furthermore, Article 5 of the Antarctic treaty emphasizes that the nuclear arms should be totally excluded from Antarctic. It states that "Any nuclear explosion in Antarctica and the disposal there of radioactive waste material shall be prohibited."<sup>1009</sup> This article directly prohibits any nuclear explosion, whether as a test, such as the French tests in Mururoa, or during armed conflicts, such as the explosions in Hiroshima and Nagasaki. Furthermore, it can be used as a legal basis for prohibiting any dumping of radioactive waste materials, whether produced by peacetime activities or during armed conflicts. However, the treaty does not prevent the peaceful use of Antarctica.<sup>1010</sup>

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<sup>1005</sup> Rome Statute and a State's international criminal responsibility will be discussed in the final part.

<sup>1006</sup> Antarctic Treaty, 1 December, 1959, 402 U.N.T.S. 71 [hereinafter Antarctic Treaty].

<sup>1007</sup> Okordudu-Fubara, *supra* note (331) at 191.

<sup>1008</sup> Antarctic Treaty, *supra* note (1006) art 1 (1).

<sup>1009</sup> *Id.*, art 5 (1).

<sup>1010</sup> *Id.*, art 1 (2).

Here, it is relevant to refer to the Convention on the Conservation of Antarctic Marine Living Resources<sup>1011</sup> (CCAMLR) which was concluded as a result of the failure of the Antarctic Treaty to refer specifically to the ocean surrounding the continent.<sup>1012</sup>

The goal of CCAMLR is outlined in Article II (2), which states that “the objective of the Convention is conservation of Antarctic marine living resources, and that harvesting of those resources is to take place only in accordance with named principles. These principles are: [...] the prevention or minimization of the risk of changes to the marine ecosystem not potentially reversible over two or three decades.”<sup>1013</sup>

CCAMLR includes no specific enforcement procedures to allow the Commission<sup>1014</sup> to implement its measures.<sup>1015</sup> Nevertheless, Article X (2) provides that “[t]he Commission shall draw the attention of all Contracting Parties to any activity which, in the opinion of the Commission, affects the implementation by a contracting Party of the objective of this Convention.” Article X (2) is the provision that most nearly amounts to an enforcement mechanism.<sup>1016</sup>

CCAMLR sets up a number of organs to facilitate its goal in conserving marine living resources in the Southern Antarctic Ocean, including the Commission and a Scientific Committee consisting of representatives of each contracting Party.<sup>1017</sup>

Article XXIII of the CCAMLR encourages the participation of NGO’s and intergovernmental organizations (IGO’s). Thus, both the Commission and the Scientific Committee are required to cooperate with the Food and Agriculture Organization (FAO) and “other Specialized Agencies.”<sup>1018</sup>

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<sup>1011</sup> Convention on the Conservation of Antarctic Marine Living Resources, May 20, 1980, U.K.T.S. No. 48, 19 I.L.M. 841 (1980) [hereinafter CCAMLR].

<sup>1012</sup> Article VI of the Antarctic Treaty limits the Treaty area to land and ice shelves. *See*, Stuart Kaye & Donald R. Rothwell, *Australia’s Antarctic Maritime Claims and Boundaries*, 26 OCEAN DEV. & INT’L L. 195, 203 (1995).

<sup>1013</sup> CCAMLR, *supra* note (1011) art. II (3) (c).

<sup>1014</sup> A Commission is “the body charged with the fulfillment of the objectives defines in Article II of the Convention. Its membership consists of each original Contracting Party, and those acceding parties engaged in research or fishing interests in the Southern Ocean.” *Id.*, art. VII.

<sup>1015</sup> Stuart B. Kaye, *Legal Approaches to Polar Fisheries Regimes: A Comparative Analysis of the Convention for the Conservation of Antarctic Marine Living Resources and the Bering Sea Doughnut Hole Convention*, 26 CALIFORNIA WESTERN INT’L L.J. 75, 85 (1995).

<sup>1016</sup> *Id.*

<sup>1017</sup> CCAMLR, *supra* note (1011) art. XIV (2).

<sup>1018</sup> *Id.*, art. XXIII (2).

##### 5) The United Nations Convention on the Law of the Sea

The United Nations Convention on the Law of the Sea<sup>1019</sup> is the first global attempt to limit marine pollution in any comprehensive way.<sup>1020</sup> It took twelve years, from its adoption in 1982 to its entry into force in 1994.

The Convention on the Law of the Sea contains aspirational language limiting the use of the seas for peaceful purposes.<sup>1021</sup> Moreover, it devotes a specific part, XII, to the “Protection and the Preservation of the Marine Environment.”<sup>1022</sup>

Article 192 of the Convention states that “States have the obligation to protect and preserve the Marine environment.” This obligation requires member States to protect the marine environment, which can be done by enacting laws, modifying existing ones, and refraining from committing any act that may cause destruction to the marine environment. According to Article 194, member States are required to apply a number of measures to prevent, reduce and control pollution of the marine environment, and are required to harmonize their policies in order to achieve that goal.

Accordingly, Article 206 of the Convention on the Law of the Sea stresses the growing international use of the environmental impact assessment. It states that “[w]hen States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the

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<sup>1019</sup> United Nations Convention on the Law of the Sea, Dec. 10, 1982, U.N. Doc. A/CONF.62/122 [hereinafter Convention on the Law of the Sea].

<sup>1020</sup> Schmitt, *supra* note (971) at 47.

<sup>1021</sup> Mark E. Rosen, *Nuclear Weapons Free Zones: Time For A Fresh Look*, Symposium: CONTEMPORARY ISSUES IN CONTROLLING WEAPONS OF MASS DESTRUCTION, 8 DUKE J. COMP. & INT’L L. 29, 36 (1997) [hereinafter Rosen].

<sup>1022</sup> Convention on the Law of the Sea, *supra* note (1019) Part XII.

results of such assessments in the manner provided in article 205.” Thus, Article 206 requires Contracting Parties to prepare an EIA if the planned project may have a major environmental impact on the marine ecosystem, and to provide access to the EIA to other nations, so that they can examine the environmental threat of the project and discuss either its cessation or alternatives in order to provide greater protection to the marine environment. Article 206 of the Convention on the Law of the Sea, like Principle 17 of the Rio Declaration, requires the preparation of EIA for proposed activities that may have a significant environmental impact.

Article 194 (2) outlines that: “States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.”

That Article is similar to Principle 21 of the Stockholm Declaration, which prohibits States from polluting other States’ environment.<sup>1023</sup>

Significantly, according to Article 236 of the Convention, warships, naval auxiliary, other vessels or aircraft owned or operated in non-commercial service by a government are excluded from the jurisdiction of this convention.

The provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being, only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a manner consistent, so far as is reasonable and practicable, with this Convention.<sup>1024</sup>

Apparently, this means that war on the marine environment is contrary to the convention. But, since the whole point of the Convention is to protect the marine

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<sup>1023</sup> Principle 21 of the Stockholm Declaration will be discussed later.

<sup>1024</sup> The Convention on the Law of the Sea, *supra* note (1019) art. 236.

environment, that environment should be protected from military activities and operations whether in peacetime or in times of armed conflict.

#### 6) The Vienna Convention for the Protection of the Ozone Layer

The Vienna Convention for the Protection of the Ozone Layer<sup>1025</sup> recognizes the global consequences of ozone depletion and states in Article 2 (1) that “[t]he parties shall...[p]rotect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.”<sup>1026</sup> The Vienna Convention was a success in that it provides an umbrella treaty regarding the ozone layer depletion, along with annexes on “Research and Systematic Observation” and “Information Exchange.”<sup>1027</sup> The former Executive Director of UNEP, Dr. Mostafa Tolba outlined:

This is the first global convention to address an issue that for the time being seems far in the future and is of unknown proportions. This convention, as I see it, is the essence of the anticipatory response so many environmental issues call for: to deal with the threat of the problem before we have to deal with the problem itself.<sup>1028</sup>

Moreover, the Vienna Convention applies to rocket emissions that cause ozone depletion. However, its lack of specific restrictions does little to alleviate that threat.<sup>1029</sup>

Furthermore, following the adoption of the Vienna Framework Convention, the efforts of Finland and Sweden produced a Resolution of the Vienna Conference in March 1985 to conclude a protocol regulating CFC's.<sup>1030</sup> Therefore, a Protocol to the Vienna

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<sup>1025</sup> The Vienna Convention for the Protection of the Ozone Layer, Mar. 22, 1985, T.I.A.S. No. 11, 097.

<sup>1026</sup> *Id.*, art. 2 (1).

<sup>1027</sup> Peter H. Sand, *Protecting the Ozone Layer: The Vienna Convention Is Adopted*, 27 ENV'T. 19, 41 (1985).

<sup>1028</sup> Excerpt from statement of Dr. Mostafa Tolba, Executive Director of UNEP, delivered at the Vienna Convention for Protection of the Ozone Layer, Vienna, Austria, reprinted in *Id.*, at 20.

<sup>1029</sup> Lynn Anne Shapiro, *The Need for International Agreements Concerning the Ozone Effects of Chemical Rocket Propulsion*, 4 S. CAL. INTERDISCIPLINARY L.J. 739, 757 (1995).

<sup>1030</sup> David D. Caron, *Protection of the Stratospheric Ozone Layer and the Structure of International Environmental Lawmaking*, 14 HST. INTL. COMP. L. REV. 755, 759 (1991) [hereinafter Caron].

Convention calling for fifty percent reduction in the production<sup>1031</sup> and consumption<sup>1032</sup> of specified CFC's over ten years period was adopted in Montreal in September 1987.<sup>1033</sup>

However, even after the adoption of Montreal Protocol in 1987, two important issues arose. The first regarded the Antarctic ozone hole that was reported by a British research group in May 1985<sup>1034</sup> and confirmed by American satellite measurements in late summer 1986.<sup>1035</sup> The hole was attributed to high chlorine levels in the stratosphere over Antarctica.<sup>1036</sup> Such findings were confirmed after the meeting in Montreal which resulted in partial coverage of the Antarctic hole finding in the Protocol.<sup>1037</sup> The second issue arose from statement by highly populated States such as China and India that they would never sign the Montreal Protocol because it does not provide substantive assistance to developing countries.<sup>1038</sup> Since the protection of the ozone layer cannot be achieved without cooperation between developing countries and industrialized States, member States went on to negotiate the adjustments and amendments in the 1990 London Meeting of the Parties to the Montreal Protocol.<sup>1039</sup>

Warfare is the human activity that most menaces directly our environment, particularly warfare operations that result in the release of substances and gases that affect the ozone layer. One example is the burning of vinyl chloride monomer (VCM) at the petrochemical plant<sup>1040</sup> during the NATO raids against former Yugoslavia. Military use of CFC, especially during warfare, constitutes a breach to Article 2 (1) of the Vienna

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<sup>1031</sup> “‘Production’ means the amount of controlled substances produced minus the amount destroyed by technologies to be approved by the Parties and minus the amount entirely used as feed stock in the manufacture of other chemicals.” See, Montreal Protocol, *supra* note (527) art. 1(5).

<sup>1032</sup> “‘Consumption’ means production plus imports minus exports of controlled substances.” See, *Id.*, art. 1 (6).

<sup>1033</sup> *Id.*

<sup>1034</sup> J. C. Farman et al., *Large Losses of Total Ozone in Antarctica Reveal Seasonal ClO<sub>x</sub>/NO<sub>x</sub> Interaction*, 315 NATURE 207, 207 (1985).

<sup>1035</sup> R. S. Stolarski et al., *Nimbus 7 Satellite Measurements of the Springtime Antarctic Ozone Decrease*, 322 NATURE 808, 808 (1986).

<sup>1036</sup> Caron, *supra* note (1030) at 760.

<sup>1037</sup> *Id.*, at 761.

<sup>1038</sup> *Id.*

<sup>1039</sup> Report of the Second Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, United Nations Environmental Program (Agenda Item 7), U.N. Doc. UNEP/OZL. Pro. 2/3, Annex II (1990) [hereinafter London Amendment].

<sup>1040</sup> *The Kosovo Conflict: Consequences for the Environment*, *supra* note (35) at 32.

Convention.<sup>1041</sup> It also constitutes a breach of the Montreal Protocol and London Amendments.<sup>1042</sup>

The Montreal Protocol does more than prohibit military uses, however, its call for reductions in CFC consumption and production covers all human activities whether conducted by civilians or military as long as these activities can increase the ozone layer depletion.

For instance in the United States, the protection of the ozone layer was a major concern in the mid-1970s, leading to the prohibition of the use of CFC's in aerosol spraying.<sup>1043</sup>

## 7) The United Nations Framework Convention on Climate Change

The United Nations Framework Convention on Climate Change<sup>1044</sup> (FCCC) is an outgrowth of the Earth Summit. It has been described as one of the most important accomplishments of the 1992 Summit.<sup>1045</sup> The FCCC has been ratified by 152 States and the European Union.<sup>1046</sup> The Earth Summit took place at a time of international attention to the environmental effects of the Iraqi atrocity during the Gulf War II, and that circumstance was reflected in the content of the provisions of this convention. For instance, the FCCC reaffirms, in its preamble, the principle of State "responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction."<sup>1047</sup> This Preambular paragraph reaffirms a State duty to refrain from harming another State's environment, in both peacetime and times of armed conflicts. Article 3 (3) goes beyond this principle to incorporate a version of the precautionary principle. It provides that "[t]he Parties should take precautionary measures to anticipate, prevent or minimize the

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<sup>1041</sup> Hannah, *supra* note (519) at 92.

<sup>1042</sup> Caron, *supra* note (1030) at 760.

<sup>1043</sup> Dale S. Bryk, *The Montreal Protocol and Recent Developments to Protect the Ozone Layer*, 15 HARVARD ENV'T'L L. REV. 275, 275 (1991).

<sup>1044</sup> The United Nations Framework Convention on Climate Change, May 9, 1992, U.N.Doc. A/CONF.151/26 [hereinafter Climate Change Convention].

<sup>1045</sup> William C. Burns, *Global Warming: The United Nations Framework Convention on Climate Change and the Future of Small Island State*, 6 DICK. J. ENV'T'L. L. & POL. 147 188 (1997) [hereinafter Burns].

<sup>1046</sup> United Nations Framework Convention on Climate Change Secretariat, Personal Correspondence, Feb. 21, 1996, cited in *Id.*, fn. 147.

causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures...’’<sup>1048</sup>

The Framework Convention also addressed threats to air quality. It noted that, as a result of the increment a use of fossil fuels by civilian and military sectors, “humans began to interfere seriously in the composition of the atmosphere.”<sup>1049</sup> The burning of the fossil fuels resulted in the production of about six gigatons of carbon annually in recent years.<sup>1050</sup> Furthermore, anthropogenic activities have caused definite atmospheric concentration of other greenhouse gases, such as “methane and nitrous oxides.”<sup>1051</sup> In particular, military activities and operations, before, during, or after armed conflict, can generate huge amounts of greenhouse gases such as methane, which contribute significantly to global warming. Under the Framework Convention, belligerents should take precautionary measures to anticipate, prevent or minimize these activities.

#### 8) The Convention on Biological Diversity

The Convention on Biological Diversity<sup>1052</sup> was opened for signature at the Earth Summit, on June 5, 1992. It was signed by 157 States.<sup>1053</sup> In an introduction to a volume published jointly by the IUCN and the International Academy of the Environment in Geneva, the Biodiversity Convention is called:

[...]simply an enabling document and treaty. It sets out what governments have agreed on regarding mutual support to national efforts to conserve the wealth of the planet, and collaboration to enable biological resources to be developed and used to the maximum possible benefit of people.<sup>1054</sup>

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<sup>1047</sup> Climate Change Convention, *supra* note (1044) pmbl.

<sup>1048</sup> *Id.*, art. 3 (3).

<sup>1049</sup> Fred Pearce, *World Lays Odds on Global Catastrophe*, April 8 NEW SCI. 4, 4, (1995).

<sup>1050</sup> JOHN HOUGHTON, *GLOBAL WARMING: THE COMPLETE BRIEFING* 31 (Lion Publishing plc, 1994).

<sup>1051</sup> Intergovernmental Panel Climate Change (IPCC), Contribution of Working Group I to the IPCC Second Assessment Report SPM.1 (IPCC-Doc.3) (1995) cited in Burns, *supra* note (1045) fn. 25.

<sup>1052</sup> Convention on Biological Diversity, *supra* note (374).

<sup>1053</sup> Catherine Tinker, *A “New Breed” of Treaty: The United Nations Convention on Biological Diversity*, 13 PACE ENV’T L. REV. 191, 191 (1995).

<sup>1054</sup> Martin Holdgate & Bernard Giovannini, *Biodiversity Conservation: Foundations for the 21<sup>st</sup> Century*, in *WIDENING PERSPECTIVES ON BIODIVERSITY* 3,4 (ANATOLE F. KRATTIGER, AL. EDS., 1994).



The convention recognizes the fact that “biological diversity is being significantly reduced by certain human activities.”<sup>1055</sup> The environmental effects caused by the Iraqi invasion of Kuwait, the major event that overshadowed the climate of the Earth Summit, led the parties to agree that environmental warfare is one of the human activities that reduces biological diversity. The Bio-Diversity Convention states that “it is vital to anticipate, prevent and attack the causes of significant reduction or loss of biological diversity at the source,”<sup>1056</sup> a statement that certainly includes armed conflict activities.

Article 3 of the Bio-Diversity Convention places on States the responsibility for environmental effects of military activities under their jurisdiction, including activities in maneuver areas or occupied territories. It states that “[States have] the responsibility 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>1057</sup> Furthermore, Article 4 (b) applies to activities that affect biological diversity regardless of where their effect occurs. That Article places responsibility on any nation for “processes and activities, regardless of where their effects occur, carried out under its jurisdiction or control, within the area of its national jurisdiction or beyond the limits of national jurisdiction.”<sup>1058</sup> Unlike damages occurring within a nation, damages occurring beyond the national jurisdiction require specific measures for the conservation and sustainable use of bio-diversity. For example, Article 5 states that “[e]ach Contracting Party shall, as far as possible and as appropriate, cooperate with other Contracting Parties, directly or, where appropriate, through competent international organizations, in respect of areas beyond national jurisdiction and on other matters of mutual interest, for the conservation and sustainable use of biological diversity.”<sup>1059</sup>

Responding to Article 19 (3) of the Bio-Diversity Convention,<sup>1060</sup> member States adopted the Cartagena Protocol on Biosafety to the Convention on Biological

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<sup>1055</sup> Convention on Biological Diversity, *supra* note (374) pmb.

<sup>1056</sup> *Id.*

<sup>1057</sup> *Id.*, art. 3.

<sup>1058</sup> *Id.*, art. 4 (b).

<sup>1059</sup> *Id.*, art. 5.

<sup>1060</sup> “The Parties shall consider the need for and modalities of protocol setting out appropriate procedures, including, in particular, advance informed agreement, in the field of the safe transfer, handling and use of any living modified organism resulting from biotechnology that may have adverse effect on the

Diversity.<sup>1061</sup> The precautionary principle plays a fundamental role in this protocol,<sup>1062</sup> which has been confirmed in Article I of the Biosafety Protocol.

In accordance with the precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development, the objective of this Protocol is to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of living modified organisms resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risk to human health, and specifically focusing on transboundary movements.”<sup>1063</sup>

The precautionary principle requires member States to take necessary measures to assure the safety of biodiversity, and to protect the environment even in the absence of any proved specific damage. Accordingly, any use of modern technology that may have adverse effects on conservation and sustainable use of Bio-Diversity should be prevented. For example, the development of certain arms may considered a violation of the principle, and therefore, illegal, if those weapons are likely to have adverse effects on the sustainable use of biological diversity.

Finally, the Bio-Diversity Convention reinforces the EIA concept in Article 14 (a) which requires an EIA for proposed projects that are likely to have substantial adverse impacts on biological diversity. Article 14 further requires public participation in the preparation of EIA to ensure that the environmental consequences of proposed activities are taken into consideration.

#### 9) Convention for the Protection of the World Cultural and Natural Heritage

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conservation and sustainable use of biological diversity.” Convention on Biological Diversity, *supra* note (374) art. 19 (3).

<sup>1061</sup> Cartagena Protocol on Biosafety to the Convention on Biological Diversity, January 29, 2000, available at <<http://www.biodiv.org/biosafe/Protocol/html/Biosafe-Prot.html>>, (last visit March 11, 2000) [hereinafter Biosafety Protocol].

<sup>1062</sup> David P. Fidler, *Challenges to Humanity's Health: The Contributions of International Environmental Law to National and Global Public Health*, 31 ENV'T'L L. REP. 10048 (2001).

<sup>1063</sup> Biosafety Protocol, *supra* note (1061) art. 1.

The Convention for the Protection of the World Cultural and Natural Heritage<sup>1064</sup> is an attempt to protect the irreplaceable items of nature and cultural heritage for all the people of the world, on an international scale.<sup>1065</sup> Article 6 (3) of the Cultural and Natural Heritage Convention states that “[e]ach State Party to this Convention undertakes not to take any deliberate measures which might damage directly or indirectly the cultural and natural heritage referred to in Articles 1 and 2 situated on the territory of other States Parties to this Convention.”<sup>1066</sup> Thus any destruction of cultural<sup>1067</sup> or natural heritage<sup>1068</sup> during armed conflict should be interpreted as a violation of this provision. However, Article 6 (3) explicitly links Convention membership and damage to the natural and cultural heritage. That is, the protection offered by this provision extends to member States only; non-members, cultural and natural heritage are not covered by this protection. For example, Iraq, a signatory of this convention,<sup>1069</sup> deliberately burned Kuwaiti oil wells, and spilled oil into the Gulf waters, which damaged the natural heritage of Convention signatories: Saudi Arabia,<sup>1070</sup> Iran,<sup>1071</sup> and other countries.<sup>1072</sup> The Iraqi atrocity during the Gulf War II threatened species of plants and animals of outstanding universal value, such as dolphins, sea turtles, birds, plankton, and dugongs.

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<sup>1064</sup> Convention for the Protection of the World Cultural and Natural Heritage, Nov. 23, 1972, reprinted in *SELECTED MULTILATERAL TREATIES IN THE FIELD OF THE ENVIRONMENT* 276 (A. KISS ED., 1983) [hereinafter *Cultural and Natural Heritage Convention*].

<sup>1065</sup> *Id.*, pmbl. & art. 6 (1).

<sup>1066</sup> *Id.*, art. 6 (3).

<sup>1067</sup> “For the purposes of this Convention, the following shall be considered as “cultural heritage”: monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science; groups of buildings: groups of separate or connected buildings which, because of their architecture, their homogeneity or their place in the landscape, are of outstanding universal value from the point of view of history, art or science; sites: works of man or the combined works of nature and man, and areas including archaeological sites which are of outstanding universal value from the historical, aesthetic, ethnological or anthropological point of view.” *Id.*, art. 1.

<sup>1068</sup> “For the purposes of this Convention, the following shall be considered as “natural heritage”: natural features consisting of physical and biological formations or groups of such formations, which are of outstanding universal value from the aesthetic or scientific point of view; geological and physiographical formations and precisely delineated areas which constitute the habitat of threatened species of animals and plants of outstanding universal value from the point of view of science or conservation; natural sites or precisely delineated natural areas of outstanding universal value from the point of view of science, conservation or natural beauty.” *Id.*, art. 2.

<sup>1069</sup> Iraq signed the Cultural and Natural Heritage Convention since Dec. 17, 1975.

<sup>1070</sup> Saudi Arabia signed the Cultural and Natural Heritage Convention since Nov. 7, 1978.

<sup>1071</sup> Iran signed the Cultural and Natural Heritage Convention since Dec. 17, 1975.

<sup>1072</sup> Marc A. Ross, Comment, *Environmental Warfare and the Persian Gulf War: Possible Combat Intentional Destruction of the Environment*, 10 *DICK. J. INT’L L.* 515, 529 (1992) [hereinafter *Ross, Environmental Warfare*].

In addition, military operations during the war impacted marine biological systems, and other natural sites of beauty.<sup>1073</sup> Nevertheless, the State of Kuwait, which was subject to a considerable destruction to its cultural and natural heritage, such as the Seif Palace and the national and the scientific Museums of Kuwait, has no protection under the Convention because Kuwait, to date, is not a party to this Convention. The importance of the natural and cultural heritage of non-member States could be recognized by revision of the language of the Convention, thus protecting areas of international importance regardless of any single nation's internal political situation.

Furthermore, as long as the protection of the cultural and natural heritage involves two States or more, Article 6 (3) is concerned. But where the cultural and natural heritage is threatened in an internal armed conflict within the territory of one nation, Article 6 (3) does not apply. However, internal armed conflicts are subject to Article 4, which states that

“[e]ach State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage referred to in Articles 1 and 2 and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.”<sup>1074</sup>

Thus, Article 4 imposes a duty on each State to protect and conserve cultural and natural heritage situated in its territory.<sup>1075</sup> This duty requires national authorities to refrain from causing any damage to the natural and cultural heritage defined by this convention. Thus, when the Iraqi Republican Guards damaged holy places in South Iraq, Najaf and Karbala, the Convention should have had full application under Article 4. The same result should have followed in Iraq also, where Saddam Hussein, in order to combat opponents in South Iraq, drained the Southern marshes, and destroyed the unique culture

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<sup>1073</sup> *Id.*

<sup>1074</sup> Cultural and Natural Heritage Convention, *supra* note (1064) art. 4.

of the Marsh Arabs,<sup>1076</sup> which affected the marine ecological life in Southern Iraq and the Gulf in which these waters end. Similarly, the Convention should have applied when, in March 2001, Taliban authorities in Afghanistan destroyed the Buddhas of Bamiyan, a cultural monument that reflected Afghan cultural property.<sup>1077</sup> Moreover, the destruction of the Buddhas of Bamiyan led to widespread calls for improving the protection of the cultural heritage. The Director General of UNESCO described such act as “a crime against the common heritage of humanity” and various calls have been made to adopt a new legal convention to ensure the prevention of such crimes and their punishment.<sup>1078</sup>

#### 10) The United Nations Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

The Basel Convention was adopted by 116 member States of the United Nations on March 22, 1989,<sup>1079</sup> in Basel, Switzerland. The Basel Convention is a comprehensive effort to limit waste transportation across boundaries of U.N. member States and to promote disposal of hazardous waste in an “environmentally sound manner.”

Article 2 (8) of the Convention provides that the “[e]nvironmentally sound management of hazardous wastes or other wastes means taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against adverse effects which may result from such wastes.”

Moreover, the third and the seventeenth paragraphs of the Convention’s preamble requires the reduction of hazardous waste generation, by stating that the parties are “[m]indful also that the most effective way of protecting human health and

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<sup>1075</sup> On the other hand, Article 4 can be extended to apply to sites in other States. However, it aims at protecting and conserving cultural and natural heritage whether within a State or outside its national jurisdiction.

<sup>1076</sup> Ambassador David J. Scheffer, *The International Criminal Tribunal Foreword: Deterrence of War Crimes in the 21<sup>st</sup> Century*, 23 MD. J. INT’L L. & TRADE 1, 8 (1999).

<sup>1077</sup> UNESCO, Afghanistan Crisis, <<http://www.unesco.org>>(last visit March 12, 2001).

<sup>1078</sup> United Nations Educational, Scientific and Cultural Organization, Protection of the Cultural Heritage: Acts Constituting “A Crime Against the Common Heritage of Humanity”, 162<sup>nd</sup> Sess., 162 EX/14 Paris, 2001, Item 3.5.1 of the Provisional Agenda.

<sup>1079</sup> The United Nations Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and Their Disposal, March 22, 1989, 28 I.L.M. 657 (1989) [hereinafter Basel Convention].

the environment from the danger posed by such wastes is the reduction of their generation to a minimum in terms of quantity and/or hazard potential,” and “[a]ware of the need to continue the development and implementation of environmentally sound low-waste technologies, recycling options, good house-keeping and management systems with a view to reducing to a minimum the generation of hazardous wastes and other wastes.” Therefore, the Basel Convention tries to minimize the problem at its source before severe environmental effects.

Each contracting party to the convention must implement national legislation to assure compliance with the convention’s provisions and to assure that hazardous waste generation is minimized according to the economic, technological, and social forces in each State.<sup>1080</sup>

The Basel Convention further identifies the conditions under which transboundary movement of hazardous waste is allowable, in order to limit its dangers. Article 4 (9) of the convention states that:

Parties shall take the appropriate measures to ensure that the transboundary movement of hazardous waste only be allowed if:

- (a) The State of export does not have the technical capacity and the necessary facilities, capacity or suitable disposal sites in order to dispose of the wastes in question in an environmentally sound and efficient manner; or
- (b) The wastes in question are required as a raw material for recycling or recovery industries in the State of import; or
- (c) The transboundary movement in question is in accordance with other criteria which do not differ from the objectives of this Convention.

Furthermore, Article 10 calls for international cooperation in the reduction of waste generation and transport.<sup>1081</sup> Significantly, parties are required to cooperate in making information available for the harmonization of technical standards and codes of practice,<sup>1082</sup> observing hazardous waste management impacts on human health and the

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<sup>1080</sup> *Id.*, art. 4 para. 2 (a)

<sup>1081</sup> *Id.*, art. 10.

<sup>1082</sup> *Id.*, art. 10 para. 2 (a), (e).

environment,<sup>1083</sup> and developing, implementing, and transferring new low-waste technologies<sup>1084</sup> for the benefit of developing States.<sup>1085</sup> Thus, Article 10 clearly urges member States to use their national laws to advance environmental protection.

Remarkably, the Basel Convention does not include a liability provision under which parties could be held liable for hazardous waste transport in violation of the convention.<sup>1086</sup>

The convention states that parties will adopt guidelines which “set out appropriate rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes.”<sup>1087</sup> However, a liability protocol for the convention has not yet been adopted.

It can be argued that the liability for any damage resulting from the transboundary transportation of hazardous waste should rest upon the State of export.<sup>1088</sup> According to customary international law,<sup>1089</sup> the State of export is “liable regardless of the lawfulness of the underlying act.”<sup>1090</sup> That customary law could apply equally to military operations, so that an exporting State could be held liable for any harmful act with regard to a transboundary transportation of hazardous waste.

#### 11) Convention on the Prevention of Marine Pollution by Dumping from Ships and Aircraft

State parties to the Convention on the Prevention of Marine Pollution by Dumping from Ships and Aircraft,<sup>1091</sup> “pledge themselves to take all possible steps to prevent the pollution of the sea by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere

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<sup>1083</sup> *Id.*, art. 10 para. 2 (b).

<sup>1084</sup> *Id.*, art. 10 para. 2 (c), (d).

<sup>1085</sup> *Id.*, art. 10 para. 3.

<sup>1086</sup> Straske II, *supra* note (1169) at 200.

<sup>1087</sup> Basel Convention, *supra* note (1079) art. 12.

<sup>1088</sup> A State liability theory is examined in Galli, *Hazardous Exports to the Third World: The Need to Abolish the Double Standard*, 12 COLUM. J. ENV'T'L L. 71, 82-84 (1987).

<sup>1089</sup> *Id.*, at 82.

<sup>1090</sup> *Id.*, at 83.

<sup>1091</sup> Convention on the Prevention of the Marine Pollution by Dumping from Ships and Aircraft, Feb. 15, 1972, reprinted in HARALD HOHMANN, BASIC DOCUMENTS OF INTERNATIONAL ENVIRONMENTAL LAW Vol. 2, 886 (Graham & Trotman, 1992).

with other legitimate uses of the sea.”<sup>1092</sup> Accordingly, substantive action is required by member States to prevent serious pollution caused by dumping substances into the marine environment. Marine pollution is considered serious when it threatens human health or aquatic life, or interferes with the legitimate use of the sea. The Prevention of Marine Pollution Convention establishes levels of hazardous substances. It divides hazardous substances into two categories: the first category is completely prohibited from being dumped. The second one includes substances that can be dumped only upon permission.<sup>1093</sup> The Convention does not exclude governmental ships or aircrafts from its application;<sup>1094</sup> thus it also applies to military vessels. Nevertheless, such provisions are waived “in case of force major due to stress of weather or any other cause when the safety of human life or of a ship or aircraft is threatened,”<sup>1095</sup> which frequently occurs in times of armed conflicts. To give the Convention full application, therefore, State responsibility should be raised in these circumstances, or at least for the cleanup of the contamination sites.

## 12) Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration

The United Nations Conference on the Human Environment, held in Stockholm on June 16, 1972,<sup>1096</sup> adopted a Declaration to protect the environment. The Stockholm Declaration as a written document is considered a soft law instrument. However, Principle 21 has been accepted internationally as a part of the hard law.<sup>1097</sup> It requires nations not to harm another nation’s environment, by stating that:

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<sup>1092</sup> *Id.*, art. 1.

<sup>1093</sup> *Id.*, arts. 5-7.

<sup>1094</sup> *Id.*, art. 15.

<sup>1095</sup> *Id.*, art. 8.

<sup>1096</sup> Stockholm Declaration, *supra* note (822).

<sup>1097</sup> It is necessary to refer to the Trail Smelter Arbitration a well known international law case addressing transboundary pollution. There, U.S. farmers suffered injury from sulphur dioxide (SO<sub>2</sub>) emissions from a Canadian smelter, they were prevented from recurring to U.S. courts because of jurisdictional difficulties. One of these difficulties was that the alleged conduct occurred in Canada beyond the U.S. borders. Accordingly, U.S. and Canada negotiate a treaty in which Canada beared the responsibility for damages, and both parties created an arbitration tribunal to settle such dispute. Where arbitrators decided that “under the principles of International law,...no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another, or properties or persons therein when the case is of serious consequence and the injury is established by clear and convincing evidence.” *See, Trail Smelter Arbitration*, (U.S. v. Can.), (1941), 3 U.N. R.I.A.A 1938 (1949). *See also*, LAKSHMAN D.



States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limit of national jurisdiction.<sup>1098</sup>

Principle 21 recognizes the right of each State, without any interference from another nation, to capitalize on its resources. However, this right is restricted by a state's mandatory responsibility not to harm another nation's environment, and not to allow territories under their jurisdiction to do so.<sup>1099</sup> Principle 21 provides a legal basis for addressing a State's responsibility for transboundary environmental pollution. Under this Principle, the Security Council, in its Resolutions 686 and 687, held Iraq liable for environmental damage.

Consequently, Principle 21 is generally accepted to be a restatement of a general principle of international law. General principles are binding on all States.<sup>1100</sup> The US agrees that it should be bound by this principle.<sup>1101</sup>

Similarly, Principle 2 of the Rio Declaration<sup>1102</sup> states that:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage

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GURUSWAMY ET AL. EDS., INTERNATIONAL ENVIRONMENTAL LAW AND WORLD ORDER, A PROBLEM-ORIENTED COURSEBOOK 341 (1999) [hereinafter GURUSWAMY ET AL. EDS.].

<sup>1098</sup> Stockholm Declaration, *supra* note (822) Principle 21.

<sup>1099</sup> Schwabach, *supra* note (477) at 132.

<sup>1100</sup> In Trail Smelter Arbitration, the general principle adopted by the arbitration tribunal, in deciding that any States shall avoid causing transboundary environmental harm to another State, have become one of a State's international responsibility standard.

<sup>1101</sup> Restatement (Third) of the Foreign Relations, adopted by the American Law Institute reaffirms the U.S. international obligation under Principle 21 of the Stockholm Declaration in Section 601 (1)(a) in articulating that a State has to conform to generally accepted international rules and standards for preventing, and minimizing harm to another State's environment. Restatement (Third) of the Foreign Relations Law of the United States, adopted by the American Law Institute, May 14, 1987 [hereinafter Restatement Third].

<sup>1102</sup> Rio Declaration, *supra* note (683) Principle 2.

to the environment of other states or of areas beyond the limits of national jurisdiction.<sup>1103</sup>

Principle 2 is intended to apply both in times of armed conflict and peacetime, as indicated by the fact that the Rio Declaration was adopted in 1992, under the pressure of the environmental damage caused by Iraqi soldiers in Gulf War II.

Principle 21 and Principle 2 make it clear that States are responsible for acts committed on their territories, or under their jurisdiction, that harm the environment including the environment of other States. Accordingly, nations can be held responsible under those Principles for any environmental damage caused by such activities.

### 13) International Organizations' Resolutions

International organizations can adopt binding resolutions, hard law, through their main organs. For instance, by virtue of the power explicitly authorized by the U.N. Charter to the Security Council,<sup>1104</sup> the latter has the right to adopt binding resolutions.<sup>1105</sup> Thus, any violation of such resolutions also amounts to a violation to the Charter itself, which granted such power. For example, Resolution 686/1991 demanded that Iraq provide all information and assistance to the U.N. in identifying any chemical or biological weapons in Kuwait, Iraq, and the adjacent waters,<sup>1106</sup> in order to facilitate the mission of protecting and rehabilitating the environment. That Resolution is considered mandatory, i.e., an instrument of hard law. In addition, the Security Council Resolution 687/1991<sup>1107</sup> placed responsibility on Iraq for environmental degradation, another example of a binding resolution.<sup>1108</sup>

Nevertheless, although the U.N. General Assembly is vested with recommendatory powers, it can still adopt resolutions that are binding on member

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<sup>1103</sup> *Id.*

<sup>1104</sup> "1. There are established as the principle organs of the United Nations: a General Assembly, a Security Council, an Economic and Social Council, a Trusteeship Council, an International Court of Justice, and Secretariat." U.N. CHARTER, *supra* note (71) art. 7 (1).

<sup>1105</sup> *Id.*, arts. 39-51.

<sup>1106</sup> U.N. Security Council Resolution 686, para. 3(d), Mar. 2, 1991, 30 I.L.M. 568 (1991).

<sup>1107</sup> S.C. Res. 687 (1991), *supra* note (559) para. 16.

States and authorized by the Charter. However, in an advisory opinion, the ICJ declared that

[...]the function and powers conferred by the Charter on the General Assembly are not confined to discussion, consideration, the initiation of studies and the making of recommendations; they are not merely hortatory. Article 18 deals with ‘decisions’ of the General Assembly ‘on important questions.’ These ‘decisions’ do indeed include certain recommendations, but others have dispositive force and effect.<sup>1109</sup>

Similarly, in another advisory opinion, the ICJ stated that “it would not be correct to assume that, because the General Assembly is in principle vested with recommendatory powers, it is debarred from adopting in specific cases within the framework of its competence, resolutions which make determinations or have operative design.”<sup>1110</sup>

This authority under the U.N. Charter is similar to that of the European Union. According to Article 14 paragraph three of the Treaty Establishing the European Coal and Steel Community of 1951, “[r]ecommendations shall be binding as to the aims to be pursued but shall leave the choice of the appropriate methods for achieving these aims to those to whom the recommendations are addressed.”<sup>1111</sup> Thus, as a policy matter, recommendations of the Community’s High Authority are legally binding according to the treaty itself.

## **b. International Regional Hard Law Instruments**

Regional hard law instruments that have provisions applicable in times of armed conflict include: The Convention on Long-Range Transboundary Air Pollution, The Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, Convention on the Environmental Impact

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<sup>1108</sup> Iraq’s International responsibility will be discussed in the final part of the thesis.

<sup>1109</sup> Certain Expenses of the United Nations, Advisory Opinion, ICJ Reports, 1962 I.C.J. 151, 163 (1962), 1962 WL 4 (ICJ).

<sup>1110</sup> Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970), Advisory Opinion, 1971 I.C.J. 16, 50 (1971), 1971 WL 8 (I.C.J.).

<sup>1111</sup> The Treaty Establishing the European Coal and Steel Community, April 18, 1951, U.N.T.S., Vol. 261, at 141.

Assessment in a Transboundary Context, The Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution and its Protocols, The Association of South East Asian Nations Agreement on the Conservation of Nature and Natural Resources, the Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment, and the Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa. We will also look at the General Policies and Principles of Environmental Protection in the Gulf Cooperation Council.

#### 1) The Convention on Long-Range Transboundary Air Pollution

The Convention on Long-Range Transboundary Air Pollution of 1979,<sup>1112</sup> negotiated by the United Nations Economic Commission for Europe (UN/ECE), applies only to European States, in addition to Canada and Russia, while considering that atmospheric pollution is capable of affecting areas far beyond the European continent.<sup>1113</sup> The Convention defines “air pollution” broadly, as any introduction by man into the air, whether direct or indirect, of substances or energy which may result in degradation of the environment and cause harm to humans, living resources, and material property or interfere with legitimate use of the environment.<sup>1114</sup> “Long-range” air pollution is defined by the convention as air pollution that originates within, wholly or in part, the jurisdiction of one State and results in adverse effects within the jurisdiction of another.<sup>1115</sup> The Transboundary Air Pollution Convention aims at limiting, reducing and preventing air pollution, both local and long range.<sup>1116</sup> To this end, the convention requires the Contracting Parties to “protect man and his environment against air pollution [and] endeavor to limit and, as far as possible, gradually reduce and prevent air pollution

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<sup>1112</sup> Convention on Long-Range Transboundary Air Pollution, Nov. 13, 1979, 18 I.L.M. 1442 [hereinafter Transboundary Air Pollution Convention].

<sup>1113</sup> *Id.*, pmbl.

<sup>1114</sup> *Id.*, art 1, para. (a).

<sup>1115</sup> *Id.*, art 1 para. (b).

<sup>1116</sup> *Id.*, art 2.

including long-range transboundary air pollution.”<sup>1117</sup> As the concept of exchange of information has gained recognition in international practice, the Transboundary Air Pollution Convention promotes cooperation among member States in the exchange of information, research and monitoring, and the development of policies to combat air pollution.<sup>1118</sup> For example the Contracting Parties concluded the Protocol Concerning the Control of Emissions of Nitrogen Oxides or their Fluxes,<sup>1119</sup> which aims at reducing nitrogen oxides (NO) emissions from major stationary and mobile sources such as combustion plants, gas turbines, and motorized vehicles.<sup>1120</sup>

Furthermore, Article 8 of the Convention requires member States to exchange available information, including “major changes in national policies and in general industrial development, and their potential impact, which would be likely to cause significant changes in long-range transboundary air pollution.”<sup>1121</sup> Thus, the Convention actively seeks to promote exchange of information as part of the EIA.

As the Transboundary Air Pollution Convention and its Protocols bind only European signatories, in addition to Canada and Russia, it may be inconsistent with Principle 21 of the Stockholm Declaration, which prohibits all nations from causing damage to the environment of other States. Principle 21 recognizes that environmental harm does not respect any international borders, and that worldwide cooperation is necessary to address that problem. The Transboundary Convention being much more limited, can have only a limited impact on such pollution.

## 2) The Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters

The Convention on Access to Information, Public Participation in Decision Making and Access to Justice in Environmental Matters (Åarhus Convention) of

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<sup>1117</sup> *Id.*, art 2.

<sup>1118</sup> *Id.*, art 3.

<sup>1119</sup> The Protocol Concerning the Control of Emissions of Nitrogen Oxides or their Transboundary Fluxes, Oct. 31, 1988, 28 I.L.M. 212.

<sup>1120</sup> *Id.*, Technical Annex I, para. 4, at 222.

<sup>1121</sup> Transboundary Air Pollution Convention, *supra* note (1112) art 8 (b).

1998<sup>1122</sup> is an important treaty negotiated by the UN/ECE that combines NEPA-like EIA with Freedom of Information Act (FOIA) and judicial review requirements.<sup>1123</sup>

According to the Åarhus Convention, information shall be made available to the “public,” which is defined as “one or more natural or legal persons, and, in accordance with national legislation or practice, their associations, organizations or groups.”<sup>1124</sup>

Thus, if there is any imminent threat to human health or the environment all the information that could enable the public to take measures to prevent or mitigate harm must be made available.<sup>1125</sup> The public “shall” participate in environmental decision-making processes in order to provide for a complete environmental awareness among citizens. And finally, members of the public are granted the right to seek judicial review of decisions affecting the environment.

The Åarhus Convention is consistent with Principle 10 of the Rio Declaration, which provides for public participation in decision-making processes in environmental matters, access to information concerning the environment, and effective access to judicial and administrative proceedings. Åarhus Convention was signed by thirty-nine States and the European Community (EC).<sup>1126</sup> It is not yet in force, but the signatories affirmed their support for it in their first meeting in Chisinau, Republic of Moldova, on April 19-20, 1999.<sup>1127</sup>

The Convention safeguards the right of citizens to request access to information on the environment “without an interest having to be stated.”<sup>1128</sup> Contracting Parties shall ensure that: “[I]n the event of any immediate threat to human health or the environment, whether caused by human activities or due to natural causes, all information which could enable the public to take measures to prevent or mitigate harm

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<sup>1122</sup> Åarhus Convention was discussed briefly in Part Two.

<sup>1123</sup> Nicholas A. Robinson, *International Environmental Legal Trends: Factors Shaping the Practice of Environmental Law*, SF25 ALI-ABA 527, 532 (2000) [hereinafter Robinson, *International Environmental Legal Trends*].

<sup>1124</sup> Åarhus Convention, *supra* note (867) art. 2 (4).

<sup>1125</sup> *Id.*, art. 5 (1) (c).

<sup>1126</sup> Maria Gavouneli, *Access to Environmental Information: Delimitation of A Right*, 13 TUL. ENV'T L. L.J. 303, 317 (2000) [hereinafter Gavouneli].

<sup>1127</sup> See, U.N. ECE, “Environment for Europe” Process, available at <<http://www.unece.org/env/europe/homepage.htm>>, (last visit May 15, 2001).

<sup>1128</sup> Åarhus Convention, *supra* note (867) art. 4 (1) (a), (b).

arising from the threat and is held by a public authority is disseminated immediately and without delay to members of the public who may be affected.”<sup>1129</sup>

However, since the general format of the Århus Convention follows the Council Directive 90/313 EEC on access to information relating to the environment,<sup>1130</sup> The Convention exempts armed forces of the Contracting Parties from providing information to the public regarding their activities even if such activities may cause significant environmental impacts.

In effect, the Council Directive 90/313/EEC includes a vague list of exceptions that allow the Contracting Parties to refuse a request for public information affecting, for example, “the confidentiality of the proceedings of public authorities, international relations and national defense, public security [...]”<sup>1131</sup> In light of those exceptions, military authorities can refuse requests for information disclosure. This situation also applies to Århus Convention, which reflects the Council Directive 90/313.

The Århus Convention’s provisions are strong insofar as they permit the public free access to information and participation in the decision-making process. However, since the Convention exempts military authorities, for reasons of public security and national defense, from its provisions, the environmental protection provided by the Convention is so far only limited effectiveness.

### 3) The Convention on the Environmental Impact Assessment in a Transboundary Context

The Convention on the Environmental Impact Assessment in a Transboundary Context of 1991,<sup>1132</sup> negotiated by the UN/ECE, applies only in Europe, the United States and Canada. It addresses problems that arise from the effect of one country’s activities on the environment of a neighboring country. This convention enumerates seventeen activities that have potential environmental impact outside the territory of the

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<sup>1129</sup> *Id.*, art. 5 (1) (c).

<sup>1130</sup> Directive 90/313, JO 1990, No. L 158, at 56, cited in Ludwing Krämer, *La Directive 90/313/CEE sur l’Access a l’Information en Matiere d’Environnement: Genese et Perspectives d’Application*, REV. DU MARCHE COMMUN 866, 866 (1991).

<sup>1131</sup> Council Directive 90/313/EEC, 1990 O.J. (L 158) 56, art. 3 (2).

<sup>1132</sup> The Convention on the Environmental Impact Assessment in a Transboundary Context, February 25, 1991, 30 I.L.M. 800 (1991) [hereinafter Environmental Impact Assessment Convention].

source State,<sup>1133</sup> including, “nuclear power plants and storage facilities; major installations for the initial smelting of cast-iron and steel and for the production of non-ferrous metals; integrated chemical installations; large-diameter oil and gas pipeline; and waste disposal installations for the incineration, chemical treatment, or landfill of toxic and dangerous wastes[.]”<sup>1134</sup> Although the Convention does not expressly address military activities, it necessarily has application to those activities, since even in peacetime, military bases and installations generate tons of toxic materials, and store nuclear weapons and agents.

The convention requires the contracting parties to prevent and control environmental damage resulting from activities that have transboundary effects by preparing EIA<sup>1135</sup> and notifying any party that could be affected by such activities.<sup>1136</sup>

This Convention is also consistent with Principle 21 of the Stockholm Declaration, which requires nations not to harm other nations’ environment while conducting activities that have extraterritorial environmental impact, or outside their national jurisdiction. Principle 21 is not limited to a specific region or continent, while the Environmental Impact Assessment Convention applies only to Europe, the U.S., and Canada.

#### 4) Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution

The Arabian Gulf is one of the world's most vulnerable and fragile ecosystems, since its waters are shallow, it is virtually landlocked, and it receives almost no rain or fresh water. There is very little flushing in the Gulf; therefore, pollution is not easily dissipated.<sup>1137</sup> Because of the vulnerable nature of this marine environment, the states of the region<sup>1138</sup> concluded a regional convention dealing with the Gulf water protection.

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<sup>1133</sup> Jonathan S. Jemison, *The Emerging of International Environmental Law*, 195-Feb. N. J. L. 25, 26 (1999).

<sup>1134</sup> Environmental Impact Assessment Convention, *supra* note (1132) Appendix I. *See, Id.*, fn. 24.

<sup>1135</sup> *Id.*, art 2 (2).

<sup>1136</sup> *Id.*,

<sup>1137</sup> Computer Technology and Communication Department at Kuwait Institute for Scientific Research, *Kuwait Institute for Scientific Research*, available at <<http://www.kisr.edu.kw/>>, (visited April 13, 2000) [hereinafter KISR].

<sup>1138</sup> Bahrain, Iran, Iraq, Kuwait, Oman, Saudi Arabia, and United Arab Emirates.



The convention was concluded at Kuwait on April 24, 1978, and entered into force on June 30, 1979.

The Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution<sup>1139</sup> is a regional convention that binds the Gulf States, which are: Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. This convention applies in peacetime as well as in times of war.<sup>1140</sup>

Articles III (a), IV, V, VI, VII, and VIII of the Kuwait Regional Convention require member States to take all appropriate measures to prevent, abate, and combat pollution of the marine environment.<sup>1141</sup> Under those provisions, the Iraqi armed forces, during their occupation of Kuwait, violated the Convention by engaging in a number of military activities that harmed the marine environment. For example, Iraq intentionally polluted the marine environment of the Gulf by spilling millions of barrels of Kuwaiti crude oil into the Gulf,<sup>1142</sup> and mining the Gulf with thousands of explosive devices.<sup>1143</sup> These operations violated the Convention because they polluted the Gulf water, and killed the marine life.

Moreover, Article XV appears to provide a basis for broad application of the Convention. Under Article XV, “[n]othing in the present convention shall prejudice or affect the rights or claims of any contracting State in regard to the nature or extent of its maritime jurisdiction which may be established in conformity with international law.”<sup>1144</sup>

However, notwithstanding the clear language of the Convention, it was not applied to address the marine environmental harm caused during the Iraqi invasion of Kuwait. One major reason for that result is that the signatory nations have widely divergent political relations with the Iraqi government, and thus were unable to arrive at a consensus, despite the Regional Convention. The United Nations Compensation

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<sup>1139</sup> Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution, April 24, 1978, 1140 U.N.T.S. 133 [hereinafter Kuwait Regional Convention].

<sup>1140</sup> Okordudu-Fubara, *supra* note (331) at 195.

<sup>1141</sup> Kuwait Regional Convention, *supra* note (1139) art. III (a), IV, V, VI, VII, and VIII.

<sup>1142</sup> Ross, *Environmental Warfare*, *supra* note (1072) at 516.

<sup>1143</sup> MALALLAH, *supra* note (549) at 327.

<sup>1144</sup> Kuwait Regional Convention, *supra* note (1139) art. XV.

Committee, involving nations outside the Gulf Region, has proven to be more affected mechanism for assessing responsibility.

Under the Regional Convention, disputes between member States may be settled through negotiation or any other peaceful means of their own choice.<sup>1145</sup> Otherwise, an ad hoc Judicial Commission for the Settlement of Disputes can be established by the Council.<sup>1146</sup>

To update and increase the member States' cooperation in the field of environmental protection, a number of protocols have been annexed to the Convention. These Protocols are: (1) Protocol of Regional Cooperation to Combat Pollution by Oil and Other Harmful Substances in Cases of an Emergency, (2) Protocol on the Protection of Marine Environment from Pollution Derived from Land-Based Sources, (3) Protocol on the Control of Marine Transboundary Movements of Hazardous Wastes and their Disposal, and (4) Protocol Relative to the Marine Pollution Caused from Exploring and Exploiting the Continental Shelf.

Article XI (a) of the Convention provides that each member State shall include an assessment of the potential environmental impact of any proposed activity or project within its territory, particularly in the coastal areas.

Moreover, Article XI (b) of the Convention states that “[t]he Contracting States may, in consultation with the secretariat, develop procedures for disseminating of information of the assessment of the activities referred to in paragraph (a).” That information would allow each contracting party to monitor the marine projects of other parties that may have potential environmental impact.

However, despite the signing of the Kuwait Regional Convention, the marine environment of the Gulf has yet to be accurately assessed.<sup>1147</sup> The Gulf States should strengthen their environmental laws and standards, conduct research to identify threats to the marine environment and practicable ways to prevent them, and to study the integrated

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<sup>1145</sup> *Id.*, art. XXV (a).

<sup>1146</sup> *Id.*, art. XVIII (b).

<sup>1147</sup> Nicholas A. Robinson, *Arab Regional Center for Environmental Law (ARCEL) in Cooperation with the Commission on Environmental Law (CEL) International Union for the Conservation of Nature and Natural Resources (IUCN); Project Proposals: Strengthening Environmental Law in the Arab World*, at 9, May 30, 2001 [hereinafter Robinson, *Arab Regional Center for Environmental Law*].

coastal zone management (ICZM) laws, EIA laws, and pollution control laws of other regions.<sup>1148</sup>

##### 5) The Association of South East Asian Nations Agreement on the Conservation of Nature and Natural Resources

In 1985, the member States of ASEAN signed this Agreement in Kuala Lumpur, Malaysia,<sup>1149</sup> recognize the importance of natural resources for present and future generations. The convention is not yet in force; however, while it was pending, many wars have taken place in the ASEAN region.

Article 10 of the convention declares that member States should prevent environmental degradation.<sup>1150</sup> Article 11 defines the environmental harm caused by discharges or emissions of pollutants and encourages the contracting parties to prevent and reduce such discharges.<sup>1151</sup> More significant, however, Article 20 (1)(2) states that:

1. Contracting Parties have in accordance with generally accepted principles of international law the responsibility of ensuring that activities under their jurisdiction or control do not cause damage to the environment or the natural resources under the jurisdiction of other Contracting Parties or of areas beyond the limits of national jurisdiction.
2. In order to fulfill this responsibility, Contracting Parties shall avoid to the maximum extent possible and reduce to the minimum extent possible adverse environmental effects of activities under their jurisdiction or control, including effects on natural resources, beyond the limits of their national jurisdiction.

This Article reflect Principle 21 of the Stockholm Declaration, which prohibits each State from harming another nation's environment. Although the ASEAN Agreement does not specifically address environmental harm caused by armed conflict, its provisions are broad enough to encompass such harm.

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<sup>1148</sup> *Id.*, at 9.

<sup>1149</sup> The Association of South East Asian Nations Agreement on the Conservation of Nature and Natural Resources, July 9, 1985, available at <<http://sedac.ciesin.org/pidb/texts/asean.natural.resources.1985html>>, (last visit March 1, 2001) [hereinafter ASEAN Agreement].

<sup>1150</sup> *Id.*, art. 10.

<sup>1151</sup> *Id.*, art. 11.

## 6) Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment

The Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment<sup>1152</sup> was concluded by some of the Arab States situated adjacent to the Red Sea and the Gulf of Aden, including Sudan, Jordan, Saudi Arabia, Palestine, Yemen, and Somali. However, some other neighboring States are not parties to this convention, including Djibouti, Eritrea, Egypt, and Israel.<sup>1153</sup> The region has witnessed a number of armed conflicts among neighboring States, from the Egypt-Saudi conflict of 1960s, and the Ethiopian-Somali conflict in 1990s, to the Arab-Israeli conflict which is still taking place. There is no doubt that these armed conflicts affect the environment of this region. But this convention does not respond to such needs.

The member States acknowledge, in the Preamble, the unique ecological characteristics of the Red Sea and Gulf of Aden and the particular vulnerability of its coral reefs where most biota exist.<sup>1154</sup> The Preamble asserts that all States of the region, not only member States, have the responsibility of the protection of the Gulf of Aden and the Red Sea.<sup>1155</sup> In addition, the Preamble links industrial development and the environment, by requiring that such development should not adversely affect the marine environment, living resources, and human health.<sup>1156</sup> This text can be interpreted as the legal basis to reduce and eliminate the development of the armament industry, which has caused severe environmental effects on this body of water in peacetime and times of armed conflicts.

Article III (1) declares that “[t]he Contracting Parties shall, individually or jointly, take all appropriate measures, in accordance with the present Convention and those protocols in force to which they are party, for the Conservation of the Red Sea and Gulf of Aden environment including the prevention, abatement and combating of marine

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<sup>1152</sup> Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment, August 20, 1985, available at <<http://cedac.ciesin.org>>, (last visit February 15, 2001) [hereinafter Red Sea and Gulf of Aden Convention].

<sup>1153</sup> According to Article XXVI of the Red Sea and Gulf of Aden Convention Israel cannot adhere to the membership of this convention, which states that “Any State member of the Arab League has the right to accede to the present Convention and its protocols.” *Id.*, art. XXVI.

<sup>1154</sup> *Id.*, pmb1.

<sup>1155</sup> *Id.*

<sup>1156</sup> *Id.*

pollution.” It requires the Contracting Parties to take all the appropriate measures for the conservation of the Red Sea and the Gulf of Aden environment.<sup>1157</sup> Consequently, military activities that affect the marine environment of the region, including peacetime operations, should be eliminated. Similarly, military operations during armed conflicts that harm the environment of the region should be prevented too.

Moreover, this convention can be considered a legal basis to prevent the dumping of military wastes in the region. For instance, Article V of the Convention states that “[t]he Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution in the Sea Area caused by dumping of wastes and other matter from ships and aircraft, and shall ensure effective compliance in the Sea Area with generally recognized international rules relating to the control of this type of pollution as provided for in relevant international conventions.” The Contracting States intended to prevent such dumping whether conducted by their national authorities or by non-contracting parties, as indicated by the language of Article V, which provides that “dumping of wastes and other matter from ships and aircraft” which are not necessarily owned by the Contracting Parties only, and from the illustration of the generally recognized international rules that are relevant to the control of the marine pollution. The Convention also prohibits discharges from land-based sources.<sup>1158</sup> It sets forth procedures that should be followed in cases of emergencies.<sup>1159</sup>

Finally, Article VIV (1) of the Convention declares that “[w]arships and other ships owned or operated by States, only on government non-commercial service shall be exempted from the application of the provisions of this convention.”<sup>1160</sup> This provision places serious limits on the effectiveness of the Convention in protecting the marine

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<sup>1157</sup> *Id.*, art. III (1).

<sup>1158</sup> “The Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution caused by discharges from land reaching internal waters and the Sea Area whether water-borne, airborne or directly from the coast including outfalls and pipelines.” *Id.*, art. VI.

<sup>1159</sup> “1. The Contracting Parties shall, individually or jointly, take all necessary measures, including those to ensure that adequate equipment and qualified personnel are readily available, to deal with pollution emergencies in the Sea Area, whatever the cause of such emergencies, and to reduce or eliminate damage resulting therefrom. 2. Any Contracting Party which becomes aware of any pollution emergency in the Sea Area shall without delay, notify the Organization, and through the General Secretariat, any Contracting Party likely to be affected by such emergency. 3. The Contracting Parties shall co-ordinate their national plans for combating pollution in the marine environment by oil and other harmful substances in a manner that facilitates full co-operation in dealing with pollution emergencies.” *Id.*, art. IX.

<sup>1160</sup> *Id.*, art. XIV (1).

environment of the region. However, Article XIV (2) states that “Contracting Party shall, as far as possible, ensure that its warships or other ships owned or operated by that Party, and used only on government non-commercial service, shall comply with the provisions of the present Convention.”<sup>1161</sup> Thus, although the Convention specifically exempts military and other governmental vessels, it urges member States to take on that responsibility as well, and can serve as a basis for affixing legal liability for environmental damage caused by those vessels.

7) The Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

As a consequence of the exploitation of the African countries as dumping grounds for hazardous wastes generated by developed countries, which has been described as “environmental injustice or environmental racism on a global scale,”<sup>1162</sup> the Organization of African Unity (OAU) adopted the Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, on January 29, 1991.<sup>1163</sup>

This regional agreement was entered into by every African country except South Africa and Morocco.<sup>1164</sup> The Bamako Convention prohibits all dumping of hazardous wastes, including radioactive wastes at sea by the Contracting Parties within their maritime zones.<sup>1165</sup> The Contracting Parties agreed to impose “strict, unlimited liability as well as joint and several liability on hazardous waste generation.”<sup>1166</sup> Nevertheless, the multiple civil wars in the region have in fact contaminated the marine environment as a

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<sup>1161</sup> *Id.*, art. XIV (2).

<sup>1162</sup> H. R. Marbury, *Global Environmental Racism*, 28 VANDERBILT J. TRANSNAT’L L. 251, 293 (1995).

<sup>1163</sup> The Bamako Convention on the Ban of Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, January 29, 1991, 30 I.L.M. 773 [hereinafter The Bamako Convention].

<sup>1164</sup> Peter Montague, *Philadelphia dumps on the poor*, 595 RACHEL’S ENV’T’L & HEALTH WKLY., Apr. 23, 1998 available at <[http://www.rachel.org/bulletin/index.cfm?issue\\_ID=522](http://www.rachel.org/bulletin/index.cfm?issue_ID=522)> (last visit Sept. 3, 2001).

<sup>1165</sup> The Bamako Convention, *supra* note (1163) arts. 2 (2), 4 (2).

<sup>1166</sup> *Id.*, art. 2 (3) (b).

result of the dumping of toxic materials in the sea from warships, aircraft, and landmines.<sup>1167</sup>

The Bamako Convention is the first agreement to adopt the “precautionary approach.” Article 4 (3)(f), states that

Each party shall strive to adopt and implement the preventive, precautionary approach to pollution problems which entails, inter alia, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm. The parties shall cooperate with each other in taking the appropriate measures to implement the precautionary principle to pollution prevention through the application of clean production methods, rather than the pursuit of a permissible emissions approach based on assimilative capacity assumptions.<sup>1168</sup>

The precautionary principle is one of the environmental law principles that extend beyond the mechanisms existing in prior international instruments.<sup>1169</sup> As applied to environmental damage caused by warfare, the principle would deter environmental destruction during armed conflicts, rather than simply providing for a remedial plan after such destruction. For example, that principle would require armed forces to avoid attacking or destroying natural resources.

The Bamako Convention was designed to supplement and improve upon the United Nations Basel Convention on the Control of Transboundary Movements of

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<sup>1167</sup> See in general, Howard S. Kaminsky, *Assessment of the Bamako Convention on the Ban of Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa*, 5 GEO. INTL ENV'T L. REV. 77 (1992) [hereinafter Kaminsky].

<sup>1168</sup> The Bamako Convention, *supra* note (1163) art. 4 (3) (f).

<sup>1169</sup> The precautionary principle has also been recognized and implemented in the European Community (EC). The EC adopted a Council Directive on Supervision and Control of the Transfrontier Shipment of Hazardous Waste in 1984. It was the multinational effort to outline the problems of transfrontier shipment of hazardous waste. The Directive states in Article 1 that “[m]ember States shall, in accordance with the provisions of this Directive, take the necessary measures for the supervision and control, with a view to the protection of human health and the environment, of the transfrontier shipment of hazardous waste both within the Community and on its entering and/or leaving the Community.” This Article addresses the goal of the Directive to implement a program to monitor hazardous waste shipments across the Contracting Parties boundaries. See, Council Directive 48/631/EEC was adopted on Dec. 6, 1984. 27 O.J.EUR. COMM. (No. L 326) 31 (1984). Its Amendments in Council Directive 86/279/EEC were adopted on June 12, 1986. 29 O.J.EUR.COMM. (No. L 181) 13 (1986); Stephen B. Straske II, *The United Nations Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal: A Comparison with the European Community Directives and A Recommendation for a Liability Protocol*, III GEO. INT'L. ENV'T L. REV. 183, 185-186 (1990) [hereinafter Straske II].

Hazardous Wastes and their Disposal.<sup>1170</sup> That Convention was unanimously adopted by 116 member States of the United Nations in 1992.<sup>1171</sup> The Convention's signatories include most of the industrialized countries as well as many developing countries, but remarkably, it includes one African State, Nigeria.<sup>1172</sup>

The Convention calls for the environmentally sound management of hazardous wastes. It calls upon its signatories to "take all practical steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against adverse effects which may result from such wastes."<sup>1173</sup>

The Bamako Convention is an attempt to redress the weakness of the Basel Convention which was remarked by the OAU.<sup>1174</sup> For example, the Convention makes it illegal to export toxic waste to Africa,<sup>1175</sup> and it criminalizes acts of importing wastes by any African nation.<sup>1176</sup>

#### 8) General Policies and Principles of Environmental Protection in the Gulf Cooperation Council

The principles of the Gulf Cooperation Council (GCC) requires member states to coordinate their policies to realize a better future through their unity.<sup>1177</sup> This coordination of national policies includes environmental policies, particularly the protection of the Gulf marine environment. Oil pollution in the Gulf is about 3% of the global total, or 50 times the average elsewhere for a marine environment of its size.<sup>1178</sup>

Beach oil, floating oil, and oil on coral reefs occur. High concentrations of heavy metals have been recorded in biota and sediments. Recently reported arsenic levels in fish in certain Gulf areas are among the highest recorded in literature. Coastal

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<sup>1170</sup> Basel Convention, *infra* note (1079).

<sup>1171</sup> Straske II, *supra* note (1169) fn. 15.

<sup>1172</sup> Kaminsky, *supra* note (1167) at 78.

<sup>1173</sup> Basel Convention, *supra* note (1079) art. 2 para. (8).

<sup>1174</sup> Kaminsky, *supra* note (1167) at 77.

<sup>1175</sup> The Bamako Convention, *supra* note (1163) art. 4 (3)(i)(l)(r).

<sup>1176</sup> *Id.*, art. 4 (1).

<sup>1177</sup> Nassib G. Ziade, *Bahrain-Kuwait-Qatar-Saudi Arabia-United Arab Emirates: Charter Establishing Gulf Cooperation Council, Including Rules of Procedure and Unified Economic Agreement*, 26 I.L.M. 1131, 1138 (1987) [hereinafter GCC Policies and Principles].

<sup>1178</sup> KISR, *supra* note (1137).



resources such as shrimp and fin-fisheries are being degraded by extensive dredging and associated sedimentation. Even the Gulf's air is threatened by natural gas flaring and the burning of solid waste which contribute to both local and regional environmental problems associated with the long-range transportation of pollutants.<sup>1179</sup>

To facilitate environmental cooperation in the region, the member states adopted in December 1, 1985, a number of general policies and principles.<sup>1180</sup> These principles include the preparation of an Environmental Impact Assessment for marine projects<sup>1181</sup> and a precautionary plan to prevent marine pollution,<sup>1182</sup> particularly transboundary pollution.<sup>1183</sup>

The environment of the Gulf region is such that an action by any Gulf State will affect other Gulf States. For instance, the release of about 1 million barrels of crude oil into the Gulf waters by the Iraqi invaders in 1990, polluted the entire Gulf region, requiring a coordinated response by all affected countries. The interconnectedness of the region<sup>1184</sup> was recognized by the Secretariat General of the GCC, which launched an Environmental Data Web Project among GCC members to facilitate the exchange of the environmental information electronically.<sup>1185</sup>

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<sup>1179</sup> *Id.*

<sup>1180</sup> W. E. BURHENNE ED., INTERNATIONAL ENVIRONMENTAL SOFT LAW, ENVIRONMENTAL PROTECTION: COLLECTION OF RELEVANT DOCUMENTS 985:8905 (Kluwer Law International, 1996) [hereinafter GCC General Policies and Principles of Environmental Protection].

<sup>1181</sup> Principle 6 of the General Principles and Policies of GCC states "[t]o approve the proper environmental evaluation of projects to implement arrangements involving the evaluation of environmental impact as well as overall feasibility and to link the mechanisms for certifying such projects by the authorities responsible for environmental protection." Principle 9 states, "to monitor the environmental effects of projects developed through external aid given by the GCC to other countries and to encourage these countries to implement impact assessment rules when planning and implementing these projects." GCC Policies and Principles, *supra* note (1177) Principles 6 & 9.

<sup>1182</sup> Principle 3 of the GCC Policies and Principles states, "[t]o develop clear plans to mitigate environmental problems and to aim at protecting the environment from pollution." *Id.*, Principle 3.

<sup>1183</sup> Principle 8 of the GCC Policies and Principles states, "[t]o co-ordinate the efforts and activities of the member states to minimize the negative impacts of project development and industrialization within one state on its neighbors." *Id.*, Principle 8.

<sup>1184</sup> Tareq Al-Banai, *Issues of Desertification, Drought, Greenhouse Gas Emissions, Biodiversity are Major Concerns of Second Committee Members*, United Nations Press Release GA/EF/2835, Oct. 23, 1998, <[http://srchl.un.org:80/plweb/cgi/fastweb?state\\_id=95546050&view=unsearch&docrank=24&numhitsfound=306&query=Kuwait%20sustainable%20development&&docid=1580&docdb=pr1998&dbname=web&sorting=BYRELEVANCE&operator=and&TemplateName=predoc.tmpl&setCookie=1](http://srchl.un.org:80/plweb/cgi/fastweb?state_id=95546050&view=unsearch&docrank=24&numhitsfound=306&query=Kuwait%20sustainable%20development&&docid=1580&docdb=pr1998&dbname=web&sorting=BYRELEVANCE&operator=and&TemplateName=predoc.tmpl&setCookie=1)> (visited Apr. 11, 2000) [hereinafter, Al-Banai].

## 2. Soft International Law

The origin of the term “soft law” is attributed to Lord McNair.<sup>1186</sup> It is recognized as a significant element of public international law, and a very rich source for the environmental law. Soft law rules are not compulsory and do not bind any State. Nevertheless, they have legal significance,<sup>1187</sup> although their legal power is often difficult to identify clearly.<sup>1188</sup> Therefore, they have been described as “trouble makers”<sup>1189</sup> since they are either not yet or not only law.<sup>1190</sup>

The relatively short time period required to formulate soft law helps maintain equity and justice in international law, because outmoded or unjust international norms may be identified and addressed raised by soft law instruments. Thus, soft international law can respond easily to scientific and technological developments.<sup>1191</sup> Since the 1950s, and the emerging independence of many developing States, soft law has gained increasing importance. In part, that emergence of soft law rules results from the increased diversity of the international community. New nations have often urged that existing international rules should be adapted according to the new composition of the international society.<sup>1192</sup> More recently, NGO’s have emerged as strong advocates for new soft law norms, and have influenced soft law development.

Although States are the sole bodies that are capable of creating hard law rules, soft law rules can be created by NGO’s.<sup>1193</sup> For instance, the International Law Association (ILA), or the Institute of International Law (IIL) can propose soft law rules which do not necessarily coincide with State interests. Hybrid organizations, such as

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<sup>1185</sup> Shaker Mohammed, Alwatan Kuwaiti Daily Journal, Apr. 11, 2000, available at <<http://www.alwatan.com.kw/today/n12.html>>.

<sup>1186</sup> Blaine Sloan, *General Assembly Resolutions Revisited (Forty Years Later)*, BRIT. Y.B. INT’L L. 39, 106 (1987) [hereinafter Sloan].

<sup>1187</sup> Jeffrey M. Pollock & Jonathan S. Jemison, *The Emerging of International Environmental Law*, 195-Feb. N.J. LAW. 25, 28 (1999) [hereinafter Pollock & Jemison].

<sup>1188</sup> Dupuy, *supra* note (830) at 420.

<sup>1189</sup> *Id.*

<sup>1190</sup> See SOCIETE FRANCAISE POUR LE DROIT INTERNATIONAL, L’ELABORATION DU DROIT INTERNATIONAL PUBLIC (1975); E. MICWHINNEY, UNITED NATIONS LAW MAKING 78-79 (1984).

<sup>1191</sup> Pollock & Jemison, *supra* note (1187) at 28.

<sup>1192</sup> Dupuy, *supra* note (830) at 421.

<sup>1193</sup> *Id.*, at 423.

IUCN or ICRC, can adopt norms which are closer to soft law of the type characterized by resolutions of the U.N. General Assembly.<sup>1194</sup>

The development of soft law rules in the environmental field can facilitate the eventual adoption of hard law.<sup>1195</sup> In particular, “[t]he basic role of soft law is to raise expectations of conformity with legal norms, and to create uniformity in the creation of these norms. Once there is compliance with a uniform legal norm, the formation of binding hard law is a relatively simple task.”<sup>1196</sup>

Soft law instruments can be described in terms of three categories: “(1) so called ‘non-binding’ agreements, such as the Helsinki accords, (2) ‘voluntary’ codes of conduct for transnational corporations, and (3) resolutions of international organizations, of which General Assembly resolutions are the leading example.”<sup>1197</sup> Soft law may be embodied in declarations, action plans, draft articles, and resolutions. In the field of international environmental law, the following soft law instruments are of particular importance:

**a. The Stockholm Declaration**

The Stockholm Declaration of the United Nations Conference on the Human Environment<sup>1198</sup> was approved in 1972 by 103 affirmative votes, and twelve abstentions, without a single negative vote.<sup>1199</sup> Despite the fact that the Declaration does not address war explicitly,<sup>1200</sup> it does not completely ignore environmental protection in times of armed conflicts. The Declaration sets out several principles and recommendations applicable to wartime activities. For instance, Principle 21 requires nations not to harm another nation’s environment. Principle 21 is absolute, and actually restates a general principle of international law applies both in peacetime and in times of armed

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<sup>1194</sup> The U.N. General Assembly adopted resolutions since its first session in 1946, which are not recommendations. Some of these resolutions are legally binding on member States according to the Charter. *See*, Sloan, *supra* note (1186) at 43. For more details on this issue, refer to “International Organizations’ Resolutions in Hard International Law” Section of this thesis.

<sup>1195</sup> Palmer, *supra* note (983) at 269.

<sup>1196</sup> Pollock & Jemison, *supra* note (1187) at 28.

<sup>1197</sup> Sloan, *supra* note (1186) at 106-107.

<sup>1198</sup> Stockholm Declaration, *supra* note (822).

<sup>1199</sup> *See* B. WESTON ET AL., BASIC DOCUMENTS IN INTERNATIONAL LAW AND WORLD ORDER 943 (2<sup>nd</sup> ed., 1990).

<sup>1200</sup> Simonds, *supra* note (969) at 192.

conflicts.<sup>1201</sup> Similarly, other Stockholm principles can and should apply in times of peace or armed conflict. Principle 7 obligates States to take all possible steps to prevent pollution of the seas by harmful substances, declaring that “States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.”<sup>1202</sup> In addition, Principle 22 requires States to cooperate in developing mechanisms to compensate victims of environmental damage caused by activities occurring within a particular State, which affect areas outside that State.<sup>1203</sup> Further, Principle 24 urges cooperation between nations to prevent, reduce, and eliminate adverse environmental effects resulting from international conditions.<sup>1204</sup> Finally, Principle 26 addresses environmental protection in terms of the use of the weapons of mass destruction, including nuclear weapons but stating that “the environment must be spared the effects of nuclear weapons and other means of mass destruction.”<sup>1205</sup>

**b. The Action Plan of the Stockholm Conference on the Human Environment (1972)**<sup>1206</sup>

To supplement the principles expressed in the Stockholm Declaration, the United Nations Conference on the Human Environment created an Action Plan of 109 recommendations to protect the environment. The Action Plan outlines procedures for States to implement the Stockholm Declaration. This Action Plan, which is considered soft law, addresses environmental assessment, environmental management, and supporting measures.

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<sup>1201</sup> Principle 21 is considered as a general principle of international law that has a binding character to all the contracting parties, contrary to the entire document which considered soft law. Therefore, Principle 21 have been discussed in Section “A. The Hard International Law” rather than this Section which deals with the Soft International Law.

<sup>1202</sup> Stockholm Declaration, *supra* note (822) Principle 7.

<sup>1203</sup> *Id.*, Principle 22.

<sup>1204</sup> *Id.*, Principle 24.

<sup>1205</sup> *Id.*, Principle 26.

<sup>1206</sup> *Id.*

Many of these recommendations urge the international community to prepare environmental impact assessments.<sup>1207</sup> Five of the recommendations rely on the “precautionary principle,” and “encourage countries to assess potential environmental impacts before initiating any activities.”<sup>1208</sup> Although these recommendations are not binding, the U.S. has agreed to them. The U.S. had earlier enacted the National Environmental Policy Act in 1969, which requires all federal agencies to anticipate the environmental consequences of their actions. Specifically, it requires agencies to prepare an environmental impact statement (EIS) before proceeding with any major federal action that might significantly impact the quality of the human environment.<sup>1209</sup> An EIS must set out adverse environmental effects the project will cause.<sup>1210</sup> It also must clarify all reasonable alternatives to the proposed action.<sup>1211</sup> Such requirements embedded in NEPA are also expressed in the recommendations of the Action Plan.

In 1985, when the European Community (EC) issued a directive requiring member States to adopt national Environmental Impact Assessments (EIA). By that time, France and Netherlands, in particular, had already adopted national EIA laws.<sup>1212</sup> In France, some 4000-5000 EIA's are prepared annually.<sup>1213</sup> In the

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<sup>1207</sup> *Id.*, Recommendations 3, 54, 61, 63, 74 (a)-(c), 102 (f), 103 (d).

<sup>1208</sup> Recommendation 61 of Stockholm Declaration states: “It is recommended that the Secretary General, in co-operation with governments concerned and the appropriate international agencies, provide that pilot studies be conducted in representative ecosystems of international significance to assess the environmental impact of alternative approaches to the survey, planning and development of resource projects.” The Recommendation 74 (a)-(c) states: “It is recommended that the Secretary General, drawing on the resources of the entire United Nations system, and with the active support of governments and appropriate scientific and other international bodies: (a) Increase the capability of the United Nations system to provide awareness and advance warning of deleterious effects of human health and well-being from manmade pollutants; (b) Provide this information in a form which is useful to policy makers at the national level; (c) Assist those governments which desire to incorporate these and other environmental factors into national planning processes.”

The Recommendation 102 (f) states: “It is recommended that the appropriate regional organization give full consideration to the following steps:...(f) Encouraging the training of personnel in the techniques of incorporating environmental considerations into developmental planning, and of identifying and analyzing the economic and social cost-benefit relationships of alternative approaches.”

Finally, recommendations 54 and 63 encourage countries to assess environmental impacts before commencing development project.

*Id.*, Recom. 54, 61, 63, 74 (a)-(c), 102 (f).

<sup>1209</sup> NEPA, § 102 (2) (C), 42 U.S.C. § 4332 (2) (C).

<sup>1210</sup> NEPA, § 102 (2) (C) (ii), 42 U.S.C. § 4332 (2) (C) (ii).

<sup>1211</sup> NEPA, § 102 (2) (C) (iii), 42 U.S.C. § 4332 (2) (C) (iii).

<sup>1212</sup> Nicholas A. Robinson, *EIA Abroad: The Comparative and Transnational Experience*, in ENVIRONMENTAL ANALYSIS: THE NEPA EXPERIENCE 679 (CRC Press, 1993).

Netherlands, the EIA law is annexed to the General Environmental Act (WABM) of 1979. It became effective in May 13, 1986.<sup>1214</sup> Those Specific laws reflect and reinforce customary international law rules, which were themselves reaffirmed by Principle 21 of the Stockholm Declaration that a State's activities shall not harm the environment of another nation.

In addition, recommendation 3 of the Action Plan encourages nations to consult their neighboring countries, if a project proposal might affect the environment of such countries.<sup>1215</sup> This recommendation is consistent with the concept of NEPA section 102 (2)(F), which recognizes the worldwide character of environmental problems, and supports programs designed to increase international cooperation in maintaining the quality of the human environment.<sup>1216</sup>

Moreover, recommendation 74 (c) encourages international cooperation to assist some governments, particularly those of developing countries, to promote environmental protections. Thus, it implicitly supports the extraterritorial application of national environmental laws, to help developing countries follow them as a model and adopt them into their national planning processes.

### c. The World Charter for Nature

The World Charter for Nature is a soft law instrument that was formulated by the IUCN<sup>1217</sup> and adopted by the U.N. General Assembly in 1982,<sup>1218</sup> after some

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<sup>1213</sup> *Id.*, at 686.

<sup>1214</sup> *Id.*, at 687.

<sup>1215</sup> Stockholm Declaration, *supra* note (822) Recommendation 3.

<sup>1216</sup> NEPA § 102 (2)(F), 42 U.S.C. § 4332 (2)(F).

<sup>1217</sup> The idea of the World Charter for Nature was suggested by the former President of Zaire General Mobutu Seso Seko to the IUCN's twelfth General Assembly in 1975. Former President Mobutu said: "[t]he seas, the oceans the upper atmosphere belong to the human community [...] One cannot freely overuse [such] international resources. People of good will [...] are looking to you for positive results from this Assembly [...] That is why, if I had any advice for you, I would suggest the establishment of a Charter of a Nature [...] Insofar as Zaire is concerned, we are ready to help you succeed [...] If we were asked to be a pilgrim for environmental protection, this we would be willing to be." However, the commentary on the Charter's provisions was by the International Council of Environmental Law (ICEL) under the leadership of the European Council of Environmental Law and reviewed by IUCN's members of the Commission on Environmental Policy, Law, and Administration. *See*, WOLFGANG E. BURHANNE & WILL A. IRWIN, THE WORLD CHARTER FOR NATURE 4 & 14 (Erich Schmidt Verlag, 1986) [hereinafter BURHANNE & IRWIN].

modifications from the IUCN proposal.<sup>1219</sup> The World Charter is not binding; however, it reflects a general international law principle and extends it to cover military activities in peacetime as well as in times of armed conflict.<sup>1220</sup> Principle 5 of the Charter declares that “nature shall be secured against degradation caused by warfare or other hostile activities.”<sup>1221</sup> Securing and maintaining the environment does not mean only a prohibition of military atrocities in times of armed conflicts, but in peacetime as well. Further, the Charter seeks to protect environmental interests prior to any military activity by the preparation of EIA, in order to disclose any environmental harm that might result from such activity. Principle 11 (a) states that “activities which might have an impact on nature shall be controlled, and the best available technologies that minimize significant risks to nature or other adverse effects shall be used; in particular: (a) Activities which are likely to cause irreversible damage to nature shall be avoided.”<sup>1222</sup> Additionally Principle 20 of the Charter prohibits military activities that cause damage to nature.<sup>1223</sup>

Significantly, Principle 21 (d) and (e) of the Charter reaffirm countries’ duty not to harm another nation’s environment, either by activities within their territories or under their control, which have impact in other countries.<sup>1224</sup> Therefore, military operations during warfare should be considered with consideration for the environment of other nations, especially neutral parties. For instance, the environmental effects of Gulf War II on neutral States, such as the Gulf Emirates, Iran, India and Pakistan, resulting from the oil pollution in Kuwait, amounted to a severe violation of Principle 21 of the Charter, as well as of Stockholm Declaration Principle 21.

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<sup>1218</sup> See G.A. Res. 37/7, U.N. GAOR, 37<sup>th</sup> Sess., Supp. No. 51, at 21, U.N. Doc. A/RES/37/7 [hereinafter The World Charter].

<sup>1219</sup> Schmitt, *supra* note (971) at 42.

<sup>1220</sup> Anthony Leibler, *Deliberate Wartime Environmental Damage: New Challenges for International Law*, 23 CAL. W. INT’L L. J. 67, 68 (1992) [hereinafter Leibler].

<sup>1221</sup> The World Charter, *supra* note (1218) Principle 5.

<sup>1222</sup> *Id.*, Principle 11 (a).

<sup>1223</sup> “Military activities damaging to nature shall be avoided.” *Id.*, Principle 20.

<sup>1224</sup> “Principle 21 of the World Charter provides that States shall “(d) Ensure that activities within their jurisdiction or control do not cause damage to the natural systems located within other states or in the areas beyond the limit of national jurisdiction. (e) Safeguard and conserve nature in areas beyond national jurisdiction.” *Id.*, Principle 21 (d), (e).

While some may argue that the World Charter for Nature is a soft law instrument, and not yet binding on belligerents, nevertheless the World Charter was adopted by a vote of 111 in favor to 1 against (the United States).<sup>1225</sup> The overwhelming support for the World Charter reflects, to some degree, its more binding nature. Further, according to some experts, the World Charter expresses a kind of general principle of law recognized by the civilized nations, rather than merely an aspiration.<sup>1226</sup> Finally, the preamble of the World Charter articulates “the common standards by which all human conduct affecting nature is to be guided and judged.”<sup>1227</sup> Since, warfare is the human conduct most destructive of nature and natural resources, it should be guided and governed by the standards set forth in the World Charter for Nature.

**d. The Rio Declaration**<sup>1228</sup>

On the occasion of the twentieth anniversary of the Stockholm Conference in 1992, the United Nations sponsored the “Earth Summit” in Rio de Janeiro, Brazil. The Earth Summit adopted the Rio Declaration on Environment and Development, the Climate Change Convention, the Declaration of “non-binding” Principles on Forest Conservation, the Convention on Biological Diversity, and Agenda 21.<sup>1229</sup>

The Rio Declaration represents a restatement and reaffirmation of the Stockholm Declaration. Principle 2 of the Rio Declaration iterates Principle 21 of the

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<sup>1225</sup> There were eighteen abstentions on the World Charter: Algeria, Argentina, Bolivia, Brazil, Chile, Columbia, Dominican Republic, Ecuador, Ghana, Guyana, Lebanon, Mexico, Paraguay, Peru, Philippines, Suriname, Trinidad and Tobago, Venezuela. Latter, Mexico had voted in favor of the Resolution. *See*, HARALD HOHMANN, BASIC DOCUMENTS OF INTERNATIONAL ENVIRONMENTAL LAW Vol. 1, 64 (Graham & Trotman, 1992) [hereinafter HOHMANN].

<sup>1226</sup> Simonds, *supra* note (969) at 180.

<sup>1227</sup> The World Charter, *supra* note (1218) pmbl.

<sup>1228</sup> Rio Declaration, *supra* note (683).

<sup>1229</sup> Since the foresaid Principles were expressly “non-binding”, it is evident that the States consider the Rio Declaration to be binding to a greater degree as soft law instrument, which contains and restates several general principles of international law.



Stockholm Declaration,<sup>1230</sup> reflecting a general principle of international law that is binding on all States.

The Earth Summit in 1992 took place in a climate influenced by the environmental effects of the Gulf War II and its decisions reflect that climate. Thus, the Rio Declaration directly addresses environmental protection in times of armed conflict. For example, Principle 24 states that “[w]arfare 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>1231</sup>

In light of warfare’s destructive consequences for sustainable development, the Rio Declaration invokes the application of international conventions, customary law, and general principles of law relevant to environmental protection in times of armed conflict. The Declaration emphasizes the duty to respect fully the international and regional environmental law instruments that were examined in the “Hard International Law” Section. Moreover, Principle 24 goes beyond that and requires nations not only to protect the environment in times of armed conflict, which may be accomplished through negative action by avoiding unnecessary harm to the environment, but also encourages positive environmental action as well. For instance, nations are urged to ensure that their armed forces take care to provide a suitable climate for endangered species, or wildlife. They should also care for historical buildings and cultural monuments. Thus, although it is aspirational rather than binding Principle 24 seeks to engage nations in positive environmental activities.

Principle 13 of the Rio Declaration states that “[s]tates shall develop national law regarding liability and compensation for the victims of pollution and other environmental damages. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within

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<sup>1230</sup> Principle 2 of Rio Declaration is considered as a general principle of international law, contrary to the whole document, therefore Principle 2 have been examined earlier in Section “A. The Hard International Law.”

<sup>1231</sup> Rio Declaration, *supra* note (683) Principle 24.

their jurisdiction or control to areas beyond their jurisdiction.”<sup>1232</sup> This provision requires States to develop their national and international laws for liability and compensation, because no such body of law yet exists. If this provision were followed, States with military bases outside their territory would have responsibility for cleaning up contaminated military sites abroad. Thus, for instance, U.S. military personnel would be required to follow their stringent national environmental statutes anywhere that they have bases, in order to assure the protection of the environment. Otherwise, the U.S. international responsibility for environmental injury may not be effectively recognized. Such a procedure would also be a recognition of the principle that global environment is a common concern.

Finally, Principle 16 of the Rio Declaration states that “[n]ational authorities should endeavor to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution [...]”<sup>1233</sup> This principle should apply equally to wartime and peacetime environmental damage.<sup>1234</sup> In fact, it is easy to apply such principle to peacetime activities. However, applying it to wartime activities is the real dilemma, because countries seldom admit responsibility for environmental damage after the war, and it is very difficult under international law to interfere with any State’s own legal definition of liability. Nevertheless, under Principle 16, after any war the invader armed forces should bear the cost of cleaning up the environment. And, in fact, after the Gulf War II, Iraq was held liable by the U.N. for all the environmental damage that affected Kuwait and neighboring countries.

#### e. International Organizations’ Resolutions

Some decisions of international organizations may be considered hard law, such as the binding resolutions discussed earlier in Section A. However, international organizations may adopt resolutions and recommendations that are considered soft law and yet carry significant weight. For example, the U.N. General Assembly resolutions,

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<sup>1232</sup> *Id.*, Principle 13.

<sup>1233</sup> *Id.*, Principle 16.

<sup>1234</sup> Schwabach, *supra* note (477) at 133.

while not themselves legally binding (except those concerning the internal operations of the U.N.),<sup>1235</sup> may constitute evidence of customary international law, particularly if they are adopted unanimously, if they contain legally binding terms, or if the document has been incorporated into other instruments and national laws.<sup>1236</sup> Judge Hermann Mosler asserted such a view by stating that:

After quite a long fierce dispute it now seems that the extreme views, on the one hand that resolutions have no binding effect at all and on the other hand that they have a legislative effect, have been abandoned and that a generally accepted view is emerging. There can be no single answer to the question-resolutions must be distinguished according to various factors, such as the intention of the General Assembly, the content of the principles proclaimed and the majority in favour of their adoption.<sup>1237</sup>

Nonetheless, some of the General Assembly's resolutions are mandatory on member States as authorized by the Charter. Others have an operative role and create obligations for contracting parties.<sup>1238</sup> Professor Oscar Schachter pointed out that in the last few years, the United Nations' practices witnessed binding character of some of the General Assembly resolutions. "Typically, the [General Assembly...] submit recommendations to [g]overnments, but an examination of such recommendation reveals that many of them are accompanied by assertions of legal rights and obligations under the Charter."<sup>1239</sup> Such assertions are binding and characterize the General Assembly resolutions to be binding too.<sup>1240</sup> These resolutions were overwhelming accepted among States.

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<sup>1235</sup> These resolutions concern mainly budgetary and internal organizational matters. *See*, Sloan, *supra* note (1186) at 139.

<sup>1236</sup> *See* Western Sahara Case, 1975 I.C.J. 12(Oct. 16); D.H.N. Johnson, *The Effects of Resolutions of the General Assembly of the United Nations* 32 BRIT. Y.B. INT'L L. 97 (1955).

<sup>1237</sup> HERMANN MOSLER, *THE INTERNATIONAL SOCIETY AS A LEGAL COMMUNITY* 88-89 (Sijthoff & Noordhoff, 1980.)

<sup>1238</sup> Sloan, *supra* note (1186) at 43.

<sup>1239</sup> Oscar Schachter, *The Relation of Law, Politics, and Action in the United Nations* 109 RECUEIL DES COURS 165, 185 (1963-II).

<sup>1240</sup> *Id.*, at 185-86.

It is clear that some General Assembly's resolutions are more binding than others. The can be said of resolutions adopted by other international organizations. For example, the International Atomic Energy Agency (IAEA) is an intergovernmental organization that deals directly with the environmental effects of nuclear warfare. Its General Conference has on several occasions adopted resolutions condemning any possible attacks on nuclear plants, which would certainly harm the environment for decades to come.<sup>1241</sup> For example, Resolution 407/1983 of the General Conference

1. Declares that all armed attacks against nuclear installations devoted to peaceful purposes should be explicitly prohibited; and
2. Urges all [m]ember States to make, individually and through competent international organs, every possible effort for the adoption of binding international rules prohibiting armed attacks against any nuclear installation devoted to peaceful purposes[.]<sup>1242</sup>

Additionally, Resolution 425/1984

2. Further considers that any threat to attack and destroy nuclear facilities in Iraq and in other countries constitutes a violation of the Charter of the United Nations and of the Statute of the Agency[...], and
7. Reaffirms the right of all nations in exercising their right to acquire and develop nuclear technology for peaceful purposes and for their development programme.<sup>1243</sup>

Finally, Resolution 444/1985

2. Considers that any armed attack on and threat against nuclear facilities devoted to peaceful purposes constitute a violation of the principles of the United Nations Charter, international law, and the Statute of the Agency[...]
4. Affirms the reading of the international Atomic Energy Agency to assist competent international organs, if they so request, in any technical and safeguard aspects of the matter[.]<sup>1244</sup>

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<sup>1241</sup> GC (XXVII)/RES/407, Oct. 14, 1983; GC (XXVIII)/RES/425, Sept. 28, 1984; GC (XXIX)/RES/444 Sept. 27, 1985.

<sup>1242</sup> *Id.*, GC Resolution 407/1983, paras. 1 & 2.

<sup>1243</sup> *Id.*, GC Resolution 425/1984, paras. 2 & 7.

Although these Resolutions are not legally binding instruments of hard law, the U.N. General Assembly gave them legal force<sup>1245</sup> by declaring that such attacks were the legal basis for an immediate Security Council intervention.<sup>1246</sup>

Similarly, the twenty-seventh session of the Islamic Conference of Foreign Ministers<sup>1247</sup> held in Kuala Lumpur, Malaysia, June 27-30, 2000, adopted the non-binding, but important, Resolution 40/27-P on the Situation in Regions of the Islamic World Affected by Environmental Disasters, in Particular in the Basin of the Aral Sea and the Region of Semipalatinsk.<sup>1248</sup> The Resolution aims at declaring the Aral Sea and the Semipalatinsk a zones of global ecological catastrophe, in view of the loss of second largest freshwater lake in the world and its impact on the climate of Northern Hemisphere and Asia. The Resolution also expresses support for efforts to rehabilitate the Aral Sea region. Such Resolution is not binding, but it still has a moral effect on the concerned parties, since it was adopted unanimously.

Further, specialized non-governmental organizations are capable of formulating and proposing soft law rules. For instance, the International Law Association adopted a resolution, in 1976, to prohibit the destruction of water installations containing dangerous materials, such as dams and dikes, when such destruction may involve a grave harm to the civilian population or substantial damage to the basic ecological balance.<sup>1249</sup> Despite the fact that this resolution is not binding, it addresses international concerns about the environment in times of armed conflicts. Specifically, it recognizes that no international instrument protects facilities that contain dangerous materials other than radioactive materials or water,<sup>1250</sup> and seeks to establish that Kind of protection.

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<sup>1244</sup> *Id.*, GC Resolution 444/1985, paras. 2 & 4.

<sup>1245</sup> Simonds, *supra* note (969) at 180.

<sup>1246</sup> See G.A. Res. 45/58J, U.N. GAOR, 45<sup>th</sup> Sess., Supp. No. 48, U.N. Doc. A/45/49 (1991).

<sup>1247</sup> Session of Islam and Globalization.

<sup>1248</sup> Resolution on the Situation in Regions of the Islamic World Affected by Environmental Disasters, in Particular in the Basin of the Aral Sea and the Region of Semipalatinsk, Res. 40/27-P, 27<sup>th</sup> Sess. Foreign Ministers of the OIC, June 27-30, 2000 [hereinafter Resolution on Environmental Disasters in Aral Sea].

<sup>1249</sup> Madrid Resolution on the Protection of Water Resources and Water Installations in Times of Armed Conflict, art. 4, INTERNATIONAL LAW ASSOCIATION, REPORT OF THE FIFTY-SEVENTH CONFERENCE, Madrid, 1976, at 237-39.

<sup>1250</sup> Paul C. Szasz, *Study of and Proposals for Improvements to Existing Legal Instrument Relating to the Environment and Armed Conflicts* 15 (Unpublished Manuscript) presented at THE CONFERENCE ON

### ***D- Comparative Environmental Law***

This section will examine examples of environmental laws of different nations as they apply to military operations during times of armed conflict, and, during peacetime, military used for civil defense in times of natural disasters. Some comprehensive environmental rules, while formulated to be applied to civil activities, can be extended to include military activities in some nations. Other nations still exclude the military from compliance with environmental regulations, as we will discuss in the next few pages. Examples will be drawn from the laws of Australia, Austria, Canada, India, Israel, Korea, Netherlands, Nigeria, Russia Singapore, Ukraine, and the United Kingdom.

In addition, it is necessary to refer to the European Union (EU) directives which are then to be implemented by each State in the EU because the directives are simpler than the laws of each State. The directives will show the customary practices of the EU States, as a leading region of the world.

For the most part, in the United States and some of the EU States, environmental laws broadly apply to every institution including the military. However, in developing States environmental laws often apply to civilians only. In many developing countries, the military is viewed as a necessary support for the State, and therefore civil authorities are reluctant to impose restrictions on military activities. It is often true that the larger the economy, the less power the military has, because the power shifts from people who have guns to people who have money. And so, in Western Europe, North America and Canada, the military is more likely to be subject to environmental and other regulations.

In States with a strong civilian environmental law system and a strong economy, the military is subject to most environmental laws at least to the extent military necessity does not override the environmental obligations. For example, in the case of the Gulf War II, the U.S. and allies had military officers reviewing whether military operations would endanger important cultural or natural heritage sites, and the U.S. government formulated a “no-fire target list” of those sites.<sup>1251</sup> They would actually stop the bombing if they thought it would damage such sites. So, there is an example, even in an active war, of restraint on the military in the name of environmental and cultural protection.

India imposes similar legal restraints on its military. The Indian Territorial Army (TA), charged with promoting and sustaining peace, consists of twenty-seven departmental units among which are three ecological brigades called Eco-Task Forces.<sup>1252</sup> The Eco-Task Forces upgrade depleted areas in Rajasthan, Jammu, and Kashmir in collaboration with the Indian Ministry of Environment and Forests.<sup>1253</sup> Thus, here is another example of cooperation between the defense and the environmental national authorities to promote respect for, and protection of, environmental resources in peacetime and in times of armed conflicts.

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<sup>1251</sup> Conduct of the Persian Gulf War, Final Report to Congress, Conflict Supplemental Authorization and Personnel Benefits Act of 1991, Apr. 1992, Publ. L. No. 102-25, 611-612.

<sup>1252</sup> Indian Armed Forces, Oct. 14, 2001, available at <<http://www.indianarmedforces.com/defence/ta.htm>>, last visit (Mar. 6, 2002).

This concept should be adopted by other nations, specifically Islamic countries, since such concept was practiced during the period of prophet Mohammed, not only to protect nature but to protect civilians as well, when Muslim armies included an officer, muhtasib, who had the specific duty to insure that “[t]rees are not burnt, nor unjustifiably pulled out and that women, children, the elderly and unoffending priests or monks should not be harmed. He also ascertains that water and medicine are given to the prisoners of war.”<sup>1254</sup>

However, the world abounds in examples of military operations conducted without regard for environmental concerns. Even though the Red Cross and Red Crescent go on to battlefields, they are very weak. However, this is really courageous that these people going to such places where no one respects them. For instance, in April 2001, six Red Cross nurses and aid workers have been shot to death in northeast Congo while they were on a routine trip.<sup>1255</sup> They were four Congolese nationals, one Swiss and one Colombian. The killings occurred in Ituri province, which is under the Congolese Liberation Front control.<sup>1256</sup> It shows that the kinds of people that are committing such crimes have no respect for the same rules that the army has respect for. In my view, the only way we can help civil wars is to train civilian population, if civilian population believes in nature protection, then they will prevent the rebels from destroying their parks, or streams and polluting their rivers. In the civil war in Colombia, South America, even some of the belligerents who have taken over parts of the country and establish civil governmental controls have been reported to set up rules to protect fishing.<sup>1257</sup> So they are fighting a war, but once they have control of the territory then they are managing conservation questions, and in that case people understand that without managing our fishing they will have no more fish, why should they win the civil war if they have no more environment.

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<sup>1253</sup> *Id.*

<sup>1254</sup> Mawil Y. Izzi Dein, *Islamic Ethics and the Environment*, in ISLAM AND ECOLOGY, 34 (FAZLUN M. KHALID & JOANNE O'BRIEN ET AL. EDS., 1992); Laurent R. Hourcle, *Environmental Law of War*, 25 VT. L. REV. 653, 660 fn. 34 (2001)[hereinafter Hourcle].

<sup>1255</sup> CNN News, *Aid Workers Killed in Congo*, Apr. 27, 2001, available at <<http://www.cnn.com/2001/WORLD/africa/04/27/congo.deaths/index.html>>, (last visit May 24, 2001).

<sup>1256</sup> *Id.*

<sup>1257</sup> Information conveyed by the Minister of the Environment of Columbia, Juan Myar, to Prof. Nicholas A. Robinson, in 2000. Interview by author with Prof. Robinson.



Nations should take care to protect their environment, even during the chaos and destruction of armed conflicts. Education must play an important role in accomplishing that goal. What IUCN does in having many small NGO's doing their public education and shaping the minds of the people to respect nature so that when the State breaks down or the government collapses, the values of the people are left. In the values of the people the family is very important, people take care of their own family first. People love nature too and this is just natural. So that if they are educated about ecology then they are more apt to not pollute the water if they must drink it. And the more we can educate people to respect nature, then during the absence of government, they will act to protect nature in the same way they will act to protect their children.

It is in the nature of armed conflicts that the people see any one who is not themselves as the enemy. The same can be said about the environment. There is a risk that people will view the territory of the enemy as the enemy not as nature. For example, in the Gulf War II, Saddam Hussein saw the ecology of Kuwait as part of the enemy, and thus had no hesitation in firing the oil wells and destroyed so much of the environment. This is a very old idea: in the Third Punic War of 149-146 B.C., after the Romans conquered Carthage, they salted the land to sterilize its soil forever,<sup>1258</sup> as though the land itself was an enemy.

The U.S. made the same mistake in North Vietnam when they used napalm<sup>1259</sup> to contaminate areas and destroy vast forest lands,<sup>1260</sup> with consequences that continue today. The U.S. military at that time viewed the land of the enemy as part of the enemy, and therefore felt free to destroy it. In fact, the land belongs to nature, and natural systems everywhere are linked to each other. Destruction in one place has consequences elsewhere.

On the other hand, some nations exercise little control over their own military during armed conflicts. In those cases, only international force can interfere and enforce international law. Even if the military is exempt from national environmental law,

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<sup>1258</sup> WARFARE IN A FRAGILE WORLD, *supra* note (402) at 14; Schwabach, *supra* note (477) at 121.

<sup>1259</sup> Nigel White, *The Law of War Crimes: National and International Approach*, 22 MEL. UNIV. L. REV. 230, 333 (1998).

<sup>1260</sup> Schwabach, *supra* note (477) at 126.

international law provides for the same duty, therefore, international force can be used for environmental protection.

This Section will address the comparative environmental rules in the following contexts: a. Comprehensive Environmental Rules Relevant to Military Activities, b. environmental protection in general, c. environmental pollution, d. fauna and flora protection, e. air pollution control, f. water resources conservation, g. soil pollution, h. hazardous wastes, and i. citizen suits.

## **1. Comprehensive Environmental Rules Relevant to Military Activities**

Generally, environmental law rules apply to all governmental sectors. As a rule, the military, as one of the sectors that cause environmental degradation, is not exempted unless provided so by a specific law. For example, under the Israeli Civil Wrongs Law of 1952, the State is “a corporation for the purposes of defining civil liability.”<sup>1261</sup> However, it provides that “the State is not liable civilly for defamation, acts done during an army war operation, or injuries or death of persons serving in the army.”<sup>1262</sup> Accordingly, the environmental damage caused by the Army during war activities cannot result in governmental liability.

Another example is found in Singapore, where the Arms and Explosives Act<sup>1263</sup> and its rules regulate the flow of arms and explosives. It provides that licenses are required for the import, export, possession, manufacture and sale of any guns, arms or explosives or poisonous or noxious gas.<sup>1264</sup> This requirement permits the State to control the environmental effects of arms and explosives.

However, the Arms and Explosives Act specifically exempts Singapore armed forces from its jurisdiction. Article 3 (1)(c) states that: “[n]othing in this Act shall apply to any of the following persons or their equipment while in the course of their duty or the employment: (i) members of the Singapore Armed Forces and of any visiting forces

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<sup>1261</sup> Israeli Civil Wrongs Law, 1952, available at [http://www1.huji.ac.il/www\\_teva\\_law/b6.html](http://www1.huji.ac.il/www_teva_law/b6.html), (last visit February 24, 2001).

<sup>1262</sup> *Id.*

<sup>1263</sup> Lye Lin Heng, *Environmental Law in Singapore*, in COMPARATIVE ENVIRONMENTAL LAW SIN-28-SIN-30 (NICHOLAS A. ROBINSON ED., 1998) [hereinafter Heng, *Environmental Law*].

<sup>1264</sup> *Id.*, at SIN-30.

lawfully present in Singapore; (ii) members of any naval, military, or air volunteer forces established under any written law; (iii) members of any additional force established under any written law providing for compulsory service in the defense of Singapore.” Thus, the Singaporean armed forces are exempted from the Arms and Explosives Act despite their extension use of arms, explosives, and poisonous or noxious gases. Thus, in order to provide real environmental protection, the Arms and Explosives Act should include a provision to cover even military use of such materials.

In the absence of such exclusions, the military must observe and comply with all environmental laws. Where the military is subject to such regulations, military participation in the work of national environmental agencies would facilitate cooperation between the environmentalists and military authorities, and would encourage environmental awareness among military officials. For example, in Nigeria, the Commander-in-Chief of the Armed Forces is ex officio a member of the Federal Environmental Protection Agency.<sup>1265</sup> One of the agency’s goals is to “advise the Federal Military Government on national policies and priorities and on scientific and technological activities affecting the environment.”<sup>1266</sup> According to this provision, the agency can advise the government about the environmental consequences of military activities.

A different approach has been taken in Ukraine, where the environmental impact assessment of proposed activities is regulated by a State ecological expertiza system,<sup>1267</sup> the existing Ukrainian system of environmental review.<sup>1268</sup> The 1991 Law on Environmental Protection drew the framework for this system.<sup>1269</sup> Article 9 of that Law provides for the right of Ukrainian citizens to participate in decision-making by commenting on draft legislation relevant to the siting construction, or modification of objects that might seriously harm the environment.<sup>1270</sup> Moreover, EIA was clearly defined by the 1995 Law on Ecological Experiza, which declares that State ecological

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<sup>1265</sup> Pace Law School Virtual Library, The Federal Environmental Protection Agency Act, art. 2, 1988, No. 58, available at <<http://www.law.pace.edu/env/nigerianlaw/epa/envpa2.html>>, (last visit February 23, 2001).

<sup>1266</sup> *Id.*, art. 4 (a).

<sup>1267</sup> Julie Teel, *International Environmental Impact Assessment: A Case Study in Implementation*, 31 ENV’T L. REP. 10291, 10292 (2001) [hereinafter Teel].

<sup>1268</sup> *Id.*

<sup>1269</sup> Law of Ukraine on Environmental Protection, No. 1264, June 25, 1991, arts. 26-30.

expertizas are obligatory for “activities and facilities posing an increased ecological hazard,” as listed by the Cabinet of Ministers of Ukraine.<sup>1271</sup> Additionally, Article 29 of the Law on the Environmental Protection, prohibits implementation of any project without the approval of the State ecological expertiza.

## 2. Environmental Protection in General

Environmental protection in general concerns all environmental elements without focusing on a specific one, such as water, air, soil, or fauna and flora. The environmental laws of many nations approach environmental questions from that general viewpoint.

For example, Article 2 (2) of the Korean Natural Environment Preservation Act provides that “[t]he natural ecosystem shall be protected from any artificial damage and pollution, and any damaged natural system shall be restored so as to perform its original function[.]”<sup>1272</sup> This provision contains both precautionary and remedial measures to protect the natural ecosystem. The precautionary goal is to protect the natural ecosystem from artificial damage and pollution. The remedial measures are applicable when the natural ecosystem has already been damaged. In this case, the Act requires that the natural system shall be restored to perform its original function. Unfortunately, this provision does not address other kinds of damage, such as the death of a person or the ruin of a cultural monument.

Canadian law also contains both precautionary and remedial measures. In cases of “unauthorized release or reasonable likelihood of unauthorized release in the environment of a listed toxic substance, [the Canadian Environmental Protection Act (CEPA) obliges] any person who owns or has charge of the substance released, or who causes or contributes to the release or likelihood of the release [...] to report the release, to take all reasonable emergency measures to prevent the release, to remedy or mitigate any danger to the environment or to human life or health, and to notify any person who may be

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<sup>1270</sup> Teel, *supra* note (1267) at 10293.

<sup>1271</sup> Cabinet of Ministers of Ukraine, Resolution No. 554 on List of Activities and Objects which Constitute an Increased Ecological Hazard (July 27, 1995).

<sup>1272</sup> Jiwhan So, *Environmental Law of Korea*, in COMPARATIVE ENVIRONMENTAL LAW Kor-160 (NICHOLAS A. ROBINSON ED., September 2000) [hereinafter So].

adversely affected.”<sup>1273</sup> As a precautionary measure, the Statute requires notice of the incident and requires the taking of all reasonable measures to prevent the release. The remedial measure is to remedy and mitigate any danger to the environment or to human life or health.

Some other national laws go beyond these kinds of measures. For instance, the Israeli Act of Prevention of Environmental Nuisance of 1992, besides the precautionary measure of “refrain[ing] from causing or likely to cause the environmental nuisance, or to desist from the act,”<sup>1274</sup> and the remedial measure of “repair[ing] damage or return[ing] the situation to the state existing prior to the environmental nuisance,”<sup>1275</sup> requires person causing the nuisance to “do everything necessary to prevent the recurrence of the environmental nuisance.”<sup>1276</sup> The statute aims not only to prevent the occurrence of environmental damage and remedy its effects, but also to avoid any recurrence. Although the law is thus quite comprehensive in its approach, it apparently does not apply to military operations. During the ongoing Israeli-Palestinian conflict, Israeli armed forces have caused significant environmental damages without incurring liability under that statute.

Generally, national environmental laws are applicable to private persons as well as public agents, except in the cases of explicit exclusion. Article 2 of the Korean Basic Environmental Policy Act provides that “[t]he fundamental idea is to have [not only the citizens, but] the State, local governments [...] make efforts to maintain and create the environment in a better state[.]”<sup>1277</sup> Similarly, Article 24 of the Korean Environmental Law addresses not only the citizens but the State too when provides that “[t]he State and citizens shall make efforts so that the order and balance of the nature are maintained and preserved [...]”<sup>1278</sup> Basically, all Korean environmental laws apply to the Korean military as an arm of the government. However, the military has a special status in

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<sup>1273</sup> Francis J. F. Handy & Douglas T. Hamilton, *Environmental Law of Canada*, in *COMPARATIVE ENVIRONMENTAL LAW* 15 (NICHOLAS A. ROBINSON ED., September 1996) [hereinafter Handy & Hamilton].

<sup>1274</sup> Israeli Act of Prevention of Environmental Nuisance, 1992, art. 2 (1), available at <[wysiwyg://36/http://www1.huji.ac.il/www\\_teva\\_law/b12.html](http://www1.huji.ac.il/www_teva_law/b12.html)>, (last visit February 24, 2001) [hereinafter The Israeli Act of Prevention of Environmental Nuisance].

<sup>1275</sup> *Id.*, art. 2 (2).

<sup>1276</sup> *Id.*, art. 2 (3).

<sup>1277</sup> So, *Environmental Law*, *supra* note (1272) at KOR-44.

<sup>1278</sup> *Id.*, at KOR-49.

environmental law. For example, the Korean military is exempted from EIA requirements. And most of the Korean military data are restricted from public access under the Administrative Information Disclosure Act.<sup>1279</sup> Moreover, Korean frontier military bases are not subject to regular zoning regulations, including environmental administration regulations, even though military bases can cause serious environmental degradation to the surrounding soil and water resources from oil and other contaminants.<sup>1280</sup>

In contrast, some Russian environmental regulations do apply to the military. On December 19, 1991, Russia adopted the comprehensive law On Environmental Protection, which provides for various mechanisms including standards-setting, permitting, and EIA requirements. The Russian military are obliged to obtain permits for emission and other environmental impacts, just like other governmental organizations. Their planned activities are subject to review by a commission of ecological experts,<sup>1281</sup> under the law On Ecological Expertise of 1995,<sup>1282</sup> just as the activities of other governmental bodies.

### **3. Environmental Pollution**

Environmental pollution can be caused by a wide variety of pollutants. Therefore some national laws use general formulations to control all kind of pollutants. In the Netherlands, “Royal Decrees can limit or restrict the manufacture, import, application, availability, storage, trading, transportation, export, and disposal of substances and products if there is a reasonable suspicion that there are undesirable effects for humans or the environment.”<sup>1283</sup> This provision uses the general term “substances and products” to cover any source of threat to the health and the environment. In emergency cases, where the environment may be extremely damaged before a Royal Decree can be issued, the

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<sup>1279</sup> The Korean Administrative Information Disclosure Act is similar to the U.S. Freedom of Information Act (FOIA).

<sup>1280</sup> Information given to the author by Mr. Byung-Chun So, May 3, 2001, Mr. Byung-Chun is affiliated with Han Kook University of Foreign Studies, Seoul, Korea.

<sup>1281</sup> The Federal Law on Protection of the Environment (No. 7-F2), *supra* note (960).

<sup>1282</sup> Information given to the author by Mrs. Irina Krasnova, May 22, 2001, Mrs. Irina is a senior lecturer in environmental law at the Moscow Juridical Institute [hereinafter Krasnova].

provision vests in the Minister of Housing, Zoning and the Environment the power to “issue such limitations or restrictions by means of ministerial decrees.”<sup>1284</sup> The statute does not specifically exempt military activities from the scope of its effect.

Admittedly, all kinds of pollutants can harm the environment. However, environmental pollution from hazardous substances, particularly those generated by the military, such as nuclear weapons, chemical and bacteriological agents, present an especially serious environmental threat. Some countries that have nuclear arsenals have adopted rules that deal with the environmental safety of radioactive substances in accordance with IAEA obligations.

For example, Article 9 of the Korean environmental law requires the government to “take proper measures as to any environmental pollution by any radioactive substance and prevention thereof.”<sup>1285</sup> Although that Article refers to pollution “by any radioactive substance,” the military, a major generator of such substances, is not subject to environmental regulations. Moreover, the Article does not make clear what measures might be “proper.” Thus, the law appears to have a quite limited effectiveness.

Singapore has taken a different approach, by incorporating scientific expertise in its system. Singapore established a “Radiation Protection Inspectorate”(RPI), under the Department of Scientific Services,<sup>1286</sup> with responsibility for establishing guidelines for the management and disposal of radioactive waste.<sup>1287</sup> Despite the importance of the RPI’s works function, its competence is limited to radioactive wastes from laboratories and hospitals. Military radioactive wastes are excluded from its competence.

Furthermore, another hazardous substances that cause serious environmental pollution are the chemicals that often used by armed forces. Controlling activities that deal with chemicals vary from one national system to another. Article 21 of the Korean environmental law requires “[f]or the purpose of preventing any environmental pollution by any chemical substance and danger and injury to the health, the government [is

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<sup>1283</sup> Huug H. Luigies, *Environmental Law of the Netherlands*, in COMPARATIVE ENVIRONMENTAL LAW 35 (NICHOLAS A. ROBINSON ED., 1996) [hereinafter Luigies].

<sup>1284</sup> *Id.*

<sup>1285</sup> So, *Environmental Law*, *supra* note (1272) at KOR-46.

<sup>1286</sup> Heng, *Environmental Law*, *supra* note (1263) at SIN-28.

<sup>1287</sup> *Id.*

required to] work out measures to control properly harmful chemical substances.”<sup>1288</sup>

This provision did not indicate what are the necessary measures, and left to the government a discretionary power to work them out. This discretionary power may exclude some governmental facilities, such as military, from the chemical substances control measures.

Canada’s approach to regulation of environmental pollution relies heavily on disclosure of information about hazardous substances. For instance, Subsection 4(6) of the Canadian Environmental Contaminants Act<sup>1289</sup> requires that information be provided to the Federal Minister of the Environment by any person who manufactures or imports a chemical compound in excess of 500 kg during a calendar year for the first time.<sup>1290</sup> That information includes “a. [t]he date of manufacturing or importing; b. [t]he name of the compound; c. [t]he quantity manufactured or imported during that year; and d. [a]ny information in his possession respecting any danger to human health or the environment posed by the compound.”<sup>1291</sup> This provision details the required information to be delivered, including any related information respecting any danger to human health or the environment. This provision also specifically addresses information needed to prevent or remediate damage within and beyond the national jurisdiction, if it pose a danger to other countries. However, limiting the applicability of this provision to only manufacturers and importers of chemical compound in excess of 500 kg ignores the environmental effects that can be caused by smaller amounts. On the other hand, the provision does apply to the military’s handling of hazardous materials.

#### **4. Fauna and Flora Protection**

Fauna and flora are often damaged by military activities. Some national laws offer general protection to this category, including protection from the effects of military activities.

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<sup>1288</sup> So, *Environmental Law*, *supra* note (1272) at KOR-48.

<sup>1289</sup> The Canadian Environmental Contaminants Act is like the U.S. Toxic Substances Control Act (TSCA).

<sup>1290</sup> Handy & Hamilton, *supra* note (1273) at 17.

<sup>1291</sup> *Id.*



The Environmental Law of Korea states in Article 25 (3) that “[t]he wild animals and plants shall be protected and their species shall be preserved.”<sup>1292</sup> This Article offers general protection for both animals and plants from any kind of threat, present or future. The environmental law of Korea does not cover military activities nor it does exempt them. However, as a rule, since Korea is one of the developing countries, its armed forces are likely to be exempt from environmental laws and regulations. As a consequence, that law does not cover the Korean military.

In Singapore, the Wild Animals and Birds Act prohibits certain activities, including the killing, taking or keeping of any wild animal or bird without license.<sup>1293</sup> Licensing an activity is a method of controlling its effect on the environment. Therefore, under the Act, the government can prevent activities that results in the “willful[] or negligent[] [destr[uction], damage or defac[ing of] any object of zoological, botanical, geological, ethnological, scientific or aesthetic interest.”<sup>1294</sup> Furthermore, the Act “sets aside special areas as bird sanctuaries.”<sup>1295</sup> Since there is no specific provision in the Wild Animals and Birds Act to exempt the military, it would appear to apply to military activities as well.<sup>1296</sup> Additionally, in Singapore, according to the Military Maneuvers Act, military exercises must not be conducted in nature reserves and catchment areas. Article 7 of the Military Maneuvers Act provides that: “[n]o military maneuvers shall be executed and no military encampment made on any land forming part of the catchment area in connection with the impounding reservoir of any public waterworks or any land set apart for the collection of water for the supply of any public waterworks.” That provision provides significant protection to the nature reserves and protected areas from even peacetime military operations. Moreover, Article 11 (1) of the Act provides for rules to secure the safety and welfare of the public during military or air force exercises by making specific rules. Parliament is empowered to make such rules when any “public

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<sup>1292</sup> So, *Environmental Law*, *supra* note (1272) at KOR-49.

<sup>1293</sup> Heng, *Environmental Law*, *supra* note (1263) at SIN-38.

<sup>1294</sup> *Id.*, at SIN-39.

<sup>1295</sup> *Id.*, at SIN-38.

<sup>1296</sup> Information given to the author by Professor Lye-Lin Heng, May 16, 2001, Professor Lye-Lin Heng is affiliated with the Law Faculty of the National University of Singapore.

right”<sup>1297</sup> is likely to be affected by such exercises.<sup>1298</sup> Thus, by application Parliament can act to protect natural resources threatened by military operations.

Other national authorities have power that goes far beyond the power to license. For example, in Australia, the South Australian National Parks and Wildlife Act of 1972,<sup>1299</sup> gives the minister the right to “create sanctuaries in order to protect animals and plants he deems worthy of protection.”<sup>1300</sup> Unlike the Singaporean Wild Animals and Birds Act, that considers the protection of animal life only, the South Australian National Parks and Wild Life Act protects both animals and plants.

Nevertheless, as a general rule, in Australia, State laws, including environmental laws, do not apply to the federal military.<sup>1301</sup> The Commonwealth assesses the environmental impact of projects under the federal Environment Protection and Biodiversity Conservation Act of 1999.<sup>1302</sup>

## 5. Air Pollution Control

Air can be polluted by both routine and accidental activities of civilians and military personnel. Many national laws seek to preserve air quality by controlling harmful activities, including those of armed forces.

In Korea, for instance, an “Atmospheric Pollution Warning” can be issued whenever the “atmospheric pollution exceeds the environmental standards [prescribed by the same law], and might cause any grave danger and injury to the health and property of residents or the breeding and growth of the animals and plants.”<sup>1303</sup> Only civilian health

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<sup>1297</sup> According to Article 11 (4) of the Military Maneuver Act, “public right” means: “any right of navigation, anchoring, or fishing.”

<sup>1298</sup> The Singaporean Military Maneuvers Act, Cap. 182, 1985 Rev. Ed. (1963), Article 11 (4).

<sup>1299</sup> Mindy L. Jayne, *Environmental Law of South Australia*, in COMPARATIVE ENVIRONMENTAL LAW 14-SAU-16 (NICHOLAS A. ROBINSON ED., 2000).

<sup>1300</sup> *Id.*, at SAU-16.

<sup>1301</sup> Information given to the author by Mr. John Scanlon, on May 24, 2001, Mr. Scanlon is freelance consultant and a strategic advisor. He was the Chief Executive of the Australian Department for Environment, Heritage and Aboriginal Affairs from 1997-2000.

<sup>1302</sup> *Id.*

<sup>1303</sup> So, *Environmental Law*, *supra* note (1272) at KOR-57.

and property is addressed by this provision; the Atmospheric Pollution Warning is not applicable to the Korean military.

In Russia, the law On Air Protection, which was adopted in 1999, provides for establishing standards for air quality and emissions limitation. Its provisions call for an inventory of sources of emissions, and the registration of pollutants.<sup>1304</sup> There is no exemption for Russian military from the law, since its goal is to prevent and reduce “harmful chemical, physical, biological and other effects of the pollution likely to cause unfavorable consequences for human beings, the national economy, and the flora and fauna [not of the national jurisdiction, but] of the world.”<sup>1305</sup> Therefore, any military action that affects human beings, fauna, or flora is governed by this provision.

Environmental authorities may prevent activities causing serious air pollution. For example, a violation of the Russian law On Air Protection “may result in imposition of additional emission limits or even a prohibition of the entire operation or activity causing pollution if public health is deemed to be in danger by any administrative agency.”<sup>1306</sup> Again, it appears that the Russian Law On Air Protection does not exempt military from its jurisdiction, since it applies to “any administrative agency.”

Note should be made of the Law On Defense, which was adopted in 1996 amended in 1999. That statute includes provisions that authorize the President of the country to suspend some laws under certain circumstances. It does not define which laws can be suspended. However, theoretically, environmental laws may be suspended as other laws. Moreover, in times of armed conflicts, Russian environmental laws can be suspended by the President of the State. However, that power has, to date, not been exercised. One commentator has suggested that during the war in Chechnya, for instance, no one cared about compliance with environmental laws anyway; thus, suspension of those laws was unnecessary.<sup>1307</sup>

As for peacetime, the Russian military operates as other organizations. However, activities involving State secrets are exempt from EIA procedures or public disclosure

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<sup>1304</sup> Krasnova, *supra* note (1282).

<sup>1305</sup> Nicholas A. Robinson, *Environmental Law of Belarus*, in COMPARATIVE ENVIRONMENTAL LAW, 10 (NICHOLAS A. ROBINSON ED., 1996) [hereinafter Robinson, *Environmental Law of Belarus*].

<sup>1306</sup> Nicholas Robinson, *Environmental Law of the Russian Federation*, in COMPARATIVE ENVIRONMENTAL LAW 12 (NICHOLAS A. ROBINSON ED., 1996) [hereinafter Robinson, *Environmental Law of the Russian Federation*].

laws. For instance, radioactive materials are specifically included in by the law On State Secrets dated 1996.<sup>1308</sup>

However, other legal systems do explicitly cover air pollution that has transboundary effects. For example, in Canada, CEPA “prevent[s] air pollution from sources that emit air contaminants in Canada that are likely to create air pollution in another country.”<sup>1309</sup> This provision explicitly holds Canadian sources responsible for air pollution caused in another country, and represents an application of Principle 21 of the Stockholm Declaration that requires each State not to harm another nation’s environment. Under CEPA, it would appear that Canadian military operations are also subject to that restraint.

## 6. Water Resources Conservation

Many national laws seek to control or prohibit human activities that threaten to harm water resources. For example, Article 1 of the Korean Water Conservation Act defines its goal as “preventing potential danger and injury to the national health and the environment due to the pollution of water and by properly managing and preserving the quality of public waterways such as rivers, lakes, marshes, etc.”<sup>1310</sup> Accordingly, any activity that pollutes the water body in ways that cause potential danger or injure public health and the environment is prohibited. It aims “to enable all the citizens of the nation to live in a healthy and comfortable environment.”<sup>1311</sup> However, the statutes says nothing about the health and the environment of other nations. Moreover, this provision uses the criteria of causing “potential damage,” without enumerating the polluters. The Korean Water Conservation Act exempts military from compliance, so it applies to civilian activities only.

Damaging the water body may be caused by dangerous or harmful methods of fishing. For example, in Singapore, the use of explosives or poisons is prohibited as a

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<sup>1307</sup> Krasnova, *supra* note (1282).

<sup>1308</sup> *Id.*

<sup>1309</sup> Handy & Hamilton, *supra* note (1273) at 16.

<sup>1310</sup> So, *Environmental Law*, *supra* note (1272) at KOR-94.

<sup>1311</sup> *Id.*

method of trapping fish.<sup>1312</sup> Most of such fishing is done illegally by civilians, but military maneuvers also can cause a massive marine pollution by using ammunition and sea-bed mines. The Singaporean law applies equally to civilian and military activities.

Using bodies of water for the dumping of waste is another source of environmental damaging. In the Netherlands, the Sea Water Pollution Act, which governs ocean dumping by ships and aircraft and the incineration of waste by ships at sea,<sup>1313</sup> is designed to prevent toxic and non-biodegradable waste from being disposed of in the sea.<sup>1314</sup> Furthermore, the Act for the Prevention of Pollution by Ships, which governs pollution of the sea by harmful materials discharged from ships,<sup>1315</sup> is applicable to military activities, such as maneuvers, and spreading in the sea of water explosives. This Act defines harmful materials as those which “are dangerous to the public health, harm the marine environment, or prevent recreational enjoyment of the sea.”<sup>1316</sup> Oil is another threat to water bodies. The Nigerian Navigable Water Act<sup>1317</sup> considers as a guilty of an offense any persons responsible for “any oil or mixture containing oil [...] discharged into waters [...] from any vessel, or from any place on land or from any apparatus used for transferring oil from or to any vessel [...]”<sup>1318</sup> Military vessels could be subjected to this provision in case of accident, or for using oil pollution as a weapon in warfare.

The Israeli Water Law, instead of defining harmful substances, adopted a general rule that prevents “[any] person [from] throw[ing], or caus[ing] to flow, into or near a water resource any liquid, solid, or gaseous substance or deposit[ing] any such substance in or near it.”<sup>1319</sup> The language of this provision prevents disposal of any kind of materials whether solid, liquid or gaseous, hazardous or not, in or near the water resources, and applied to military as well as non-military activities.

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<sup>1312</sup> Heng, *Environmental Law*, *supra* note (1263) at SIN-40.

<sup>1313</sup> Luigies, *supra* note (1283) at 26-7.

<sup>1314</sup> *Id.*, at 27.

<sup>1315</sup> *Id.*

<sup>1316</sup> *Id.*

<sup>1317</sup> Pace Law School Virtual Library, Oil in Navigable Water Act, art. 3, 1968, No. 34, available at <<http://www.law.pace.edu/env/nigerianlaw/oilwater/oilwater2.html>>, (last visit Feb. 23, 2001).

<sup>1318</sup> *Id.*, art. 3 (1).

<sup>1319</sup> The Israeli Water Law of 1959, art. 20B (b), available at <[wysiwyg://41/http://www1.huji.ac.il/www\\_teva\\_law/fresh\\_water.html](http://www1.huji.ac.il/www_teva_law/fresh_water.html)>, (last visit Feb. 24, 2001) [hereinafter The Israeli Water Law].

Unlike the Israeli Water Law, the Nigerian Harmful Waste Act of 1988, does not define gaseous materials as hazardous wastes. It provides that “dump[ing] harmful waste under this act if [a person] deposits or dumps the harmful waste, whether solid, semi-solid or liquid[.]”<sup>1320</sup>

Water resources protection in Israel is based on the principle that “[a]ll sources of water in Israel are public property,”<sup>1321</sup> and that “every person is entitled to receive and use water.”<sup>1322</sup> This right is not unlimited, but persons who use the water resources should assure that their usage “does not lead to the salination or depletion [of the water resources].”<sup>1323</sup> The fact that water resources are declared public property means that any damage or pollution to the water will be considered as a trespass to public property, and can be punished as such.

Disputes over water resources are handled differently by different countries. However, it is rare to find a specific court that examines disputes relevant to the protection of water resources only. An unusual example of such a court is found in the Israeli “Tribunal for Water Affairs, established by the Ministry of Justice [to execute] the Water Law [and] the Drainage and Flood Control Law.”<sup>1324</sup>

As with other kinds of environmental protection efforts, water resources can be protected either by precautionary or preventive measures. For example, Article 20C of the Israeli Water Law focuses on precautionary measures. It provides that “[a] person who has under his control any installation for the production, supply, transportation or storage of water or for recharging subsoil water resources shall take all reasonable measures to prevent such installation or its operation from causing water pollution.”<sup>1325</sup> In contrast, the Austria Water Law focuses on preventive measures, by providing that “[any] person [who] causes water contamination (Verursacher), or causes the imminent endangerment (Konkrete Gefahr) of water [...] is obliged to immediately undertake all measures necessary to prevent the spread contamination already caused, or prevent

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<sup>1320</sup> Pace Law School Virtual Library, Nigerian Harmful Waste Act, 1988 No. 42, <<http://www.law.pace.edu/env/nigerianlaw/waste/waste.html>> (last visit Feb. 23, 2001) [hereinafter Nigerian Harmful Waste Act].

<sup>1321</sup> The Israeli Water Law, *supra* note (1319) art. 1.

<sup>1322</sup> *Id.*, art. 3.

<sup>1323</sup> *Id.*, art. 5.

<sup>1324</sup> *Id.*, art. 5.

<sup>1325</sup> *Id.*, art. 20C.

contamination from occurring in the first instance, and must also immediately notify the relevant authorities.”<sup>1326</sup> In fact, both kinds of measures are necessary to protect and sustain water resources.

As an example of a federal system, the Water Law of Austria established a kind of coordination between local and federal authorities. Under that statute, each “governor (Landeshauptmann) of each of the nine states in Austria (Bundeslander) is obligated to notify the Federal Environment Ministry of suspected contaminated sites (Verdachtsflächen). These sites are then prioritized for action based on an environmental investigation.”<sup>1327</sup> The Israeli Water Law goes beyond that. “[It gives] the Water Commissioner, [if he] is satisfied that any of the provisions of section 9 is not being complied with, [the right to...] take steps to prevent immediate serious damage to a water resource if such damage cannot be prevented in any other way.”<sup>1328</sup> Thus, in order to prevent any immediate serious damage to the water resource, the Israeli law does not depend only on the involved persons, but gives the Water Commissioner the right to take the necessary measures. However, this provision lacks three elements: first, it does not define “immediate serious damage”; second, it does not indicate the steps required to be taken by the Water Commissioner; and finally, it does not describe the commissioner’s intervention as a duty, but only as an option, thus putting the effectiveness of this provision in the hands of the Commissioner.

Unless specifically exempted, the Israeli Water Law applies to military operations, and if the immediate water pollution cannot be stopped in any other way, the Israeli Water Commissioner can prevent it by taking necessary steps, even though such pollution was caused by military activities.

## **7. Soil Pollution**

Many harmful human activities occur on the ground, including armed forces activities on military bases. National legislation attempts to reduce this risk. For example, in the Netherlands, a number of Royal Decrees contain rules regarding the use and

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<sup>1326</sup> Willibald Plessner, *Environmental Law of Austria*, in *COMPARATIVE ENVIRONMENTAL LAW* 16 (NICHOLAS A. ROBINSON ED., 1996).

<sup>1327</sup> *Id.*, at 17.

protection of the soil. There are rules for (1) the disposal of waste matter on or in the soil; (2) the addition of matter to the soil in order to influence the structure or the quality of the soil; (3) activities carried out on or in the soil, including clearing or construction of pipelines or storage tanks, ground work, or activities using materials that may pollute the soil; (4) transport of certain matter by pipeline or vehicles; and (5) the performance of activities that incidentally introduce substances into the soil.<sup>1329</sup>

Those goals are enforced by the Soil Protection Act of the Netherlands, which provides that “anyone who carries out the aforementioned activities on or in the soil and who knows or reasonably should suspect that the soil may be affected or polluted, is obliged to take all measures reasonably required to prevent, restrict, or remedy the problem.”<sup>1330</sup> This article adopts both precautionary measures to prevent and restrict the problem, and remedial measure to rehabilitate the contaminated site. Many military activities can affect the structure of the soil and pollute it, and the Act appears to apply to such activities. The Interim Act on Soil Cleanup also applies to military operations; under that Act, the provincial executive has not only the “authority to carry out site evaluations and cleanups, [but also] to stop activities resulting in soil contamination[.]”<sup>1331</sup> This authority should be based on an environmental assessment of the suspected damage on such sites. Similarly, in the United States, army bases are subject to soil protection rules under CERCLA and other legislation.<sup>1332</sup>

## 8. Hazardous Wastes

Armed forces often produce large quantities of hazardous wastes, and national laws often seek to regulate the production of such wastes. For example, the Hazardous Substances Act of the Netherlands “regulates the transport, packaging, delivery, storage, and removal of dangerous substances, as well as the handling of ammunition, explosives,

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<sup>1328</sup> The Israeli Water Law, *supra* note (1319) art. 11 (2).

<sup>1329</sup> Luigies, *supra* note (1283) at 29.

<sup>1330</sup> *Id.*

<sup>1331</sup> *Id.*, at 30.

<sup>1332</sup> The United States National Environmental Law Rules will be discussed in Section 3.



and fireworks in order to protect public safety and health.”<sup>1333</sup> Since armed forces deal with the ammunition and explosives they should be subject to this Act.

Similarly, the Radiation Protection Act of Singapore prohibits the accumulation of radioactive waste.<sup>1334</sup> This provision eliminates the accumulation of radioactive waste produced by military activities, and minimizes the environmental risk of such substances.

## 9. Citizen Suits

Some national jurisdictions authorize their citizens to invoke environmental law provisions by means of citizen suits. Others extend this right even to foreigners. For example, the Ukrainian Environmental Protection Act of 1991 gives standing to its citizens only to sue in environmental matters.<sup>1335</sup> It “grant[s] citizens of Ukraine the right to sue state bodies [including the armed forces] and private parties for damage to their health and property.”<sup>1336</sup> Consequently, any environmental damage caused by military activities to citizen health and property is subject to citizen suit. However, non-citizens are excluded from this right. In contrast, the Canadian CEPA addresses “environment, human life, and health,”<sup>1337</sup> without any restriction as to the citizenship of persons involved. Therefore, any person who has sustained environmental damage or loss of life or health can bring suit against polluters.

A different approach is reflected in the Israeli Act of Prevention of Environmental Nuisance, which excludes individual citizens from filing suits in environmental matters. It gives this right only to groups of people.<sup>1338</sup> The Magistrate Court of Israel can dismiss any action in which “the size of the group does not justify submission of the action as a class action.”<sup>1339</sup> While perhaps promoting judicial efficiency, this approach grant no recognition of any individual’s right to sue.

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<sup>1333</sup> Luigies, *supra* note (1283) at 36.

<sup>1334</sup> Heng, *Environmental Law*, *supra* note (1263) at SIN-29.

<sup>1335</sup> Nicholas Robinson, *Environmental Law of Ukraine*, in COMPARATIVE ENVIRONMENTAL LAW 10 (NICHOLAS A. ROBINSON ED., 1996) [hereinafter Robinson, *Environmental Law of Ukraine*].

<sup>1336</sup> Nicholas A. Robinson, *Environmental Law of Ukraine*, in COMPARATIVE ENVIRONMENTAL LAW 10 (NICHOLAS A. ROBINSON ED., 1998) [hereinafter Robinson, *Environmental Law of Ukraine*].

<sup>1337</sup> Handy & Hamilton, *supra* note (1273) at 15.

<sup>1338</sup> The Israeli Act of Prevention of Environmental Nuisance, *supra* note (1274) art. 10.

<sup>1339</sup> *Id.*, art. 10 (2).

The European Union offers different example of the role of citizen suits to protect environmental integrity. The comprehensive format of the EU's Directives and Regulations is similar in many ways to the U.S. Clean Air Act, Clean Water Act, the Resource Conservation and Recovery Act, and the environmental impact assessment requirement of NEPA.<sup>1340</sup>

The EU States recognized the environmental protection as a priority by adopting the Precautionary Principle as a basis for their environmental policies. Pursuant to Article 130r (2) of the Treaty Establishing the European Community "Community policy on the environment is based on the precautionary principle and on the principle that preventive action should be taken, that environmental damage should as a priority be rectified at the source, and that the polluter should pay."

The EU's Directive adopted public disclosure and participation in decision-making. Article 6 (1) of the Council Directive 89/618<sup>1341</sup> states that: "[m]ember States shall ensure that, when a radiological emergency occurs, the population actually affected is informed without delay of the facts of the emergency, of the steps to be taken and, as appropriate to the case in point, of the health-protection measures applicable to it."

Remarkably, the European Parliament adopted the Resolution on the Environment, Security, and Foreign Policy in 1996. The Resolution calls on "the military to end environmentally damaging activities and clean up polluted areas and urges [m]ember States to take measures to support this, in particular, by applying civil environmental legislation to all military activities."<sup>1342</sup> The Resolution calls upon the EU States to eliminate nuclear weapons, and protect the environment from unnecessary destruction in times of armed conflicts.<sup>1343</sup> Additionally, the Resolution asks the military to end all activities which damage the environment and argues that the principle of "polluter pays" should apply to military activities.<sup>1344</sup>

Nevertheless, some of the EU's Directives exempt armed forces from compliance. For instance, the Council Directive on the Harmonization of the Provisions Relating to

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<sup>1340</sup> Robinson, *International Environmental Legal Trends*, *supra* note (1123) at 530.

<sup>1341</sup> Council Directive 89/618/Euratom of 27 Nov. 1989 on Informing the General Public About Health Protection Measures to be Applied and Steps to be Taken in the Event of A Radiological Emergency.

<sup>1342</sup> The Resolution on the Environment, Security and Foreign Policy, EUR.PARL.DOC. (PE R4-0005/1999, EP Vote 1<sup>st</sup> Reading) (Jan. 28, 1999).

<sup>1343</sup> *Id.*

the Placing on the Market and Supervision of Explosives for Civil Uses does not apply to “explosives, including ammunition, intended for use, in accordance with national law, by the armed forces or the police.”<sup>1345</sup> While political consideration may demand this kind of exemption, it undercuts the effectiveness of environmental regulations, since the military can conduct environmentally damaging activities without considering environmental standards and limitations.

### ***E- National Environmental Law Rules***

After discussing international and comparative environmental law rules, it is necessary to outline national environmental law rules, in order to examine the mechanisms applicable to environmental laws and regulations, and to military operations in particular, of each nation individually.

As a Kuwaiti scholar pursuing my education in the United States, I have opted to examine the national environmental law rules, federal regulations, and case law of the U.S. as an example of developed countries, along with the national environmental law

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<sup>1344</sup> *Id.*

<sup>1345</sup> Council Directive 93/15/EEC of Apr. 5, 1993, on the Harmonization of the Provisions Relating the Placing on the Market and Supervision of Explosives for Civil Uses.

rules of Kuwait as an example of developing countries. Therefore, this analysis involves the American example, an idealistic example, which extends the application of environmental statutes and regulations to all sectors including military activities, as well as the Kuwaiti example, which is much less comprehensive.

## **1. The United States National Environmental Statutes**

The following subsection will evaluate U.S. environmental statutes that apply at home as well as those that have extraterritorial application. For example, when the United States establishes a military base in another nation, it enters into two relationships. The first is with the host country, and is usually secured by a formal agreement. The second relationship is with that host country's natural environment, as it is that environment upon which the base will be situated. Military activity on or around the base can, and does, have an environmental impact. This impact occurs both during periods of peace and of conflict, and it can be subject to international environmental law, the laws of the United States, and the laws of the host country.

Activities occurring on the base may affect the base directly or the environment outside the military base. Activities directly affecting the military base are subject to American laws. Activities that affect the environment outside the base could be subject to American law or the host country's laws.

### **a. The Application of the U.S. Environmental Statutes at Home**

The United States has many stringent environmental laws and standards that aim at protecting, restoring, and cleaning up the environment. We will examine, in particular, the National Environmental Policy Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Clean Water Act, and the Endangered Species Act. In addition, the War Crimes Act which considers as criminal attack on certain kinds of public properties, we will also be considered.

#### **1) National Environmental Policy Act**

The National Environmental Policy Act (NEPA) of 1969 is the major U.S. environmental statute. The Council on Environmental Quality (CEQ) recognizes NEPA as “our basic national charter for protection of the environment.”<sup>1346</sup>

We can classify the purpose of NEPA into three categories:

First, it establishes a national policy for all federal agencies, requiring them to use “all practical means...to create and maintain conditions under which man and nature can exist in productive harmony.”<sup>1347</sup> Second, it also sets out a number of broad environmental protection goals, requiring all agencies of the federal government to “utilize a systematic, interdisciplinary approach...in planning and decision-making which may have an impact on man’s environment.”<sup>1348</sup> Finally, it establishes the CEQ,<sup>1349</sup> which assists the President in preparing an annual environmental quality report to Congress, along with recommendations for improvements. NEPA directs each federal agency to prepare an EIS for all “proposals for legislation and other major federal actions significantly affecting the quality of the human environment.”<sup>1350</sup>

NEPA does not exempt any facility or agency from compliance.<sup>1351</sup> NEPA Section 101 (b) states that it is the “continuing responsibility of the Federal Government to use all practicable means, consistent with other considerations of national policy, to improve and coordinate federal plans, functions, programs, and resources” to protect and enhance a variety of environmental values.”<sup>1352</sup> Moreover, when Congress enacted NEPA, it promoted efforts to “prevent or eliminate damage to the environment or biosphere and stimulate the health and welfare of man,”<sup>1353</sup> regardless of the source of that damage. Therefore, NEPA applies to national security activities, even though the statute does not say so explicitly.

One of NEPA’s purposes is to require all federal agencies to prepare an EIS, which is supposed to describe the proposed federal action, identify the environmental

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<sup>1346</sup> 40 C.F.R. §1500.1(a).

<sup>1347</sup> NEPA §101 (a), 42 U.S.C. § 4331(a).

<sup>1348</sup> NEPA §102 (2)(A), 42 U.S.C. § 4332 (2) (A).

<sup>1349</sup> NEPA §201, 42 U.S.C. § 4341.

<sup>1350</sup> NEPA §102 (2)(C), 42 U.S.C. § 4332 (2) (C).

<sup>1351</sup> NEPA §102 (2), 42 U.S.C. § 4332(2).

<sup>1352</sup> NEPA § 101 (b), 42 U.S.C. § 4331 (b).

<sup>1353</sup> NEPA §2, 42 U.S.C. § 4321.

impacts of the proposed action, and consider alternatives and their environmental impact. It forces agencies to consider the environmental consequences of their actions.

Indeed, military installations and facilities generate huge amounts of hazardous wastes that can directly affect human health and the environment. Thus, American legislators did not exempt military activities from being subject to EIS procedures.

## 2) The Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act of 1976 aims at protecting human health and environment by regulating the management of hazardous waste from its generation through disposal, or from “cradle to grave.” Subtitle (C) of RCRA governs hazardous waste.<sup>1354</sup> According to the statute, wastes are “hazardous” if they pose a significant threat to human health or the environment “when improperly treated, stored, transported, or disposed of, or otherwise managed.”<sup>1355</sup>

Federal agencies are subject to the same rules for handling solid wastes that govern everybody else. The Department of Defense produces a lot of ordinary garbage that is “recycled, incinerated, or sent to sanitary landfills. It also generates large amounts of hazardous wastes in its different activities.”<sup>1356</sup> RCRA insures federal facility compliance with “all federal, state, interstate, and local requirements, both substantive and procedural...in the same manner, and to the same extent, as any person is subject to such requirements.”<sup>1357</sup> However, “the president may exempt any solid waste management facility of any department, agency, or instrumentality in the executive branch from compliance with a such requirement if he determines it to be in the paramount interest of the United States to do so.”<sup>1358</sup>

If U.S. military bases abroad produce hazardous waste which constitutes a hazard to human health and the environment, RCRA should apply, since its broad language applies to all federal facilities,<sup>1359</sup> regardless of location.

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<sup>1354</sup> RCRA §§ 3001-3020, 42 U.S.C. §§ 6921-6939.

<sup>1355</sup> RCRA §1004(5), 42 U.S.C. § 6903(5).

<sup>1356</sup> DYCUS, *supra* note (4) at 60.

<sup>1357</sup> RCRA § 6001(a), 42 U.S.C. § 6961(a).

<sup>1358</sup> RCRA § 6001(a), 42 U.S.C. § 6961(a).

<sup>1359</sup> RCRA § 6001(a), 42 U.S.C. § 6961(a).

Few amendments to RCRA's provisions would be necessary to accommodate extraterritorial application in status-of-forces agreements.<sup>1360</sup>

### 3) The Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980<sup>1361</sup> authorizes remediation of sites contaminated with hazardous substances,<sup>1362</sup> and it imposes liability for cleanup costs. The CERCLA cleanup process is activated by any "release of a hazardous substance"<sup>1363</sup> into the environment. It applies to federal hazardous waste sites as well as nonfederal sites. "Each department, agency, and instrumentality of the United States (including the executive, legislative, and judicial branches of the government) shall be subject to, and comply with, this chapter in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity."<sup>1364</sup> In point of fact, CERCLA provides for a remediating Potentially Responsible Party (PRP) to pursue cost recovery actions under section 107, and actions for contribution under section 113, against other PRPs.

Although CERCLA remedial action is expensive, cleanup costs incurred by the federal government may be charged to PRPs, including any past or present owner of a site, or a generator or transporter of the released contaminant.<sup>1365</sup> Liability is strict, joint, and several. Defenses to liability are limited to acts of God, war, and an act or omission of a third party.<sup>1366</sup> Consequently, if the release or the threat of release of hazardous substances was caused in times of war, there is no liability under CERCLA. In contrast, the release or the threat of release of a hazardous substance which may present an imminent and substantial danger to the public health or welfare of the environment in peacetime military activities is not exempt from CERCLA liability. In

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<sup>1360</sup> Some provisions in RCRA deal with extraterritorial application. *See*, Section III (A) of this paper.

<sup>1361</sup> In 1986, Congress amended CERCLA through the Superfund Amendments and Reauthorization Act (SARA), Pub. L. 99-499, Oct. 17, 1986, 100 Stat. 1615.

<sup>1362</sup> Hazardous substance included all materials that are: toxic, flammable, corrosive, or reactive, except for oil or petroleum products. CERCLA § 101(14), 42 U.S.C. § 9601(14).

<sup>1363</sup> CERCLA § 103 (a), 42 U.S.C. § 9603 (a).

<sup>1364</sup> CERCLA § 120 (a) (1), 42 U.S.C. § 9620 (a) (1).

<sup>1365</sup> CERCLA § 120 (a) (1), 42 U.S.C. § 9620 (a) (1).

<sup>1366</sup> CERCLA § 107 (b), 42 U.S.C. § 9607 (b).

one case, “the federal government was held jointly liable for cleanup costs at a National Priority List (NPL) site contaminated during World War II by a company that manufactured rayon for the war effort under close government supervision.”<sup>1367</sup> Any person or a state can file a suit in federal court to enforce compliance with CERCLA or with any regulation, order, or standard issued under CERCLA.<sup>1368</sup>

#### 4) The Clean Water Act

The Clean Water Act (CWA) of 1972 contains a comprehensive program of water pollution control where federal agencies work with States and other agencies to prepare programs to reduce, eliminate, and prevent water pollution from the surface, navigable and underground water and to maintain their sanitary conditions.<sup>1369</sup> The discharge of any pollutant<sup>1370</sup> by any person is unlawful unless permitted to do so by variance or permit.<sup>1371</sup> Even if the discharge results from an inspection of a facility, there would still be a violation.<sup>1372</sup> Thus, permit application must be submitted to ensure the State water quality standards are not violated. Permits may not be issued if the facility cannot ensure compliance with water quality standards of all affected States.<sup>1373</sup> It is clear that Section 301 of the CWA does not exempt the Department of Defense from compliance, since it applies inclusively to all federal agencies. Therefore, U.S. military personnel are prohibited from discharging any pollutant into the surface, navigable and underground water, a particularly important provision since preparation for warfare often contaminates the water body with discharged materials, fuel, debris, and other toxic substances.

#### 5) Endangered Species Act

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<sup>1367</sup> FMC Corp. v. United States Dept. of Commerce, 786 F. Supp. 471(E.D. Pa.1992), aff'd 1994 WL 314814 (3d Cir.). DYCUS, *supra* note (4) at 88.

<sup>1368</sup> CERCLA §§121 (e)(2), 310, 42 U.S.C. §§ 9621 (e)(2), 9659.

<sup>1369</sup> CWA § 102, 33 U.S.C. § 1252.

<sup>1370</sup> Pollutant include almost any physical substance and even non-physical substances such as heat. There is no requirement that the pollutant cause adverse environmental effects. *See*, CWA § 502 (6), 33 U.S.C. § 1362 (2).

<sup>1371</sup> CWA § 301, 33 U.S.C. § 1311.

<sup>1372</sup> Koplow, *How Do We Get Rid of these Things?*, *supra* note (341) at 505.

<sup>1373</sup> CWA § 301 (b)(1)(C), 33 U.S.C. § 1311 (b)(1)(C).



The Endangered Species Act (ESA) of 1973 defines endangered and threatened species and protects their ecosystems to ensure their survival. Section 2 (c)(1) of the Endangered Species Act states that “[i]t is [...] the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this chapter.” Section 7 requires federal agencies to consult with the Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) when a proposed action may jeopardize an endangered or threatened species, or destroy their critical habitat.<sup>1374</sup> In addition, Section 11 allows any person, regardless of citizenship, to bring a cause of action in U.S. courts for any act violating ESA provisions.<sup>1375</sup> Again, this statute applies to all federal agencies, including the military. Thus, if a military base or installation was built on an endangered species habitat, the ESA may require that it be removed to another location. In addition, during armed conflicts, American armed forces are similarly prohibited from harming the endangered species habitat, or attacking protected areas.<sup>1376</sup>

## 6) War Crimes Act

The War Crimes Act<sup>1377</sup> (WCA) of 1996 carries out the U.S. international obligation under the 1949 Geneva Conventions to establish criminal penalties for war crimes.

Section 2401 of the Act states that “whoever whether inside or outside the United States, commits a war crime, shall be fined under this title or imprisoned for life or any term or years, or both, and if death results to the victim, shall be subject to the penalty of death.”

A “war crime” means any act “defined as a grave breach in any of the international conventions signed at Geneva 12 August 1949, or any protocol to such convention to which the United States is a party[...].”<sup>1378</sup> According to Article 50 of the Geneva Convention I, Article 51 of the Geneva Convention II, and Article 147 of the

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<sup>1374</sup> ESA § 7 (a), 16 U.S.C. § 1536.

<sup>1375</sup> ESA § 11 (g), 16 U.S.C. § 1540 (g).

<sup>1376</sup> ESA § 9 (a) (1) (B), 16 U.S.C. § 1538 (a) (1) (B).

<sup>1377</sup> War Crimes Act of 1996, Pub. L. 104-192, 110 Stat. 2104.

Geneva Convention IV, “grave breaches” are those which involve “extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly.”

Under that statute, environmental destruction during armed conflicts whether international or internal can be considered a grave breach of the international obligation of protecting the natural environment, and therefore a war crime. Thus, it constrains the U.S. armed forces from destroying properties or causing unnecessary environmental harm.

#### **b. The Extraterritorial Application of the U.S. Environmental Statutes**

Many U.S. environmental laws do not explicitly state that their protection extends to include extraterritorial sites. That lack of specificity can create problems. Some regulations do explicitly apply to overseas sites. For instance, DoD Directive 6050.7, entitled “Environmental Effects Abroad of Major Department of Defense Actions,” imposes NEPA-like requirements on major DoD actions that may adversely affect the environment of a foreign nation, a protected natural or ecological resource of global importance, or the global commons. This subsection will deal with provisions of law that do explicitly apply to overseas facilities:

- NEPA’s language and legislative history,
- RCRA’s exportation of hazardous waste, and citizen suit provision,
- CERCLA’s foreign claimants provision, and

##### **1) NEPA’s Language and Legislative History**

Both the requirement of EIS, and NEPA’s language and legislative history, urge the statute’s application abroad. The EIA requirement entails the extraterritorial application of NEPA: Section 102 (2)(C)(i) requires that, “to the fullest extent possible...all agencies of the federal government shall...include in every recommendation or report on proposals for...major federal actions significantly

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<sup>1378</sup> War Crimes Act, § 2401(c)(2)(A).

affecting the quality of human environment, a detailed statement by the responsible official on the environmental impact of the proposed action.”<sup>1379</sup> According to this language, NEPA does not require a federal agency to assess every impact or effect of its proposed action, but only those that may have a major impact on the environment. The application of Section 102 requires an examination of the relationship between the agency’s action and the change in the physical environment it causes. If an action is likely to cause a change in the physical environment, then the agency is required to prepare a detailed EIS.

This sweeping language also ensures that every agency will maintain the relevant environmental information necessary to make decisions on proposed actions.

Similarly, the Council on Environmental Quality guidelines requires federal agencies to assess the environmental effects of any proposed action "as it affects both the national and international environment."<sup>1380</sup>

The U.S. Military has also developed an environmental ethic.<sup>1381</sup> For example, the U.S. Army has a comprehensive program for factoring environmental consideration into its decision-making and operations.<sup>1382</sup> It requires an environmental impact assessment of peaceful operations that may affect the environment, even when the impact occurs outside U.S. territory. Other countries have adopted the concept of environmental impact assessment first developed in the U.S.<sup>1383</sup> to encourage their agencies to consider the possible environmental harm of their activities. For instance, the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution<sup>1384</sup> urges member States to include an assessment of the environmental impact of any project in the coastal areas which may significantly harm the marine environment.<sup>1385</sup> In addition, the Århus Convention<sup>1386</sup> requires member

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<sup>1379</sup> NEPA § 102 (2) (C) (i), 42 U.S.C. § 4332 (2) (C) (i).

<sup>1380</sup> 38 Fed. Reg. 20553 (1973), 40 C.F.R. § 1500.8 (a) (3) (i) (1977).

<sup>1381</sup> Diederich, *supra* note (626) at 154.

<sup>1382</sup> *Id.*

<sup>1383</sup> *Id.*

<sup>1384</sup> Kuwait Regional Convention, *supra* note (1139).

<sup>1385</sup> *Id.*, art. XI (a).

<sup>1386</sup> Århus Convention, *supra* note (867).

States to subject their activities concerning “environmental matters” to national or transboundary EIA procedures.<sup>1387</sup>

NEPA’s language shows Congress’ concern with the global environment and the worldwide character of environmental problems. The purpose of NEPA is to “declare a national policy which will encourage productive and enjoyable harmony between man and his environment....”<sup>1388</sup> The Act requires all agencies of the Federal Government to prepare EIS for major federal actions “affecting the quality of the human environment.”<sup>1389</sup> However, it does not explicitly provide that its requirements are to apply extraterritorially. NEPA requires federal agencies to “recognize the worldwide and long-range character of environmental problems,” and it recognizes that actions should, “consistent with the foreign policy of the United States, lend appropriate support to initiatives, resolutions, and programs designed to maximize international cooperation in anticipating and preventing a decline in the quality of mankind’s world environment.”<sup>1390</sup>

The legislative history suggests the same conclusion. In the Senate debate, Senator Henry M. Jackson, the principal sponsor of NEPA, declared that: “taken together, the provisions of section 102 direct any federal agency which takes action that it must take into account environmental management and environmental quality considerations.”

Furthermore, the comment of the State Department’s spokesman during congressional consideration of NEPA emphasizes the importance of extending NEPA’s reach abroad: “The department wishes to call attention to the fact, moreover, that the objective of the bill or, for that matter, of any proposition dedicated to the protection of the national environment, cannot be effectively achieved unless it recognizes that existing ecosystems are interrelated by nature or by the activities of man, and that the environmental forces affecting our natural resources disregard political and geographical frontiers.”<sup>1391</sup>

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<sup>1387</sup> *Id.*, art. 6 (2)(e).

<sup>1388</sup> NEPA § 2, 42 U.S.C. § 4321.

<sup>1389</sup> NEPA § 102 (2)(C), 42 U.S.C. § 4332 (2) (C).

<sup>1390</sup> NEPA § 102 (2) (F), 42 U.S.C. § 4332 (2) (F).

<sup>1391</sup> William B. Macomber, Jr., Assistant Secretary for Congressional Relations for the Department of State, *Letter to Senator Henry M. Jackson*, reprinted in S.Rep. No.296, 91<sup>st</sup> Cong., 1<sup>st</sup> Sess., App. at 43 (1969).

Thus, NEPA's language and legislative history strongly suggest the extraterritorial applicability of the statute, and that "Congress intended to bring all activities of foreign affairs agencies, even those taking place entirely within the territorial jurisdiction of another nation, within the scope of the Act."<sup>1392</sup>

## 2) RCRA's Exportation of Hazardous Waste, and Citizen Suit Provisions:

The plain language of RCRA, and its legislative history, suggest that the citizen suit provision and the exportation of hazardous waste provision were passed as part of a single bill,<sup>1393</sup> which indicate a congressional intent to apply RCRA extraterritorially.

During congressional debate on the hazardous waste provision, Representative Barbara A. Mikulski stated that "our own country will have safeguards from the ill effects of hazardous waste upon passage of [the Hazardous and Solid Waste Amendments to RCRA]. We should take an equally firm stand on the transportation of hazardous waste bound for export to other countries."<sup>1394</sup> This statement indicates congressional intent to protect the global commons and worldwide environment, as well as protecting the U.S. environment. RCRA's stringent provisions protect not only U.S. territory from hazardous wastes, but protect foreign countries as well from hazardous waste transportation.<sup>1395</sup>

Section 6938 (a)-(f) of RCRA prohibits the exporting of any hazardous waste from the U.S. to a foreign country unless that country has agreed otherwise. Even where such an agreement applies, the exporter must provide the following information to EPA: the types and the estimated quantities of hazardous waste to be exported, the manner in which the hazardous waste will be transported to and treated, stored, or disposed in the receiving country, and the identification of the final treatment, storage

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<sup>1392</sup> Nicholas A. Robinson, *Extraterritorial Environmental Protection Obligation of Foreign Affairs Agencies: The Unfulfilled Mandate of NEPA*, 7 J. INT'L L. & POL. 257, at 265 (1974).

<sup>1393</sup> Jennifer A. Purvis, Note, *The Long Arm of the Law? Extraterritorial Application of U.S. Environmental Legislation to Human Activity in Outer Space*, 6 GEO. INT'L. ENVTL. L. REV. 455, 480 (1994).

<sup>1394</sup> *Id.*, at 479.

<sup>1395</sup> RCRA § 3017, 42 U.S.C. § 6938.

or disposal facility.<sup>1396</sup> Then the Secretary of the State, acting on behalf of EPA, is required to

- 1-Forward a copy of the notification to the receiving country,
- 2-Advise that government of the U.S. prohibition against exporting without consent,
- 3-Describe to the government of the receiving country the federal regulations which would apply to the treatment, storage, and disposal of the hazardous waste in the United States, and
- 4- Request the government to provide the Secretary with written consent or objection to the terms of the notification.<sup>1397</sup>

When the Secretary receives the receiving country's response, he must then forward it to the exporter.<sup>1398</sup>

RCRA also includes a citizen suit provision which provides that: "Any person may commence a civil action on his own behalf against any person (including (a) the United States, and (b) any other governmental instrumentality or agency...) who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to this chapter."<sup>1399</sup> The U.S. District Courts have jurisdiction without regard to the citizenship of the parties to enforce the provision,<sup>1400</sup> and the use of the term "any person" indicates congressional intent to apply that provision extraterritorially.

These two sections together suggest that a foreign citizen can sue the U.S. government in U.S. Federal District Court for the exportation of hazardous waste.

### 3) CERCLA's Foreign Claimants Provision:

CERCLA authorizes U.S. claimants<sup>1401</sup> to sue in the U.S. courts. The citizen suit provision grants standing to any person to commence a civil action on his own

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<sup>1396</sup> RCRA § 3017 (c), 42 U.S.C. § 6938 (c).

<sup>1397</sup> RCRA § 3017 (d), 42 U.S.C. § 6938 (d).

<sup>1398</sup> RCRA § 3017 (e) 42 U.S.C. § 6938 (e).

<sup>1399</sup> RCRA § 7002 (a) (1) (A), 42 U.S.C. § 6972 (a) (1) (A).

<sup>1400</sup> RCRA § 7002 (a) (2), 42 U.S.C. § 6972 (a) (2).

<sup>1401</sup> CERCLA § 310, 42 U.S.C. § 9659.

behalf against another person, the President of the United States, or any other officer of the U.S. including the Administrator of the Environmental Protection Agency for the violation of CERCLA requirements.<sup>1402</sup> Similarly, under CERCLA's foreign claimants provision, any foreign citizen can sue the U.S. military for releases of hazardous substances into the shoreline of the country of which the claimant is a citizen.<sup>1403</sup> He can sue in the U.S. courts,<sup>1404</sup> but only if recovery or remediation is authorized by a treaty or an executive agreement between the U.S. and the foreign country involved, or if the Secretary of State decides that the foreign country provides a comparable remedy to U.S. claimants.<sup>1405</sup>

## **2. The United States Federal regulations**

Federal regulations and policies that apply to the U.S. military can be divided into two categories: first, the rules that apply to the U.S. military at home, and second, the rules that apply to the U.S. military abroad.

### **a. Federal Regulations and Policies that Apply to the U.S. Military at Home**

This subsection will highlight on the Environmental Compliance Assessment and Management Program, the Department of Energy Environmental Management Program, and the Air Force Policy Directive 32-70.

#### **1) The Environmental Compliance Assessment and Management Program (ECAMP)**

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<sup>1402</sup> CERCLA § 310 (a), 42 U.S.C. § 9659 (a).

<sup>1403</sup> CERCLA § 111 (l) (1), (3), 42 U.S.C. § 9611 (l) (1), (3).

<sup>1404</sup> See, Section III (C) of this paper, entitled "Mechanisms for Implementation of the U.S. Laws off Base."

<sup>1405</sup> CERCLA § 111 (l) (4), 42 U.S.C. § 9611 (l) (4).

This Air Force initiative is a comprehensive program management system for achieving compliance with environmental laws. The Air Force issued ECAMP to help its installations to comply with all applicable environmental standards, as well as DoD Instructions 4715.6, the Environmental Compliance of 24 April 1996 and 7415.3, and the Environmental Conservation Program of 3 May, 1996.

According to Chapter 1, 1.2.1., the primary objectives of ECAMP are to accomplish the following:

- Improve Air Force environmental management to meet compliance standards such as those required by RCRA and CERCLA, and
- Provide funds to meet environmental compliance requirements.

ECAMP utilizes internal and external evaluations. Internal evaluations are the foundation of ECAMP, and are normally conducted annually by installation personnel, who have technical knowledge and background. In addition, Major Commands (MAJCOMs) conduct external evaluations at least once every 3 years.<sup>1406</sup>

## 2) The Department of Energy Environmental Management Program

The DoE office of Environmental Management (EM) is responsible for waste management, environmental remediation, maintenance of facility safety, transportation, and technology development costs domestically at 137 sites in 34 states. These facilities include sites involved in weapons research, assembly and testing, nuclear materials production, and waste storage. Foreign military installations perform these very same operations; however, while the DoE's Office of Environmental Management is responsible for environmental remediation at these sites in the U.S., no oversight agency is in place at military sites abroad.

## 3) Air Force Policy Directive 32-70

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<sup>1406</sup> Air Force Instruction 32-7045, Environmental Compliance Assessment and Management Program, Civil Engineering, Jul. 1, 1998, chapter 2.



The Air Force Policy Directive 32-70 of 1994<sup>1407</sup> sets out the Air Force guidelines for maintaining environmental quality and compliance with environmental laws. According to 1.1. the Air Force is committed to: “cleaning up environmental damage resulting from its past activities; meeting all environmental standards applicable to its present operations; planning its future activities to minimize environmental impacts; managing responsibly the irreplaceable natural and cultural resources it holds in public trust; and eliminating pollution from its activities whenever possible.”

The Directive requires that all Air Force Commanders, employees whether military or civilians, and contractors be in full compliance with national environmental policy<sup>1408</sup> in addition to their compliance with the applicable Federal, State, and local environmental laws and standards.<sup>1409</sup> All Air Force employees are deemed responsible for the environmental consequences of their actions.<sup>1410</sup> The Air Force will aim at reducing health and environmental hazards created by past activities at each installation.<sup>1411</sup>

More significant, however, is the “pollution prevention” paragraph, which states that “[t]he Air Force will prevent future pollution by reducing use of hazardous materials and releases of pollutants into the environment to as near zero as feasible.”<sup>1412</sup>

The Directive reflects a serious commitment by the Air Force both to prevent and remediate environmental hazards.

#### **b. Federal Regulations and Policies that Apply to U.S. Military Abroad**

This subsection will focus on President Carter’s Executive Order No. 12,114 of 1979, Overseas Environmental Baseline Guidance Document, Title 32 of the Code of Federal Regulations, Part 855, Air Force Policy Directive 32-70, and the Environmental Program in Foreign Countries.

##### **1) President Carter’s Executive Order No. 12,114 of 1979:<sup>1413</sup>**

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<sup>1407</sup> Air Force Directive 32-70, Environmental Quality, Civil Engineering, July 20, 1994 [hereinafter Air Force Directive 32-70].

<sup>1408</sup> *Id.*, at 1.2.

<sup>1409</sup> *Id.*, at 1.3.2.

<sup>1410</sup> *Id.*, at 1.2.

<sup>1411</sup> *Id.*, at 1.3.1.

On January 4, 1979, President Jimmy Carter ordered special implementing procedures when any federal agency undertakes actions overseas that affect the quality of the environment. This requirement applies when the federal agency takes an action that could affect the “global commons outside the jurisdiction of any nation (e.g., the oceans or Antarctica).”<sup>1414</sup> This Executive Order is implemented by DoD.<sup>1415</sup> Army Regulations state that: “the protection of the environment is an Army priority, no matter where the installation is located.”<sup>1416</sup> As to the global commons, the regulations go on to state that: “all the nations of the world share the stewardship of these areas.”<sup>1417</sup>

Under Executive Order 12,114 of 1979 the Army was required to prepare a written assessment of the impact of its operations on the global commons. An example of such analysis can be found in Greenpeace U.S.A. v. Stone,<sup>1418</sup> where the global commons environmental assessment discussed “the effects of the transportation of the weapons, from Germany to Johnston Atoll, on water quality, air quality, the risks of threatened, endangered and special interest species, risks to commercial fisheries and to the human population.”<sup>1419</sup>

## 2) Overseas Environmental Baseline Guidance Document (OEBGD)<sup>1420</sup>

The “Overseas Guidance” was issued by the Pentagon, and directed military personnel at each site abroad to develop environmental standards based on DoD’s

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<sup>1412</sup> *Id.*, at 1.3.4.

<sup>1413</sup> Exec. Order No. 12,114, 44 Fed. Reg. 1957 (1979).

<sup>1414</sup> *Id.*, para. 2-3 (a).

<sup>1415</sup> Department of Defense Directive 6050.7, (DoD) Final Procedures, 44 Fed. Reg. 21786 (1979).

<sup>1416</sup> Army Regulations G, H (Apr.23, 1990).

<sup>1417</sup> *Id.*, para. 8-3.

<sup>1418</sup> In 1971, the U.S. removed its stockpile of chemical ammunitions from Okinawa, Japan, at the request of the Japanese Government and shipped it to Johnston Atoll, an unincorporated U.S. territory in the Central Pacific Ocean, approximately 800 miles southwest of Honolulu, Hawaii, for storage. Yet in 1986, President Reagan entered into an agreement with Chancellor Kohl to remove approximately 100,000 rounds of nerve gas which had been stored in the Federal Republic of Germany (FRG) since 1968, and transport them to Johnston Atoll, to be disposed of in the Johnston Atoll Chemical Agent Disposal System (JACADS). *See, Greenpeace USA v. Stone*, 748 F. Supp. 749 (D. Hawaii 1990) [hereinafter Greenpeace USA v. Stone].

<sup>1419</sup> *Id.*, at 761.

<sup>1420</sup> Department of Defense, Overseas Environmental Baseline Guidance Document, at 1-3 (1992).

“suggested criteria” for pollutants. The standards for each overseas facility must meet DoD’s suggested criteria, or host country laws, whichever provides greater protection for the environment. Foreign standards are generally not enforceable on DoD military sites. However, “written findings are accepted, and corrective action is taken, if the condition is out of compliance with the Final Governing Standards (FGS) imminent and substantial danger to human health and safety.”<sup>1421</sup> Those Final Governing Standards may be those of the host country. DoD submits annual reports to Congress, setting out its policy of adhering to U.S. requirements at all bases, including those located overseas. In addition, DoD requests funding annually from Congress to achieve environmental standards, in its overseas activities.<sup>1422</sup> The language of this directive reflects a serious obligation to protect the global environment from the effects of military operations abroad.

3) Title 32 of the Code of Federal Regulations, Part 855:<sup>1423</sup>

Section 855.1 states that “civil aircraft use of Air Force airfields in foreign countries will be subject to U.S. federal laws and regulations that have extraterritorial effects and to applicable international agreements with the country in which the Air Force installation is located.” This provision considers the U.S. Air Force airfields in foreign countries as American territory, and any U.S. civil airplane that uses these airfields will be subject to U.S. laws as well as international treaties. On the other hand, the language of this provision implicitly authorizes Congress to decide which federal laws or regulations have extraterritorial effects. Thus, Congress has the power to extend the reach of this provision.

4) Air Force Policy Directive 32-70:<sup>1424</sup>

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<sup>1421</sup> *Id.*, at 1.

<sup>1422</sup> Bayoneto, *supra* note (42) at 130.

<sup>1423</sup> 32 C.F.R. § 855.1.

<sup>1424</sup> Air Force Directive 32-70, *supra* note (1407).

This Directive, as discussed earlier, outlines Air Force standards for complying with environmental laws and policy. According to 1.3.2. (compliance) of the Directive, Air Force operations overseas shall comply with the FGS, or OEBCD of DoD. Moreover, “consistent with security requirements, the Air Force will support environmental compliance inspections of its operations and activities worldwide, and will aggressively correct areas not in compliance.”<sup>1425</sup>

The Air Force undertakes to reduce imminent and substantial health and environmental risks caused by Air Force activities at installations located in foreign countries.<sup>1426</sup> More significant, the Air Force also undertakes to use Zero-waste management to the extent possible, by reducing the use of hazardous materials and the releases of pollutants into the environment. Moreover, the Directive encourages Air Force personnel to prevent pollution by stating that “where environmentally damaging materials must be used, their use will be minimized. When the use of hazardous materials cannot be avoided, the spent material and waste cannot be reused or recycled, dispose of the spent material and waste as a last resort in an environmentally safe manner, consistent with the requirements of all applicable laws.”<sup>1427</sup> In addition, this Directive implements various statutes and international protocols including NEPA and CERCLA.

#### 5) The Environmental Program in Foreign Countries<sup>1428</sup>

This Air Force Instruction implements AFPD 32-70, “Environmental Quality,” by setting forth specific objectives and standards for the activities of the Air Force overseas. According to this Instruction, the Air Force undertakes to achieve environmental quality in foreign countries to guarantee long term access to the land, air, and water necessary to protect U.S. interests, while conducting day to day

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<sup>1425</sup> *Id.*, at 1.3.2.

<sup>1426</sup> *Id.*, at 1.3.1.

<sup>1427</sup> *Id.*, at 1.3.4.

activities abroad.<sup>1429</sup> Under Chapter 2 of the Instruction, sites contaminated by Air Force operations must be restored to eliminate known imminent and substantial dangers to human health and safety,<sup>1430</sup> unless the Air Force is bound by international agreement to do more.<sup>1431</sup>

Since this Instruction implements an AFPD, Air Force activities in foreign countries must comply with the DoD Final Governing Standards; or, where the FGS have not been established, must comply with the criteria of OEBGD, if the criteria do not conflict with any applicable international treaties.<sup>1432</sup>

Finally, Chapter 5 of the Instruction deals with Pollution Prevention, and requires all Air Force personnel to comply with Air Force Policies, Directives, and Instructions in all operations in foreign countries.<sup>1433</sup> Again, that requirement applies unless international agreements such as the Status of Forces Agreements, or bilateral agreements, direct otherwise.

These materials indicate that DoD officials are aware that environmental harm anywhere in the world will sooner or later affect the U.S. environment, and also that good environmental practices help to maintain good relations with host countries. Accordingly, they have taken steps to insure that U.S. military operations take into consideration environmental protection in foreign countries. The fact that the U.S. government has taken those steps may encourage other countries to do likewise.

### 3. The United States Case Law

There are many cases that deal with the environmental law statutes in the United States. This subsection will examine U.S. case law involving environmental laws, particularly, NEPA, RCRA, and CERCLA. As with previous sections, these cases may be classified into two categories: case law relevant to the application of the environmental

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<sup>1428</sup> Air Force Instruction 32-7006, Environmental Program in Foreign Countries, Civil Engineering, April 29, 1994.

<sup>1429</sup> *Id.*, at chapter 1, 1.1.

<sup>1430</sup> *Id.*, at chapter 2, 2.1.

<sup>1431</sup> *Id.*, at chapter 2, 2.3.

<sup>1432</sup> *Id.*, at chapters 3, 3.1., 3.1.1.

<sup>1433</sup> *Id.*, at chapter 5, 5.2.

statutes at home, and case law relevant to the extraterritorial application of the environmental statutes.

**a. The United States Case Law Relevant to the Application of the Environmental Statutes at Home**

Here, we will focus on the U.S. case law relevant to the application of NEPA, RCRA, and CERCLA, in particular, on military activities at home.

In 1988, citizen groups and several members of Congress asked DoD to prepare a programmatic environmental impact statement (PEIS) for its plans to clean up and rebuild the entire weapons complex. They contended that such a statement was required by the National Environmental Policy Act (NEPA).<sup>1434</sup> Only such a comprehensive analysis, they argued, could furnish the perspective needed to set sound priorities and make the most efficient allocation of limited resources. A PEIS would reveal common environmental problems at various sites, avoiding the need to develop unique responses on a case-by-case basis, and speeding the overall cleanup. Equally important, they insisted, members of the public would be given an opportunity to participate in the planning process.

When DoD failed to respond, the citizen groups asked a federal court to order the preparation of a PEIS.<sup>1435</sup> They maintained that “one of the largest industrial rehabilitation programs ever undertaken” required public comment and security. Failure in planning such a massive cleanup, they pointed out, could lead to further contamination of the air and water and exposure for workers and the public.

Six months later, before a trial could begin, DoE agreed in a settlement of the litigation to prepare one PEIS for the cleanup process, and another for a “modernization” of the weapon complex.<sup>1436</sup> The PEIS for the cleanup was to contain a broad environmental assessment of the program’s plan. In 1991, public hearings were held in twenty-three cities to determine the range of issues that would be addressed in the

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<sup>1434</sup> See, letters to John Herrington, Secretary of Energy, from Dan W. Reicher, National Resources Defense Council (December 14, 1988), and from Congressman Mike Synar and other members of Congress (December 14, 1988).

<sup>1435</sup> Natural Resources Defense Council, Inc. v. Department of Energy, Civil Action No. 89-1835 (D.C. 1989).

<sup>1436</sup> DOE press release, January 12, 1990.

statement. DoE received a number of comments concerning the need for greater public participation and oversight, public and worker health and safety, adequate resources for the cleanup, alternative technologies, and environmental standards.

The PEIS proved to be so massive and complex that DoE conducted six regional workshops just to develop a detailed strategy for completing it. DoE then proposed to eliminate the environmental restoration alternative from the PEIS, since cleanup decisions at individual sites had to reflect local conditions and involve state regulators and the public.<sup>1437</sup> After additional workshops, a draft impact statement was issued in mid-1995, to be followed by public hearing around the country and release of the final PEIS sometime thereafter.<sup>1438</sup>

Another case arose in 1977, when the Navy prepared an environmental impact statement (EIS) for its upgraded and expanded extremely low frequency (ELF) submarine communication facility. ELF uses radio antennas spread over a large area of northern Wisconsin and the Upper Peninsula of Michigan to transmit instructions to submerged submarines around the world. When new information subsequently came to light about possible adverse biological effects of such low frequency radiation, the State of Wisconsin brought suit to compel the Navy to prepare a supplemental EIS before the facility was completed. The trial court found that a supplemental EIS was indeed required. It also found that the Navy had failed to overcome a presumption that violations of NEPA should be enjoined, and that no remedy short of an injunction would serve the purposes of the act.<sup>1439</sup>

The Court of Appeals reversed, deciding that a supplemental EIS was not needed.<sup>1440</sup> It found that the new information failed to raise concerns of such gravity that another formal, in-depth look at the environmental consequences was required. In dictum, the court went on to declare that even if there had been a NEPA violation.

NEPA cannot be construed to elevate automatically its procedural requirements above all other national considerations. Although there is no national defense exception to NEPA, and the Navy does not claim one, the national well-being and security as

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<sup>1437</sup> 60 Fed. Reg. 4607 (1995).

<sup>1438</sup> See, Department of Energy, *Implementation Plan Executive Summary* (DoE/EIS-02000)(1994).

<sup>1439</sup> See, Wisconsin v. Weinberger, 578F. Supp. 1327, (W. D. Wis. 1984).

<sup>1440</sup> Wisconsin v. Weinberger, 745F.2d 412, at 421 fn. 9, (7<sup>th</sup> Cir. 1984).

determined by the Congress and the President demand consideration before an injunction should issue for a NEPA violation.<sup>1441</sup>

The court insisted that its job was to “tailor its relief to fit each particular case, balancing the environmental concerns of NEPA against the larger interests of society that might be adversely affected by an overly broad injunction.”<sup>1442</sup>

#### **b. The United States Case Law Relevant to the Extraterritorial Application of the Environmental Statutes**

U.S. courts have decided that domestic laws do not apply abroad unless Congress makes it clear that they should.<sup>1443</sup> Thus, in one case the court found no congressional intent to apply the Resource Conservation and Recovery Act (RCRA) to extraterritorial disposal of hazardous waste by private parties.<sup>1444</sup>

An older, but particularly instructive, case on the extraterritorial application of statutes is Foley Bros., Inc. v. Filardo.<sup>1445</sup> In that case, the United States had contracted with Foley Brothers to help build public works in Iraq and Iran. The employer hired Filardo as a cook at the construction sites, but did not pay him overtime wages for working over eight hours a day. After the employers refused to pay him overtime, Filardo sued under the Federal Eight Hours Law.<sup>1446</sup> The court held that this statute did not cover Filardo’s employment abroad: “nothing in the act itself, as amended, nor in the legislative history, would lead to the belief that the Congress entertained any intention” to apply the statute extraterritorially.<sup>1447</sup> It also concluded that: “administrative interpretation of the act...tended to support petitioner’s contention as to its restricted geographical scope.”<sup>1448</sup> The court relied on the statute’s silence as to extraterritoriality. Since Congress did not explicitly provide intention for

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<sup>1441</sup> *Id.*, at 425.

<sup>1442</sup> *Id.*, at 426.

<sup>1443</sup> Equal Employment Opportunity Commission v. Arabian American Oil Co., 499 U.S. 244, 248 (1991).

<sup>1444</sup> Amlon Metals Inc., v. FMC Corp., 775 F.Supp. 668 S.D. New York (1991)[hereinafter Amlon Metals Inc., v. FMC Corp.]

<sup>1445</sup> Foley Bros., Inc. v. Filardo, 336 U.S. 281(1949) [hereinafter Foley Bros., Inc. v. Filardo].

<sup>1446</sup> 40 U.S.C. §§ 321-26(1940).

<sup>1447</sup> Foley Bros., Inc. v. Filardo, *supra* note (1445) at 285.

<sup>1448</sup> *Id.*, at 290.



the statute application abroad, then the court did not consider the international effects of applying the statute extraterritorially, and whether it might conflict with the laws of the host country. In the court's view, only an explicit Congressional directive could provide a basis for extraterritorial application.<sup>1449</sup>

However, the court held that a U.S. statute did have extraterritorial application in Steele v. Bulova Watch Co.<sup>1450</sup> There, Bulova sued the defendant, a U.S. citizen, for a patent infringement that had allegedly occurred in Mexico. The court read the statute broadly to cover the defendant's actions, holding that Congress can enact laws governing its citizens in other jurisdictions when the laws do not trespass upon the other jurisdiction's rights. The court also held that "the U.S. had a statutory interest in the outcome of this case because some of the watches the defendant made had found their way across the border, and thus the effects of the defendant's activity were felt in the U.S."<sup>1451</sup> Thus, U.S. courts could properly exert jurisdiction over the activities broadly in some cases.<sup>1452</sup> One reason for doing so, perhaps, would arise if such cases involve foreign country interests in which U.S. military has installations, to the extent possible to protect these interests from devastation by military activities.

The court applied another statute extraterritorially in Skiriotes v. Florida,<sup>1453</sup> which involved the application of a Florida statute to a U.S. citizen whose activities took place on the high seas, not in Florida's territorial waters. The court concluded that whether the defendant was in Florida waters or not was beside the point because the "U.S. is not debarred by any rule of international law from governing the conduct of its own citizens upon the high seas or even in foreign countries when the rights of other nations or their nationals are not infringed."<sup>1454</sup> Thus, the court held that a U.S. statute can have extraterritorial application even it does not explicitly state so, so long as its application does not interfere with other nations or their citizens' rights.

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<sup>1449</sup> 40 U.S.C. §§ 321-26 (1940).

<sup>1450</sup> Steele v. Bulova Watch Co., 344 U.S. 280 (1952).

<sup>1451</sup> *Id.*, at 285.

<sup>1452</sup> Ryuichi Yamakawa, *Territoriality and Extraterritoriality: Coverage of Fair Employment Laws After EEOC v. Aramco*, 17 N.C.J. INT'L L. & COM. REG. 71, at 76 (1992).

<sup>1453</sup> Skiriotes v. Florida, 313 U.S. 69 (1941).

<sup>1454</sup> *Id.*, at 73.

NEPA was held to have extraterritorial effect in Environmental Defense Fund v. Massey.<sup>1455</sup> There, a U.S. research installation in Antarctica generated food wastes which were burned by National Science Foundation (NSF) in an open landfill until 1991, when asbestos was discovered in the landfill. After that discovery, NSF began burning the wastes in an “interim incinerator.” The Environmental Defense Fund moved to stop that operation under NEPA, claiming that “the incineration of NSF’s wastes could produce toxic pollutants and thus would be hazardous to the environment.”<sup>1456</sup> To determine whether the U.S. statute could be applied to activities in Antarctica, the D.C. Circuit reviewed the history of the extraterritorial application of statutes in conjunction with the presumption against extraterritoriality. It determined that there are three “well-established exceptions to the presumption: the first is where there is an affirmative intention of the Congress clearly expressed to extend the scope of the statute to conduct occurring within other sovereign nations, the second exception applies when adverse effects will occur in the United States if the statute is not extended to the foreign sovereignty, and the third exception is applicable where there may be significant effects outside the United States, but the regulated conduct itself occurs in the United States.”<sup>1457</sup> The court found that NEPA could be applied to that situation, because of the “sweeping scope of NEPA and the EIS requirement.” The broad statutory language led the court to the conclusion that Congress intended to apply NEPA abroad.<sup>1458</sup>

Therefore, U.S. environmental statutes can be applied extraterritorially if they do not create interference with other countries laws, or any effect on foreign relations.

NEPA was applied extraterritorially to allow a foreign citizen to intervene in a suit in Wilderness Society v. Morton.<sup>1459</sup> The U.S. Court of Appeals for the District of Columbia Circuit authorized a Canadian citizen and a Canadian environmental organization to intervene in a suit seeking to require compliance with NEPA prior to

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<sup>1455</sup> Environmental Defense Fund Inc., v. Massey, 986 F.2d 528, 529 (D.C. Cir.1993).

<sup>1456</sup> *Id.*, at 530.

<sup>1457</sup> *Id.*, at 531.

<sup>1458</sup> *Id.*, at 536. On this issue, the court held that under the *Aramco* test, the opposite is true, it stated that in spite of the broad language of NEPA, “Congress failed to provide a clear expression of legislative intent through a plain statement of extraterritorial statutory effect,” and NEPA should not be applied extraterritorially. *EDF(I)*, 772 F. Supp. 1296, 1297 (1991), *reversed and remanded*, 986 F.2d 528 (D.C. Cir. 1993).

issuance of a permit for the trans-Alaska pipeline. There were two proposed routes for the pipeline: one ran across Canada to the U.S.; while the second terminated at a super tanker port in Valdez, Alaska, for seaborne shipment to the lower 48 states. The court found that either of the two routes would have a potentially harmful effect on Canada,<sup>1460</sup> and thus, it granted the application for intervention. Interestingly, the court also recognized that foreign policy considerations may at times outweigh NEPA's extraterritorial application.

Accordingly, a citizen of a country where the U.S. military has sites and bases can sue in U.S. courts for injury resulting from military activities under U.S. environmental statutes, such as RCRA, and CERCLA. A citizen of the host country may also have the right to sue U.S. military officials in the U.S. courts when a status of forces agreement grants that right. In People of Enewetak v. Laird<sup>1461</sup>, the court held that NEPA was applicable to federal actions in the Trust Territory of the Pacific Islands. That case involved the use of the atoll for experiments to determine the vulnerability of strategic defense to nuclear attack. The Enewetak court concluded that "NEPA is not restricted to U.S. territory delimited by the fifty states."<sup>1462</sup> It based this conclusion on the legislation's use of the broader term "Nation" instead of the more limiting term "United States."<sup>1463</sup> Moreover, even though Enewetak is located outside the U.S., its people are subject to U.S. authority.<sup>1464</sup> The U.N. Trusteeship Agreement<sup>1465</sup> gave the U.S. "full power of administration, legislation, and

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<sup>1459</sup> Wilderness Society v. Morton, 463F.2d 1261(D.C.Cir.1972).

<sup>1460</sup> *Id.*, at 1262. "The danger to Canada of the overland route was obvious to the court, some of the potential impacts from the seaborne shipment option included damage to British Columbia's fishing and logging industries and harm to Canada's shoreline recreational property". Thomas E. Digan, Comment, *NEPA and the presumption against Extraterritorial Application: The Foreign Policy Exclusion*, 11 J. CONTEMP. HEALTH L. & POL'Y 165, at 169 fn37 (1994).

<sup>1461</sup> People of Enewetak v. Laird, 353 F.Supp. 811 (D.Haw.1973) [hereinafter People of Enewetak v. Laird].

<sup>1462</sup> *Id.*, at 816.

<sup>1463</sup> NEPA § 201, 42U.S.C. § 434, which deals with Presidential Environmental Quality Reports, setting forth: "(1) the status and condition of the major natural, manmade, or altered environmental classes, of the Nations [...] (2) current and foreseeable trends in the quality, management and utilization of such environments and the effects of those trends on the social, economic, and other requirements of the Nation. (3) the adequacy of available natural resources for fulfilling human and economic requirements of the Nation in the light of expected population pressures. (4) a review of the programs and activities "including regulatory activities" of the Federal Government, the state and local governments, and non governmental entities or individuals[...]"

<sup>1464</sup> People of Enewetak v. Laird, *supra* note (1461) at 818.

<sup>1465</sup> *Id.*, at 818-19.

jurisdiction” over Enewetak.<sup>1466</sup> The original language which omitted, was more precise in saying: “as an integral part of the United States.”<sup>1467</sup> Thus, the court concluded that NEPA applied to activities on that island. By extension, NEPA can be applied to all major U.S. activities that have significant environmental impact on places outside the U.S. including activities of the military.

On the other hand, in Amlon Metals Inc., v. FMC Corp.,<sup>1468</sup> the court held that RCRA did not apply extraterritorially. There, a U.K. corporation and its American agent sued a Delaware corporation, alleging violation of the Alien Tort statute, and two provisions of the Resource Conservation and Recovery Act: its hazardous waste exportation provision, § 3017, 42U.S.C. § 6938,<sup>1469</sup> and the term “any person” in its citizen suit provision § 7002, 42 U.S.C. § 6972. The case raised the question of RCRA’s applicability abroad.<sup>1470</sup> The court held that RCRA did not apply, because “subject matter jurisdiction did not exist under Alien Tort Statute, and the Resource Conservation and Recovery Act did not apply extraterritorially” because Congress did not clearly express an intent that it should.

A case where the court stated that NEPA did not apply extraterritorially, was Greenpeace U.S.A. v. Stone,<sup>1471</sup> in which the United States Army undertook a plan to remove munitions from Germany to a facility on Johnston Atoll. The transportation consisted of three phases:

- Transportation of munitions from their magazines to a railhead in Germany.
- Shipment by rail to a German port, and
- Transport by sea to Johnston Atoll.<sup>1472</sup>

The court stated that NEPA did not apply to the movement of munitions within Germany, because it would result in “grave foreign policy implications and would

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<sup>1466</sup> *Id.*, at 818 fn. 12.

<sup>1467</sup> *Id.*, at 818.

<sup>1468</sup> Amlon Metals Inc., v. FMC Corp., *supra* note (1444).

<sup>1469</sup> RCRA’s export provision require notification of a shipment of hazardous waste abroad to the EPA Administrator and to the Government of the receiving country.

<sup>1470</sup> As mentioned earlier in Section III (A)(2) of this paper which entitled “RCRA’s exportation of hazardous waste, and citizen suit provisions”.

<sup>1471</sup> Greenpeace USA v. Stone, *supra* note (1418) at 749.

substantively interfere with a decision of the President and a foreign sovereignty in a manner not intended or anticipated by Congress.”<sup>1473</sup> NEPA could not apply extraterritorially there, because of that interference with foreign policy decisions.

In Defenders of Wildlife v. Lujan,<sup>1474</sup> environmental organizations challenged a Department of Interior regulation limiting some provisions of the Endangered Species Act (ESA) to action occurring in the U.S. or on the high seas. The court held that Congress intended for the ESA to extend to all agency actions affecting endangered species, whether within the U.S. or abroad, since section 7 of the Act requires every federal agency to insure that its activities in the United States, upon the High Seas, and in foreign countries, will not jeopardize the continued existence of a listed species.<sup>1475</sup> The court also found that both the act’s plain language and its legislative history supported the conclusion that Congress intended to extend the application of ESA extraterritorially.

In some cases, NEPA may require a federal agency to prepare an EIS for action taken abroad, especially where the agency’s action has direct environmental impacts within a foreign country, or where there has clearly been a total lack of environmental assessment by the foreign country involved. However, the Supreme Court has been reluctant to give extraterritorial application to U.S. statutes if doing so would conflict with a treaty or with a law of a foreign nation.<sup>1476</sup>

#### **4. Kuwait Environmental Laws and Regulations**

Kuwait has a system of environmental laws and regulations. However, many of these laws and regulations do not respond adequately to the nation’s environmental needs as a developing country, and particularly to the threat of resource depletion and environmental pollution. Nonetheless, these laws provide a basis for the restoration and maintenance of environmental quality, in times of peace and in times of armed conflict.

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<sup>1472</sup> *Id.*, at 753.

<sup>1473</sup> *Id.*, at 761.

<sup>1474</sup> Defenders of Wildlife v. Lujan, 911 F.2d 117, 122-125 (8<sup>th</sup> Cir.1990), *rev’d on other grounds*, 504 U.S. 555 (1992).

<sup>1475</sup> ESA, 16 U.S.C.A. § 7 (a) (2), § 1536 (a) (2).

<sup>1476</sup> Suzanne B. Krolikowski, Note, *A Sovereign In A Sovereignless Land ? The Extraterritorial Application of United States Law: EDF v. Massey*, 19 N.C.J. INT’L L&COM.REG. 333, at 350 (1994).

Under the Kuwaiti legal system, environmental rules can be expressed in the constitution, statutes, or rules and regulations. In addition, Islamic laws and teachings can have an impact on environmental protection.

**a. The Islamic Reflection on the Kuwaiti Legal System**

As an Islamic country, Kuwait stabilizes and protects its environment because it is considered an Islamic obligation. This obligation originates in the view that man does not own the environment, that God is the real owner of everything, and therefore any abuse to god's property is unacceptable.

[G]od's wisdom has ordained to grant human beings stewardship (khalifah) on the earth [...] And as such man is only a manager of the earth and not a proprietor [...] and must use it as a trustee.<sup>1477</sup>

The prohibition of abuse is stated in the prophetic declaration that "there shall be no damage and no infliction of damage."<sup>1478</sup>

Moreover, in Islam there are protected areas that must be protected from human abuse, such as Al-haramaan and Al-Waqf.<sup>1479</sup> In those sanctuaries, any harm to the natural resources or people, and any harm to the property is strictly prohibited. Indeed, scriptural law prohibits any warfare in these areas. The Prophet Mohammed said that "Any Muslim, believing in God and the day of resurrection, should never butcher in Alharam."<sup>1480</sup>

More generally, Islam encourages human beings to develop the environment, when the prophet, upon him be blessings and peace, declared<sup>1481</sup> "[i]f any Muslim plants a tree or sows a field, and a human, bird or animal eats from it, it shall be reckoned as charity from him."<sup>1482</sup> Conversely, any destruction of the nature will be punished by God.

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<sup>1477</sup> BAGADER ET AL., *supra* note (782) at 2, 18; *see also*, ZEIN EDIN ABDULMAGSOOD, THE ENVIRONMENT AND HUMAN BEINGS, AN ISLAMIC VISION 19 (Dar Albhooth Alelmeiah, 1986) [hereinafter ABDULMAGSOOD].

<sup>1478</sup> BAGADER ET AL., *supra* note (782) at 18.

<sup>1479</sup> *Id.*, at 26-27.

<sup>1480</sup> ABI YA'ALY, ALAHKAM ASUALTANEIAH, 193, cited in AAREF KHALIL ABOU EID, THE FOREIGN RELATIONS IN THE KHALPHA STATE 55 (Dar Al-Argam, 1985) [hereinafter ABOU EID].

<sup>1481</sup> Hadith of sound authority, related by al-Bukhari and Muslim on authority of Anas.

*See*, BAGADER ET AL., *supra* note (782) f.n. 13, at 33.

<sup>1482</sup> *Id.*, at 3.

Therefore, a number of Muslims offers a part of their property to the authorities to treat them as Waqf,<sup>1483</sup> which is a religious endowment, a property giving revenues, as regulated by Islamic law,<sup>1484</sup> so that authorities can plant crops, or build a dam, so other people can benefit from its boons.

However, Islamic law does not directly mandate environmental protection, as contemporary laws and international norms reflect it. But this does not mean that Islam's influence is completely absent regarding environmental protection. Religious considerations may encourage the government to enact laws or regulations that ensure environmental protection. For example, the Kuwaiti Municipal Council, for purely Islamic reasons,<sup>1485</sup> adopted a rule prohibiting the taking of shellfish and oysters, and closing the shellfish market.<sup>1486</sup> Islamic Fatwa was the reason for the adoption of this rule, but one effect of it was to protect the shellfish and oysters.

The Holy Koran<sup>1487</sup> also speaks to environmental protection during armed conflict. For instance, the first Muslim Khalifa, Abu Baker, prohibited his army commanders<sup>1488</sup> from killing women, children, and aged persons, cutting fruitful trees, destroying buildings, killing sheep or camels unless for eating, or burning or flooding palm trees.<sup>1489</sup> Those recommendations included a number of environmental considerations. For instance, the prohibition against cutting fruitful trees, or burning or flooding palms, should be interpreted as guaranteeing protection to all flora. Moreover, recommending the avoidance of killing sheep or camels should be interpreted as recommending the protection of all fauna. Finally, recommending the avoidance of destroying the buildings should be interpreted as protection of the cultural heritage.

Apart from Islamic teaching on the environmental, Kuwaiti law has sought to protect ecological interests from the moment of its independence in 1961, Kuwait's

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<sup>1483</sup> In Kuwait there is a Ministry named Wozarat Al-Awqaf Washuoon Alislamiyah [the Ministry of Waqf and Islamic Affairs] that creates a division named Waqf Department.

<sup>1484</sup> Encyclopedia of the Orient, <<http://lexicorient.com/e.o/waqf.htm>> (last visited Aug. 10, 2001) [hereinafter Encyclopedia of the Orient].

<sup>1485</sup> Selling oysters is interpreted as gambling, where you buy something by chance that might be valuable, which is the pearl, or by chance you might not find pearl. This gambling is completely prohibited in Islam.

<sup>1486</sup> *The Municipal Council According to Fatwa, Decided to Close the Shelf-fish Market and prohibits its catch*, Al-watan (Daily Kuwait Journal) <[www.alwatan.com.kw/today/n4.html](http://www.alwatan.com.kw/today/n4.html)> (visited March 28, 2000).

<sup>1487</sup> The Koran was described as the first systematic code of war. See, A. P. V. ROGERS, LAW ON THE BATTLEFIELD 1 (Manchester University Press, 1996) [hereinafter ROGERS].

<sup>1488</sup> The Army Commander is Yazid Ibn Abi Sofian.

<sup>1489</sup> AZARGANY, AL-MAWTE'A, 3<sup>rd</sup> Part, cited in ABOU EID, *supra* note (1480) at 203.

Constitution included some provisions of environmental protection during armed conflict.<sup>1490</sup>

Moreover, there are a number of general laws that include environmental protection provisions. A number of authorities in Kuwait are charged with ensuring environmental protection, such as Kuwait Municipality,<sup>1491</sup> the Ministry of Trade and Industry, the Ministry of Transportation,<sup>1492</sup> the Ministry of Finance, the Ministry of Oil, the Ministry of Health,<sup>1493</sup> and the Public Authority for Agriculture and Fisheries Patrimony. Some of these authorities have successfully achieved certain environmental protections, but some have not, as will be explained later.

Environmental law in Kuwait is still a new field. Greater attention was given to the environment after the environmental damage caused by the Iraqi invasion of Kuwait in 1990. The first specific Authority charged with protecting the environment is the Environmental Public Authority (EPA), which was created in 1995 by the law No.21/1995 amended by the law No.16/1996. Before this date, environmental protection was the responsibility of a number of ministries and authorities, which resulted in contradiction among their duties.

In 1997, environmental concerns were introduced into Kuwait University's program, where the Faculty of Law started to teach environmental law to undergraduate students.<sup>1494</sup> In 1999, study of the environmental law was incorporated into graduate level studies<sup>1495</sup> as well. The same year, the Faculty of Law of Kuwait University, for the first time offered scholarships to a number of its distinguished graduate students to obtain an advanced degree in environmental law in developed countries and thus to benefit from

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<sup>1490</sup> See KUWAIT CONSTITUTION, Nov. 11, 1962, arts 15, 21, 25, available at <[http://www.embassyofkuwait.com/General\\_Information/constitution.html](http://www.embassyofkuwait.com/General_Information/constitution.html)> (last visit Mar. 6, 2002) [hereinafter KUWAITI CONST.].

<sup>1491</sup> Ghanoon Baladiat AlKuwait 15/1972, [Kuwait Municipality Law No.15/1972], [hereinafter Kuwait Municipality Law].

<sup>1492</sup> Marssoom Bisha'an Wozarat Almowas'alat, July 81, 1988 [The Ministry of Transportation Decree of June 18, 1988], [hereinafter The Ministry of Transportation Decree].

<sup>1493</sup> Marssoom Bisha'an Wozarat Asih'ha Al'aamah 1979, [The Ministry of Public Health Decree of 1979][hereinafter The Ministry of Health Decree].

<sup>1494</sup> International Law Department in Kuwait Faculty of Law is charged in environmental law teaching to undergraduate students.

<sup>1495</sup> Public Law Department in Kuwait Faculty of Law is charged of environmental law teaching to graduate students.



their experiences in the environmental field. And I have the honor to be the first Kuwaiti who held this position.

Nevertheless, environmental law in Kuwait is still in its early stages. To ameliorate this situation the Higher Council of the Environmental Public Authority adopted a Bill concerning the establishment of an Environmental Court.<sup>1496</sup> This Bill has been recently approved by the Cabinet of Ministers, and is likely to be enacted into law by the National Assembly. This future court will be composed of one judge to examine all environmental questions, but its jurisdiction will be criminal only.<sup>1497</sup> To date, environmental issues have been resolved by non-specialized courts.<sup>1498</sup>

In an important case, the Felonies Court in Kuwait decided that express negligence in port or aboard a tanker, during shipping operations, is the main cause of Kuwait's territorial sea pollution.<sup>1499</sup> While the Felonies Court has decided such cases, an environmental Court is likely to be better equipped to decide more technical matters of environmental law.

## **b. Constitutional Provisions Relevant to Environmental Protection**

In 1963, with the enactment of the Kuwaiti constitution, Kuwait adopted a very modest environmental protection system. However, the Iraqi destruction of Kuwait's environment during the Gulf War II provoked the urgent need to address amelioration of environmental conditions.

A number of provisions in the Constitution deal with environmental protection in general. Moreover, this protection may be extended to cover environmental effects of armed forces, in both peace and times of armed conflicts.

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<sup>1496</sup> Mashroa'a Ghanoun Bi'insha'a Watandeem Mahkamah Bi'iyah [A Bill Establishing and Regulating the Environmental Court], Approved by the Higher Council of EPA in its Meeting No. 2/99 in Dec. 29, 1999.

<sup>1497</sup> Article 1 of the Bill asserts the establishment of an Environmental Criminal Court, guided by a single judge, and specialize in environmental crimes determination. *Id.*, art. 1.

<sup>1498</sup> The Bill of Establishing and Organizing an Environmental Court.

<sup>1499</sup> Case No. 2445/1978 October 3, 1978, and 1646/78 December 3, 1978, unpublished judgments, *See*, Al Al Awadi Badria, *A Commentary on a Judgment Relative to Polluting the Sea by Oil, the Necessity to Abandon Negligence as Responsibility Base in Pollution Cases*, 1L.& SHARIA J., 193, at 194 (March 1979).

## 1) The Prohibition of Offensive Wars

Until Gulf War II, Kuwait had never been involved in an armed conflict, internal or international. Article 68 of the Kuwait Constitution totally prohibits offensive wars.<sup>1500</sup> Consequently, any military arms or tactics usable only in offensive war are completely prohibited and their possession is unconstitutional. This can explain the absence of nuclear arsenal in the Kuwaiti armed forces. However, defensive war is allowed.<sup>1501</sup> Upon this right, and under Article 51 of the United Nations Charter Kuwait used force to liberate its territories occupied by Iraq in 1990-91.

## 2) Public Health

Article 15 of the Constitution states that “[t]he State cares for public health and for the means of prevention and treatment of diseases and epidemics.” Consequently, caring for the public health is a duty of the State, any breach of this duty raises the State’s responsibility before the National Assembly. This provision includes both preventive and remedial measures. The armed forces, as a part of the government, also have to consider both preventive and remedial measures, such as avoidance of any use of arms or tactics that result in a real threat to the public health. Moreover, whenever a military activity affects the public health, the armed forces have the duty to take remedial measures necessary to eliminate and reduce the risk of such effects.

Even if the military forces were to neglect this obligation, the Ministry of Health is charged with maintaining public health, including support of a healthy and safety environment.<sup>1502</sup> In accordance with Article 15 of the Constitution, a Decree relevant to the Ministry of Public Health was issued in 1979. Article 2 of this Decree charged the Ministry of Health with responsibility for the prevention and treatment of disease, including diseases resulting from military activities. However, the Ministry of Health was not prepared to cope with the environmental effects of Gulf War II. For example, no preventive measures were taken to isolate the suspected areas of nuclear pollution from the general population, and there is a remarkable absence of medical rehabilitation, such

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<sup>1500</sup> KUWAITI CONST., *supra* note (1490) art.68.

<sup>1501</sup> *Id.*

<sup>1502</sup> Ministry of Health Decree, *supra* note (1493) art. 1.

as that provided in the United States by the U.S. Veterans administration regarding the Gulf War Veterans' Illness.<sup>1503</sup>

### 3) Natural Resources Conservation and Proper Exploitation

Article 21 of the Constitution protects natural resources and considers them public property. Both the State and individual citizens therefore have responsibility to protect those resources.<sup>1504</sup> Consequently, any military activities that destroy public property, such as the damage or depletion of natural resources, should be considered a constitutional violation, and subject to the jurisdiction of the Constitutional Court. This article also charged the State with the task of assuring proper exploitation of natural resources. Therefore, the armed forces must avoid any activities that may interfere with the protection and the proper exploitation of natural resources.

### 4) Liability for Damages

Article 25 of the Constitution addresses warfare damage, by declaring that: “[t]he state shall ensure the solidarity of society in shouldering burdens resulting from public disasters and calamities, and it shall compensate damages or injuries resulting from war or military performance.”<sup>1505</sup> This article holds the State responsible for compensating victims of warfare and military injury, during both peacetime and wartime. This provision does not detail the nature of the damage for which the State should provide compensation, and does not specifically address environmental damage. Moreover, although military activities can injure civilian as well as military personnel, civilians are

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<sup>1503</sup> About the U.S. efforts to cope with “Gulf War Syndrome”, *see*, in general Carol H. Picou, *Living with the Gulf War Syndrom*, in METAL OF DISHONOR: DEPLETED URANIUM, HOW THE PENTAGON RADIATES SOLDIERS & CIVILIANS WITH DU WEAPONS (ROSALIE BERTELL ET AL. EDS., 1997) [hereinafter Picou;] The Environmental Aftermath of the Gulf War, A Congressional Report prepared for the Committee on Environment and Public Works, Gulf Pollution Task Force, 102d. Congress, 2d Session. (Environment & Natural Resources Policy Division et al. Eds., 1992) [hereinafter A Congressional Report of the Environmental Aftermath of the Gulf War].

<sup>1504</sup> Article 17 of the Constitution states, “Public property is inviolable and its protection is the duty of every citizen.” KUWAITI CONST., *supra* note (1490) art. 17.

<sup>1505</sup> KUWAITI CONST., *supra* note (1490) art.25.

not entitled to State compensation. Thus, the State did not compensate injuries suffered during the Iraqi invasion, and instead only encouraged victims to apply to the United Nations Compensation Commission.<sup>1506</sup>

### 5) Conserving The Heritage of the State

Numerous buildings and sites in Kuwait are considered a part of Kuwaiti cultural heritage. For instance:

- 1) Old city wall gates that were left standing as monuments to the past, including Maqsab Gate (by the sea, down from the Sheraton Hotel), Jahra Gate (inside the roundabout at the bottom of Fahad Al-Salem Street), Shamiya Gate (at the start of Riyadh Street, Beraisi Gate (at the end of Mubarak Al-Kabeer Street), and Bneid Al-Qar Gate (in Bneid Al-Qar), in the green belt between Soor (well) Street and the First Ring Road. The gates were destroyed by the Iraqi invaders but have since been rebuilt.
- 2) Bayt Lothan which is a cultural center was set up to preserve the culture, and develop skills in the creative arts and crafts of Kuwait and the Gulf, and to promote fine arts and handicrafts both locally and internationally.
- 3) Sadu House is the house of weaving, presents a fine example of Bedouin camel bags, decorations, tent dividers, carpets and cushions.
- 4) the National Museum, comprising four buildings and a planetarium. It once housed the Dar Al-Athar Al Islamiyah, the Al-Sabah collection of Islamic Art, one of the most comprehensive in the world. Other buildings housed pearl diving relics, ethnographic artifacts and archaeological material from excavations on Faylaka Island.
- 5) the Science and Natural History Museum, which contains displays of the petroleum industry, natural history, aviation, machinery, electronics, space and zoology subjects, as well as a health hall and a planetarium.
- 6) Tareq Rajab Museum, a private museum that specializes in Islamic arts and crafts.
- 7) Qurain House, liberation monuments that was site of a bloody battle on February 24, 1990 between the Kuwaiti resistance and

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<sup>1506</sup> Robin L. Juni, Elliot Eder, *Ecosystem Management and Damage Recovery in International Conflict, Natural Resources & Environment*, 3 A.B.A. SEC. ENV'T & ENERGY & RESOURCES, Winter 2000, at 193.

the Iraqi occupiers. Twelve of the nineteen members of the group who took part in the fight died.<sup>1507</sup>

In addition, cultural heritage sites include the Greek archaeological sites in Faylaka, a Kuwaiti Island in the Gulf, the old building of Kuwait University in Shuwaikh, and many other buildings. These buildings and sites were seriously devastated during the Gulf War II, either by pillage or by use as military centers.

The Kuwaiti Constitution places responsibility on the government to protect the Islamic and Arabic heritage. Article 12 of the Constitution states, “the state safeguards the heritage of Islam and of the Arabs and contributes to the furtherance of human civilization.”<sup>1508</sup> The Kuwaiti Monuments Law, which will be discussed latter in this section, also applies to the forecited sited and buildings. As part of the State, the military also share responsibility for safeguarding these sites, and for avoiding damage to them.

### c. Environmental Laws and Decrees

Under Article 51 of the Constitution, the National Assembly and the Emir<sup>1509</sup> of Kuwait have authority to enact laws. Accordingly, the Emir exercises the legislative power along with the National Assembly. The National Assembly has the primary power; however, the Emir, through “Decrees,” holds legislative powers when the Assembly is dissolved or on vacation. This subsection will address a number of Laws and Decrees addressing the environmental effects of military activities, in peacetime and times of armed conflicts.

#### 1) Law Decree Regulating the Usage of Ionizing Radiation and Preventing its Hazards

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<sup>1507</sup> 1998 Kuwait Premier Guide, available at <<http://www.kpgonline.com/general.php3>> (visited May 12, 2000) [hereinafter Kuwait Guide].

<sup>1508</sup> KUWAITI CONST., *supra* note (1490) art. 12.

<sup>1509</sup> Article 51 of the Constitution states, “Legislative power shall be vested in the Emir and the National Assembly in accordance with the Constitution.” KUWAITI CONST., *supra* note (1490) art.51.

The Law Decree Regulating the Usage of Ionizing Radiation and Preventing its Hazards was enacted in 1977,<sup>1510</sup> and prohibits usage of this kind of radiation without the permission of the Ministry of Health.<sup>1511</sup> Even with permission, any person using it must take all precautionary measures to assure the safety of workers, citizens, and the environment.<sup>1512</sup> Since ionizing radiation is used by military forces, they are also subject to these rules. Armed forces must obtain permits from the Ministry of Health for any activities involving Ionizing Radiation, such as from use of weapons. Moreover, Article 4 of the Decree expressly requires consideration of environmental concerns in activities involving Ionizing Radiation,<sup>1513</sup> whether by military or civil authorities or personnel, in peacetime and times of armed conflicts. Consequently, any environmental damage resulting from the use of Ionizing Radiation during military activities is a violation of the provision, even if a permit has been granted.

Since execution of this law requires specialized personnel in the field, this Law Decree created the “Environmental Prevention from Ionizing Radiation Department,” in the Ministry of Health,<sup>1514</sup> to assure sound environmental practices.

## 2) Law Relative to the Conservation of Petroleum Resources

Petroleum and natural gas are the major resources upon which the State of Kuwait depends. Any environmental limitation to conserve and use this resource applies to all government agencies, including the military. For instance, Article 3 of the Law No.19/1973, concerning the conservation of the petroleum patrimony resources<sup>1515</sup> provides that

[E]ach delegated in the work, should take all necessary precautionary measures and actions to prevent any damage or

<sup>1510</sup> Marsoom Biganoon Bisha'an Tantheem Istikhdam Alashya'ah Almoai'yanah Walwygayah Min Makhatirha 131/1977 [Law Decree Regulating the Usage of Ionizing Radiation and Preventing its Hazards No 131/1977][hereinafter Kuwaiti Ionizing Radiation Law].

<sup>1511</sup> *Id.*, art. 3.

<sup>1512</sup> *Id.*, art 4.

<sup>1513</sup> *Id.*,

<sup>1514</sup> *Id.*, art. 6.

<sup>1515</sup> Ghanoon Bisha'an Almohafadah ala Masadir Atharwah Alpetroliah 19/1973, [Law Relative to the Conservation of Petroleum Resources No. 19/1973] [hereinafter Petroleum Resources Conservation Law].

risk produced from petroleum operations, on human life, public health, property, natural resources patrimony, cemeteries, religious, antiquarian, or tourism sites. He should also take all necessary precautionary measures to prevent air, surface and underground waters pollution.<sup>1516</sup>

This provision gives priority to environmental consideration in the use of petroleum resources, and specifically requires taking precautionary measures to prevent air, surface and underground water pollution. This restriction applies to all such operations, including those of the military, as a matter of national policy.

### 3) Law Decree Relevant to the Interdiction of Certain Acts Hurtful to Public Cleanliness and Agriculture

The Law Decree relevant to the Public Cleanliness and Agriculture<sup>1517</sup> prohibits uprooting of trees and plants in public lands.<sup>1518</sup> This Decree applies even to military operations such as the installation and the preparation of a training or combat field. Any violation of that nature is punishable.<sup>1519</sup> However, the Decree protects trees and plants on public lands only, not on private lands. Nor does the Decree protect against other harmful acts, such as spraying harmful substances, or burning. Moreover, the Decree does not specifically address other natural resources, such as fauna, water resources, and minerals.

### 4) Kuwait Monuments Law

Kuwait, as a member State of the four Geneva Conventions and the Additional Protocols I and II, is required to apply their provisions regarding the protection of cultural heritage. Thus, Kuwaiti military personnel are obliged to safeguard historical and cultural

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<sup>1516</sup> *Id.*, art. 3.

<sup>1517</sup> Marsoom Biganoon Bisha'an Ba'ad Alafa'al Almodirah Benadafah Ala'ammah Walmazroa'at 9/1987, [Law Decree No. 9/1987 relative to the Interdiction of Certain Acts Hurtful to Public Cleanliness and Agriculture No. 9/1987] [hereinafter Law Decree on Cleanliness].

<sup>1518</sup> Article 2 of the Law Decree on Cleanliness states, "the uprooting of overland trees, and plants, where ever founded in public lands, is completely prohibited." *Id.*, art. 2.

<sup>1519</sup> Article 3 of the Law Decree on Cleanliness states, "without confrontation to any more restricted punishment, a fine that not less than 5 and not more than 200 Kuwaiti Dinars will be imposed upon any violation of this law provisions." *Id.*, art. 3.

sites whether in peacetime or in times of armed conflicts. For example, Article 16 of the Additional Protocol II provides for the protection of historic monuments, works of art or places of worship.

Furthermore, Kuwait adopted the Monuments Law in 1960.<sup>1520</sup> That law has an extraterritorial effect, since it extends its jurisdiction to protect international cultural heritage, and it implements the Kuwaiti Constitution, as discussed above. Article 1 of the Monuments Law provides that

The State shall protect its cultural heritage, and conserve the monuments that exist in its territory according to the international conventions rules. Kuwait shall respect Arab and other Nations' monuments that exist outside its territory.<sup>1521</sup>

Accordingly, both civilian and military forces in Kuwait must comply with this law by avoiding damage to cultural heritage in other States' territories, whether in peacetime operations or in times of armed conflicts.

#### 5) Law Decree Concerning the Future Generations Fund

In order to protect its petroleum reserves and avoid their depletion, Kuwait has taken steps to guarantee that future generations will be able to enjoy the benefits of the wealth that petroleum provides to the people of Kuwait. Accordingly, a Law Decree Concerning the Future Generations Fund<sup>1522</sup> was adopted in 1976, to impose a “ten percent deduction from Kuwait’s yearly budget to be saved and deposited in a special account called the future generations account, starting from the year 1976/1977.”<sup>1523</sup>

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<sup>1520</sup> Mursoom Ameiry Biganoon Alaathar 11/1960 [Emery Decree Relevant to the Monuments Law No 11/1960][hereinafter The Kuwaiti Monuments Law].

<sup>1521</sup> *Id.*, art 1.

<sup>1522</sup> Marsoom Biganoon Bisha'an Ehtyat Alaj'yal Algadimah 106/1976[Law Decree Relevant to the Future Generations Fund No. 106/1976][hereinafter Future Generations Fund Law].

<sup>1523</sup> Future Generations Law declares in Article 1 that “starting from the budgetary year 1976/1977, a percentage of 10% will be saved yearly from the state’s incomes. ” Article 2 of this law states, “a special account will be opened in which these amounts will be deposited. These amounts will be used auxiliary alternative to the Petroleum Patrimony called “Future Generations Fund. The Ministry of Finance is charged to invest these funds, and add their benefits in this account.” Article 3 states, “the percentage mentioned in Article 1 cannot be reduced, and any intake from the Future Generations Fund is not allowed.”



This law secures future generations from being neglected by the present generation. However, this Law Decree does not mention environmental security, by providing clean air, clean drinking water, fertile soil, vegetation and agriculture. If its purpose is to protect resources for future generations, it should address environmental security as well as economic security. The fund could be used to cover the costs of environmental rehabilitation that are not covered under any national law.

#### 6) Law of the Prohibition of the Navigable Water Pollution by Oil

As a result of the ratification of the International Convention for the Prevention of Pollution of the Sea by Oil in 1962, Kuwait issued the Law No. 12/1964 the prohibiting Navigable Water Pollution by Oil.<sup>1524</sup> Article 1 of the Law articulates that “[p]olluting naval areas, defined in Paragraph 2 of this Article, is completely prohibited, whether by discharging, or leaking oil, or any other liquid containing oil, from any ship, any place on the land, or any equipment prepared to store the oil, or to transport it from one place to another, on board the ship or on the land[...].” Naval areas mentioned in Paragraph 2 of the Article are “A) Kuwait’s internal waters, and B) Kuwait’s territorial sea.” This law prohibits any discharge of oil or other liquid containing oil in those areas, whether from military or civil sources. The Ministry of Transportation, in coordination with the concerned agencies in the field of the marine environment protection, is charged with supervising the protection of navigable waters.<sup>1525</sup> The Ministry of Transportation coordinates its activities with military authorities regarding any installation that contains oil or liquid mixed with oil and that may pollute Kuwaiti marine areas.

#### 7) The Law of Kuwait Municipality and the Internal Regulations of the Municipal Council

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<sup>1524</sup> Ganoon Ragom 12 Lisanat 1964 Bisha’an Man’a Talweeth Almiyah Asalihah Liulmilahah Bizait [Law No. 12/1964 Concerning the Prohibition of Navigable Water Pollution by Oil,][hereinafter Kuwaiti Navigable Water Pollution Prohibition Act,] art. 8.

<sup>1525</sup> The Ministry of Transportation Decree, *supra* note (1492) 2 (6).

The Law No. 15/1972 relating to Kuwait Municipality and the Internal Regulations of the Municipal Council<sup>1526</sup> as amended in July 1984, requires the Municipality Director to take, within municipality competence, all necessary measures to conserve the public health, safety, and comfort, especially “[...]controlling sites containing inflammable substances and limiting their allowed quantities in these sites.”<sup>1527</sup> Since some armed forces activities involve utilizing flammable substances, they too are subject to measures taken by the Municipality Director.

#### 8) Law Decree Relevant to the Ministry of Health

The Law Decree relevant to the Ministry of Public Health of 1979<sup>1528</sup> assigns to the Public Health Ministry the task of maintaining a healthy environment in the state, and caring for citizens’ health.<sup>1529</sup> Article 2 of the law vests the Ministry of Health with a number of tasks, among them the prevention of environmental pollution, establishment of health treatment services, and the supervision of public health organizations.<sup>1530</sup> That authority also extends to military operations that have effect on public health.

#### 9) Army Law

Army Law<sup>1531</sup> No. 32 of 1967 sets out general procedural rules for certain army activities. It does not address the environmental consequences of military activities, or military responsibility for environmental damage. Nevertheless, some of its general rules can be interpreted to apply to the environment. For instance, it defines military operations

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<sup>1526</sup> Kuwait Municipality Law, *supra* note (1491).

<sup>1527</sup> *Id.*, art. 15.

<sup>1528</sup> Ministry of Health Law, *supra* note (1493).

<sup>1529</sup> *Id.*, art. 1.

<sup>1530</sup> *Id.*, art. 2.

<sup>1531</sup> Ghanoun Ragom 32/1967 Fey Sha’an Aljaish [Law No. 32/1967 Relevant to the Army].

as “all works and movements by the army or some of its units, in wartimes and during internal disturbances.”<sup>1532</sup> It can be argued that military operations include peacetime activities too, such as military maneuvers.

Article 25 of that law authorizes the Minister of Defense to compensate military personnel for damages caused to their properties, during their service or its consequences. It excludes damages caused by victim’s negligence.<sup>1533</sup> And the compensation will be limited to the value of the necessary objects to the victim and his family,<sup>1534</sup> without any regard to the environmental harm. In other meaning, Article 25 does not compensate environmental damage.

Article 26 authorizes damages caused during military operations and maneuvers.<sup>1535</sup> Although it does not specifically address damage for environmental harm, logically it should apply to any damage to the environment, since according to this Article a Ministerial Decision can regulate the right to compensate any damage caused to any person or his properties<sup>1536</sup> and people cannot be separated from their environment.

#### 10) Law Decree Relative to Civil Defense

Law Decree No. 21/1979 Relative to Civil Defense<sup>1537</sup> was enacted to assure the safety of the civilian population, the safety of transportation, and protection of buildings, public projects and properties, and communications in times of emergency.<sup>1538</sup> One of the Civil Defense duties is to “prepare precautionary plans to avoid warfare risks, by [...] finding unexploded munitions, mines, and bombs and neutralize them.”<sup>1539</sup> Neutralizing these unexploded ammunitions will also save the surrounding environment, including human beings, fauna and flora.

#### d. Environmental Rules and Regulations

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<sup>1532</sup> *Id.*, Annexed Table No. 4.

<sup>1533</sup> *Id.*, art. 25.

<sup>1534</sup> *Id.*, art. 25.

<sup>1535</sup> *Id.*, art. 26.

<sup>1536</sup> *Id.*,

<sup>1537</sup> Marsoom Byghanoon Ragom 21/1979 Fey Sha’an Adeifa’a Almadany [Law Decree No. 21/1979 Relative the Civil Defense].

<sup>1538</sup> *Id.*, art. 1.

## 1) Rules annexed to the Law Relative to the Conservation of Petroleum Resources

The Minister of Oil has enacted the Rules annexed to the Law Relative to the Conservation of Petroleum Resources.<sup>1540</sup> These rules require the preparation of a preliminary environmental impact assessment on petroleum projects and operations,<sup>1541</sup> and prohibit any soil disturbance, surface or underground pollution,<sup>1542</sup> and discharge in the surface or the underground of hazardous, solid or liquid substances, in areas under Kuwait's sovereignty and its continental shelf. Thus, these rules seek to protect the environment as well as to facilitate the exploitation of oil resources.

## 2) Kuwait Municipality Announcements Regarding Camping Areas

The Kuwait Municipality issues yearly announcements to organize and control spring camping areas, and their terms. These announcements can, and do, have an impact on environmental resources. For instance, announcement No 130/1998 declares that camping areas do not require a permit unless they include the construction of Shabra, a temporary structure which may be used as a kitchen or a living room.<sup>1543</sup> Moreover, according to the announcement, sandy fences are prohibited.<sup>1544</sup> Garbage from the camps must be deposited in dedicated sites,<sup>1545</sup> and at the end of the camping period, campers must clean up and level their sites.<sup>1546</sup> These rules addresses spring camp areas; however,

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<sup>1539</sup> *Id.*, art. 1 (2<sup>nd</sup>) (3).

<sup>1540</sup> Technical Affairs Department of Ministry of Oil, Rules of Petroleum Patrimony Resources Conservation, chapter 4 Surface, Underground and Marine Pollution (1989) annexed to the Petroleum Resources Conservation Law, *supra* note (1515) annex.

<sup>1541</sup> The Petroleum Resources Conservation Law states in Section 1 of the First Chapter of the general rules annexed to this law, "4-the delegated in work shall proceed on a preliminary environmental impact assessment of the petroleum projects and operations, to determine whether these operations need a comprehensive evaluation of their effects on the environment to prepare a detailed environmental impact assessment." See Annex of the Petroleum Resources Conservation Law, *supra* note (1515) Annexe (Part 1) (1)(4).

<sup>1542</sup> Petroleum Resources Conservation Law, *supra* note (1515) annex (Part 1) (Generalities) (1).

<sup>1543</sup> Baladiat AlKuwait I'alan Ragom 130/1998 [Kuwait Municipality Announcement No.130/1998] [hereinafter Kuwait Municipality Announcement,] at the Second Condition.

<sup>1544</sup> *Id.*, at the Third Condition (A).

<sup>1545</sup> *Id.*, at the Third Condition (B).

<sup>1546</sup> *Id.*, at the Third Condition (C).

the environmental effects caused by military camps in operational areas are similar to, if not much more worse than, the effects caused by spring camps. Consequently, military forces should be subject to these requirements<sup>1547</sup> and the Kuwaiti military should adopt similar rules.

### 3) Decision Concerning the Rules of Public Stores that are Annoying and Harmful to Public Health

Decision No.3367/81, establishing the rules of public stores that are annoying and harmful to public health<sup>1548</sup> adopted by the Municipality of Kuwait, in 1981, sought to entail a <sup>1549</sup> number of activities that would be termed nuisance under U.S. law. For example, mineral fusion shops, carpentry workshops, varnish and oil factories, pesticide factories, and forage factories are all required to insure that their activities do not pose threat to public health.<sup>1550</sup> The reasoning of this Decision could logically be extended to include military activities that pose similar hazards to the public health and the environment.

### 4) Ministerial Decision Regulating the Procedures of the Environmental Impact Assessment for Structural and Industrial Projects

The Ministerial Decision No. 9/1999, Regulating the Procedures of the Environmental Impact Assessment for Structural and Industrial Projects,<sup>1551</sup> requires all government sectors that have infrastructure projects to cooperate with EPA before they start any major development project to prepare an environmental impact

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<sup>1547</sup> MALALLAH, *supra* note (549).

<sup>1548</sup> Garar Ragom 3367/1981 Bisha'an La'ihat Almahalat Alaamah Wal Mogligah Lilrahaah Wal Mothirah Bisayah [Decision No 3367/1981 Relative to the Rules of Public Stores, Annoying, and Harmful to the Health][hereinafter Public Stores Rules].

<sup>1549</sup> The first table annexed to the Decision No. 3367/1981 is "Public Stores," which includes hotels, movie theaters, theaters, entertainment cities, public swimming pools and baths, coiffeurs, tailors, laundries and manual ironing, shoe repairing, florist, birds and ornament fish stores. The second table is "Annoying and Harmful to the Health Stores," which include asphalt plants, paints plants, car tires plants, cartons factories, pesticides plants, smelter plants, ironsmith factories, gas, weld factories by electricity or acetylene or oxygen, mechanics, carpentry plants, cemented bricks plants, glass plants, charcoal stores, timber stores, printing houses, motorbikes and bicycles repairing stores, car washing stores...etc.

Public Stores Rules, *supra* note (1548) annexed table No.1 & 2.

<sup>1550</sup> *Id.*, art. 1.

<sup>1551</sup> Gharar Bisha'an Tantheem Ijra'a Dirasat Almardood Albei'ey Lilmashroa'at Alinshaeiah Wasina'eiah 9/1990 [Decision Regulating the Procedures of the Environmental Impact for Structural and Industrial Projects, No. 9/1990] [hereinafter the Environmental Impact Assessment Ministerial Decision].

assessment.<sup>1552</sup> Article 2 of the Environmental Impact Assessment Decision states, “[p]rojects eligible to prepare and submit an environmental impact statement include those likely to lead directly, or indirectly, either alone, in combination or through interaction with other factors, to pollute the environment, to threaten public health or interfere in any way with healthy life and making good use of property.”<sup>1553</sup> Since the armed forces are part of the Kuwaiti government, they are subject to this Decision. Military activities, in peacetime and times of armed conflicts, can pollute the environment, threaten public health, and interfere with healthy and safety life, and thus, armed forces should prepare an EIA for all projects that can cause significant impact on human health and the environment.

An EIA should investigate and elaborate the

1- Impacts on inhabited areas, 2- effects on ecological systems in the areas impacted by the project, 3- expected deterioration in the aesthetic values of the area or any recreational, cultural, scientific properties, or any other important environmental aspects of the area, 4- effects on areas or buildings that have historical, scientific, archaeological, cultural or social importance for the present and future generations, 5- threats to the ecosystem and wild life, 6- significant demand on natural resources, especially those which are rare or non regeneratable, and 7- cumulative environmental effects that may take place as a result of present or future activities of the project.<sup>1554</sup>

This provision has not yet been applied to the Kuwaiti military, even though its operations can affect quality of the human environment in Kuwait. In contrast, in the United States, under NEPA, the military as part of the Federal Government is required to prepare an EIA for any major activity that has a significant impact on the human environment.<sup>1555</sup> The EIA is supposed to describe the proposed federal actions, discuss the environmental impacts of the proposed action, and consider alternatives and their environmental impacts. U.S. law, in contrast to Kuwait law, requires agencies, including the military, to consider the environmental consequences of their actions.

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<sup>1552</sup> Gharar Majlis Alwozara’a Ragom 906/1994 [Council of Ministries Decision No. 906/1994].

<sup>1553</sup> *Id.*, art.2.

<sup>1554</sup> *Id.*, art.3 (A).

<sup>1555</sup> NEPA, 42 U.S.C.A. § 102 (2)(C), § 4332 (2)(C).

e. The Role of Environmental Authorities

In the wake of the Gulf War II, environmental awareness among the Kuwaiti people and government officials has increased dramatically. That awareness is reflected in the establishment of the Environment Public Authority, the adoption of the Environmental Court Project, and in the September, 2000, launched of the Arab Regional Center for Environmental Law (ARCEL) at the Faculty of Law in Kuwait University. ARCEL will work in the Arabic-speaking world, across North Africa, Middle East and the Gulf Region.<sup>1556</sup>

ARCEL and IUCN, through the Environmental Law Center and the Commission on Environmental Law, propose to do a comparative study of environmental laws applicable to the Baltic, the Mediterranean, and the Great Lakes regions, in order to strengthen the provisions of the Kuwait Regional Convention for Cooperation on the Protection of the Marine Environment from Pollution of 1978.<sup>1557</sup>

1) The Public Authority for Agriculture  
and Fisheries Patrimony Affairs

In 1968, the government established a modest Agricultural Department in the Ministry of Public Works, while a mandate to conduct research and experimentation on various plants and animals to determine those best suited to Kuwait's natural environment.<sup>1558</sup> In 1984, this department became an independent entity called "The Public Authority for Agriculture and Fisheries Patrimony Affairs"<sup>1559</sup> (PAAFPA). PAAFPA is responsible for agricultural development, protection of the natural landscaping, beautification, and greenery, and for the development and protection of various fish resources.<sup>1560</sup>

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<sup>1556</sup> Robinson, *International Environmental Legal Trends*, *supra* note (1123) at 534.

<sup>1557</sup> Robinson, *Arab Regional Center for Environmental Law*, *supra* note (1147) at 10.

<sup>1558</sup> Hawally Governorate, *Agriculture and Animal Husbandry*, available at <<http://www.hawally.com/agriculture.html>>, (visited Feb. 9, 2000)[hereinafter Hawally].

<sup>1559</sup> Law No. 94/1983 Establishing the Public Authority for Agriculture and Fisheries Patrimony Affairs, amended by the Law Decree No. 6/1988 [hereinafter Agriculture Authority Law Decree].

<sup>1560</sup> Kuwait Institute for Scientific Research, *The Public Authority for Agriculture Affairs and Fish Resources*, available at <<http://www.kisr.edu.kw/events/gebaz05.htm>>, (visited Feb.15, 2000).

One of its goals is to “protect and assure the best use of land and water.”<sup>1561</sup> Accordingly, any activities that interfere with the best use of land and water should be eliminated, including military activities that occur on land and water.

## 2) The Environmental Public Authority

The law establishing the Environmental Public Authority<sup>1562</sup> (EPA) vests the Authority with the power to carry out activities and functions to assure the protection of the environment in the State. In particular, the EPA is to “[p]repare and supervise the execution of the complete Action Plan relating totally to the protection of the environment in the short and long terms in co-ordination with the concerned Authorities in the country[...].”<sup>1563</sup> Since the armed forces in one of the “concerned authorities” that deals with activities harmful to the environment, the armed forces should co-ordinate their activities with EPA, identify potential environmental problems, and seek to avoid damage to the environment.<sup>1564</sup> Moreover, EPA is empowered to “[p]repare a comprehensive plan against environmental catastrophes and take necessary actions required in time of war and peace in coordination and cooperation with the concerned authorities.”<sup>1565</sup> That language also suggests that military operations should be subject to environmental regulation.

In fact, there has already been effective cooperation between EPA and the Administration of Military Installations Engineering in the Kuwaiti Military, with regard to the environmental standards when establishing a new military base, or when choosing maneuver sites.<sup>1566</sup>

The Kuwaiti military is also helping in many other environmental protection issues. For example, they provided heavy-duty equipment for the landfill rehabilitation in

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<sup>1561</sup> Article 2 of PAAFPAA Law states, its goals are to “fulfill the charges of agricultural development, in all its sectors, flora and fauna, increase and protect the Fisheries Patrimony. To achieve its goals, the Authority shall 1) Supervise the land and water use for agriculture and fishery purposes, to assure the proper exploitation and its protection, 2) Supervise and regulate the fishing to assure the increase of Fisheries Patrimony.” Agriculture Authority Law Decree, *supra* note (1559) art. 2 (1) (2).

<sup>1562</sup> The Kuwaiti Environmental Public Authority Law, *supra* note (967).

<sup>1563</sup> *Id.*, art 3 (2).

<sup>1564</sup> *Id.*, art 3 (6).

<sup>1565</sup> *Id.*, art 3 (12).

<sup>1566</sup> MALALLAH, *supra* note (549).



Al-Qurain, “the smelliest neighborhood in Kuwait.”<sup>1567</sup> For three decades, an abandoned quarry in Al-Qurain was used for dumping household garbage, construction waste, and chemicals, which resulted in emitting toxic substances such as “methane, carbon monoxide, nitrogen, and hydrogen-sulfide.”<sup>1568</sup> Finally, the EPA, led by Chairman and Director General Dr. Mohammed Al-Sarawi decided to turn the dump into a clean, free source of natural energy for about 300 homes surrounding the landfill.<sup>1569</sup> The steps that they were followed were described as follows:

“First [EPA’s team] scraped off some 28,000 truckloads worth of garbage off the top of the heap, leveling the area. Then they brought in about 400,000 cubic meters of ‘gatch’-Arabic for a pebbly semi-porous sandstone from the desert-and spread it over the top of the leveled garbage. Fires died. Smells grew fainter. Then they degassed the site by drilling 300 bore holes into the gatch-covered landfill. They inserted pipes and later connected them together in an underground gridwork. And engineers discovered a fortuitous byproduct of the off-gassing methane.”<sup>1570</sup>

According to Article 4 of the EPA Law, EPA’s Higher Council (HC) is comprised of “1) Minister of Transportation, 2) Minister of Oil, 3) Minister of Trade and Industry, 4) Minister of Public Health, 5) Minister of Information, 6) Municipal Council President, 7) Director General of Public Authority of Fisheries Patrimony and Agriculture Affairs, and 8) Director General of Kuwait Institute for Scientific Research.”<sup>1571</sup> The HC is concerned with drafting general objectives and policies of EPA and other functions stipulated by law.<sup>1572</sup> Since its creation in 1995, the HC has never included military personnel in its membership.<sup>1573</sup> It may be argued that HC is a civilian council and the military has no place in it. Nevertheless, HC’s goals are to protect the environment from any threat, including military activities. Therefore, the HC’s membership should include experts in enviro-military matters.

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<sup>1567</sup> Miriam Amie, *Against all Odds, Kuwait Turning Dump into Desert Oasis*, April 26 CHRISTIAN SCIENCE MONITOR (2001) <<http://www.csmonitor.com/durable/2001/04/26/P7s2.htm>> (last visit May 1, 2001).

<sup>1568</sup> *Id.*

<sup>1569</sup> *Id.*

<sup>1570</sup> *Id.*

<sup>1571</sup> Decree No. 190/1999 Forming the Higher Council of the Environmental Public Authority, of August 15, 1999.

<sup>1572</sup> The Kuwaiti Environmental Public Authority Law, *supra* note (967) art. 4.

<sup>1573</sup> *Id.*

The Board of Directors,<sup>1574</sup> the executive body of EPA, is required to “prepare the systems and criteria that might be found upon determination of the location or establish or use or remove of any establishment or production of materials or carry out operations or any other activity that may lead to environmental pollution. [EPA] shall carry out and execute [EIA] of the development projects.”<sup>1575</sup> The general formulation of this provision does not exclude military authorities, and in fact suggests that the Board can exercise authority over military projects.<sup>1576</sup>

Under the EPA Law, the Board of Directors has the right to claim compensation for environmental damage<sup>1577</sup> resulting from the violation of this provision. Moreover, according to Article 10 of EPA’s law, the HC upon the proposal of the Board of Directors can suspend any activity or prevent the use of any material if they have a significant environmental impact.<sup>1578</sup> In cases of emergencies, the HC shall authorize the Director General to issue the suspension order for a period not exceeding seven days.<sup>1579</sup> All administrative authorities and concerned parties are subject to such an order.<sup>1580</sup> Military authorities should be subject as any other governmental agency. However, as a practical matter, the Board is unlikely to exercise that kind of control over military projects.

### 3) Kuwait Municipality

Kuwait Municipality was established in 1964, by Law No.11/1964, amended by law No. 15/1972.<sup>1581</sup> The municipality is charged with managing wastes in the State,<sup>1582</sup>

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<sup>1574</sup> *Id.*, arts. 6, 7, 8.

<sup>1575</sup> *Id.*, art. 8.

<sup>1576</sup> *Id.*, art. 8.

<sup>1577</sup> Article 8 of the Kuwaiti Environmental Public Authority Law states: “the Board of Directors may further claim for compensation for the environmental destruction due to any act that might result in environmental damage, in addition to the claim of other competent authorities and the consequences of such an act including fine and Court decisions in accordance with this law.” *Id.*, art.8.

<sup>1578</sup> Article 10 para. (I) of the Kuwaiti Environmental Public Authority Law states that “the Higher Council shall upon the proposal of the Board of Directors and after notifying the official Authority, decide to stop work in any establishment or any activity or preventing use of any instrument or material wholly or partially if the progress of work or the action results in pollution of the environment, the cessation shall be for one week duration and might be extended to another week.” *Id.*, art.10 para. (I).

<sup>1579</sup> *Id.*, art. 10 para. (IV).

<sup>1580</sup> *Id.*, art. 10 para. (II).

<sup>1581</sup> Kuwait Municipality Law, *supra* note (1491).

<sup>1582</sup> Department of Environmental Affairs in Kuwait Municipality, *The Role of Kuwait Municipality in the Environmental Protection*, [hereinafter The Department of Environmental Affairs,] at 2.

including military wastes. The Ministry of Public Health, for example, has established its own incinerator to manage medical wastes. There is no comparable facility for wastes generated by the military.

After examining the environmental law rules (international, comparative and national) it appears that the environment is still not completely secured during military operation of peacetime and in times of armed conflict. Therefore, it would be necessary to find other source of law to reinforce the environmental protection during military operations. The rules of disarmament instrument, enviro-humanitarian law, would provide further assistance in the goals seeking by this thesis.

#### **Part IV: Enviro-Humanitarian Rules**

An examination of international humanitarian rules relevant to armed conflicts demonstrates that their primary goal is human protection. These rules were examined in Part Two of this thesis, entitled “Environmental Protection in International Humanitarian Law.” On the other hand, international environmental rules that were examined in Part Three, entitled “The Environmental Law Rules,” are concerned with environmental protection, principally in the absence of armed conflicts. There exists, in the international law, a third sort of instruments that are not expressly adopted to protect only either humans or the environment. They can be classified as “enviro-humanitarian rules,” which

combine elements of both the humanitarian and the environmental law rules, and aim at protecting people amidst nature. The former President of the United States, William J. Clinton, referred the essential relationship between man and nature when he declared that “[w]hen we work to restore nature, we are also working to enhance the health and well-being of our economy, our communities, our families. Human well-being is inextricably connected to the quality of the environment, and our future.”<sup>1583</sup>

The terrible humanitarian and environmental consequences of armed conflict have given rise to environmental law rules and humanitarian law rules. From the idea of humanizing and “environmentalizing” warfare enviro-humanitarian rules emerge. As the former Secretary General of the United Nations, Javier Pérez De Cuéllar, said, “The Charter of the United Nations Charter governs relations between States. The Universal Declaration of Human Rights pertains to relations between the States and the individual. The time has come to devise a covenant regulating relations between humankind and nature.”<sup>1584</sup>

#### ***A- Enviro-Humanitarian Rules Criteria***

This section will delineate the elements of enviro-humanitarian rules in order to distinguish these rules from those in related fields, such as environmental law and international humanitarian law. International rules relevant to military activities that are hybrid of both environmental and humanitarian considerations may be defined as enviro-humanitarian rules (EHR) based on the fact that such rules address both environmental and humanitarian protection.

The EHR are analogous to the systems of arms control and disarmament, which seek to reduce the danger of the level, type, and disposition of armaments to the minimum.<sup>1585</sup> In recent decades, as advanced technology has been used increasingly to

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<sup>1583</sup> Defense Environmental Restoration Program, Words of The former President William J. Clinton, in Foreword of Sherri W. Goodman, former Deputy Under Secretary of Defense, available at <<http://www.dtic.mil/envirodod/derpreport96/vo11/foreword.html>> (last visit Jul. 20, 2001).

<sup>1584</sup> Javier Pérez De Cuéllar, *Report of the Secretary General of The United Nations*, 30 (United Nations Publication, 1990) DPI/1095-40650D-Sept. 1990-3M.

<sup>1585</sup> LUARD, *supra* note (85) at 140.

serve the evil of war, the EHR become very important to assure the safety of the people and to promote environmental protection as well. This situation is similar to that in “a crime-ridden city, when citizens, in order to combat the crime, said to each other: let us undertake to hold, dispose and display the arms we have in a such way as to minimize the danger we present to each other.”<sup>1586</sup> Likewise, EHRs seek to minimize the danger presented by the modern technologies of war, by placing limits on the use, disposal, and “display” of those technologies.

EHRs have the following common characteristics: 1) they are formulated by a competent State organ, often under the supervision of military authorities; 2) they are applicable in times of armed conflicts; 3) they are included in bilateral or multilateral conventions that seek regulate or eliminate the use of certain weapons or tactics of war; 4) generally, only State parties to the EHR conventions can investigate compliance with these rules; 5) unlike International Humanitarian Law, they do not vest the ICRC with any major role; and 6) parties to EHR conventions have the right to withdraw at any time. Each characteristic can be examined as follows:

#### 1. Rules Formulated by Competent State Organs, Often under the Supervision of Military Authorities:

In the International Humanitarian Law, ICRC played a principal role in the preparation of most of the instruments,<sup>1587</sup> including drafting the four Geneva Conventions<sup>1588</sup> and their Additional Protocols I<sup>1589</sup> and II,<sup>1590</sup> which have been examined previously. Most environmental law instruments are enacted either by national civil authorities as in the case of national and comparative environmental law, or by

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<sup>1586</sup> LUARD, *supra* note (85) at 140.

<sup>1587</sup> Schwabach, *supra* note (477) at 126; ICRC, Extract from “*International humanitarian law : Answers to your questions*” Dec. 1, 1990, <<http://www.icrc.org>> (last visit Aug. 18, 2001).

<sup>1588</sup> Geneva Convention (I), (II), (III), (IV), *supra* note (56); See, Maurice Aubert, *The International Committee of the Red Cross and the Problem of Excessively Injurious or Indiscriminate Weapons*, 279 INT’L REV. RED CROSS 477, 478 (1990) [hereinafter Aubert, *The International Committee*].

<sup>1589</sup> Additional Protocol (I), *supra* note (79).

international environmental organizations such as UNEP or IUCN in the case of international environmental law. In contrast, in the case of disarmament agreements, usually it is the military authorities that are concerned with the quantity and the nature of arms that can be safely disarmed consistent with goals of national defense and security. Each armed force has a limit beyond which they will not go. For example, the Israeli limit of armament is not similar to the limit of Switzerland; nor is the limit of North Korea the same as Japan's. Very often military commanders have the authority to define and enforce that limit. Therefore, these rules are often negotiated, formulated, approved and sometimes signed by military authorities. For instance, the Kuwaiti delegates during the work of the Brussels Conference for the Landmines held in June 24-27, 1997, were subject to the direct authority of the Kuwaiti Minister of Defense.<sup>1591</sup> Another example is the participation of the Kuwaiti Minister of Defense in the work of the Convention on the Prohibition of the Use, of Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction of September 18, 1997. The Minister was authorized to sign the instrument, or raise objections to it. Under this authority the Kuwaiti delegate decided not to sign this convention.<sup>1592</sup> Another example is the Declaration on Arctic Military Environmental Cooperation,<sup>1593</sup> which was signed by the defense ministers of Norway, Russia, and the United States.

Unfortunately, too often military authorities consider such agreements from a purely military perspective, without giving any concern to the environment. However, it is increasingly recognized that environmental security<sup>1594</sup> is a goal that the military must also achieve if a nation's over-all security is to be assured. Therefore, military authorities

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<sup>1590</sup> Additional Protocol (II), *supra* note (76).

<sup>1591</sup> KCSR, Landmines, *supra* note (540) at 405.

<sup>1592</sup> Kuwait refused to sign the convention because of the risk and threat threaten the country from the Iraqi military which is tremendously powerful than Kuwaiti Military. Which increase the possibility of landmines use in a future aggression against Kuwait.

<sup>1593</sup> Declaration on Arctic Military Environmental Cooperation, Sept. 26, 1996, Nor., Russ., U.S., available at <<https://denix.cecer.army.mil/denix/Public/Intl/AMEC/declar.html>> (last visit Jan. 29, 2002).

<sup>1594</sup> The term "environmental security" is used to include "the reasonable assurance of protection against threat to national well-being or the common interests of the international community associated with environmental damage." Chad Weinstein, Book Note, *The Oceans and Environmental Security: Shared U.S. and Russian Perspectives*; Edited by James M. Broadus and Raphael V. Vartanov; Island Press; Washington, DC (1994); ISBN 1-55963-236-4; 328 pp. (PBK), 23 DENV. J. INT'L L. POL'Y 619, 619-20 (1995) For more details about environmental security see, Jutta Brunnee, *Environmental Security in the Twenty-First Century: New Momentum for the Development of International Environmental Law?* 18

can and should consider the environment as part of their national security concerns, by consulting or adjoining environmental experts in their delegation to international weapons regulation conferences. Negotiations regarding issues of disarmament or security should consider issues of environmental protection. Those that do so, comprise environmental law.

## 2. Rules Applicable in Times of International Armed Conflicts:

A significant difference between EHR and humanitarian or environmental rules is that humanitarian law rules are usually applicable to both international and internal armed conflicts. For example, the IHL rules expressed in Article 3 common to the four Geneva Conventions, the Additional Protocol I aims at the protection of the victims of international armed conflicts, while the Additional Protocol II is relevant to the Protection of the Victims of the Non-International Armed Conflicts.<sup>1595</sup> Similarly, environmental law rules are found at both international and internal levels, and thus apply to both internal and international armed conflicts since the environment will suffer even in the event of civil wars.<sup>1596</sup>

However, EHR applies only at the international level. International conventions relevant to arms control and the disarmament of military forces are the main source of EHR. States do not demilitarize their armed forces capacity unless an international convention, bilateral or multilateral, assures the national security and safety of such State.<sup>1597</sup> Multilateral arms control conventions relevant to the prohibition of the use of certain weapons, such as nuclear, chemical, poisonous gases, and anti-personnel mines, are another source of EHR. Finally, EHR are also derived from international conventions

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FORDHAM INT'L L. J. 1742 (1995); Bernard A. Weintraub, *Environmental Security, Environmental Management, and Environmental Justice*, 12 PACE ENV'T L. REV. 533 (1995).

<sup>1595</sup> Geneva Conventions (I), (II), (III) and (IV), *supra* note (56) common arts. 3; Additional Protocol (II), *supra* note (76); the Additional Protocol (I), *supra* note (79); Additional Protocol (II), *supra* note (76).

<sup>1596</sup> For more information *see*, Michael N. Schmitt, *Humanitarian Law and the Environment*, 28 DENV. J. INT'L L. & POL'Y 265 (2000); Mark A. Drumbl, *Waging War Against the World: The Need to Move from War Crimes to Environmental Crimes*, 22 FORDHAM INT'L L. J. 122 (1998); Popovic, *supra* note (619).

<sup>1597</sup> U.N. CHARTER, *supra* note (71) art. 2 (1).

that are directed to restrain military activities that may harm the environment during armed conflicts, such as ENMOD.<sup>1598</sup>

Although current EHR applies only to international conflicts, EHR should be applied to internal armed conflicts as well. This is so because the nature of arms, weapons of mass destruction, and techniques used in international armed conflicts are similar to those used in internal armed conflict, and thus can result in the same kind of damage. Civilian populations can be targeted in both international and internal armed conflicts. And the environment is subject to severe destruction in times of international and internal armed conflicts. Because internal armed conflicts can also harm international interests in the environment, States cannot claim that internal armed conflict is a purely internal affair beyond the competence of the international community. The Rome Statute of the International Criminal Court acknowledges that internal armed conflict “crimes” can be cognizable internally. Therefore, EHRs should apply to internal armed conflicts as well.

### 3. Rules Aimed at Reducing Damages of Modern Technology and Techniques of War:

EHRs are negotiated and codified under international pressure to humanize and environmentalize warfare. The atrocity of modern warfare is made worse by the use of modern technology and techniques in military operations, such as nuclear, biological, chemical weapons. In order to humanize and environmentalize warfare, such technology and techniques should be restricted or prohibited to reduce and eliminate warfare atrocity on civilians, the environment and the combatants themselves. Accordingly, warfare activities can and should be restricted to achieve the sole goal for which they are intended: to paralyze the opponent’s military capacity. EHRs seek to immunize non-combatants and civilian objects from military attacks that do not distinguish between military targets and civilian objects or cultural and natural sites.

IHL, in some respects, provides serves environmental protection also. IHL seeks to prohibit unnecessary suffering or excessive pain. The environment often benefits from such restriction, since immunizing non-combatants, civilian objects and cultural sites, and

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<sup>1598</sup> ENMOD, *supra* note (957) art. I.



securing combatants from excessive suffering will necessarily reflect on the environment at the same time. If warfare aims solely at weakening an enemy's armed forces, then it will not focus on attacking the environment.

On the other hand, EHRs seek to assure protection by prohibiting the military from using some weapons altogether. Admittedly, examining many arms control conventions shows that the goal is not to completely disarm military forces, but to impose regional, and international balances between military powers. The balance of power approach does not assure protection of the environment or of civilian. For instance, States may obtain environmentally destructive arms and ammunitions, and yet still completely comply with the EHRs. However, balancing military power through EHRs can result in provoking military forces to an arms race in order to reach the level of the opponent armed forces. This is seen in the case of the Iranian-Iraqi, and the Indian-Pakistani situations.

To achieve effective environmental protection, EHRs should not only seek to diminish the effects of modern technology and techniques on the environment, but also to develop and increase environmental protection in general. In other words, military forces should not just avoid harmful activities to the environment, but should also act affirmatively to ameliorate the environmental situation

#### 4. Generally Only State Parties to the Conventions Relevant to the EHRs Can Investigate Compliance with these Rules:

In environmental law, national authorities supervise compliance with the national environmental law rules. International environmental organizations along with the member States supervise compliance with international environmental law rules. In IHL, member States and the ICRC supervise compliance with the humanitarian rules. However, with a few exceptions, such as the germ warfare agreement of 2001, only member States are qualified to assure compliance with the EHRs.

Because EHRs often involve purely military information, and because States' national security and enviro-humanitarian rules are thus closely linked, only military forces of the contracting States are in a position to monitor the tactics and arms produced, imported or used by the contracting parties. Consequently, international humanitarian and

environmental organizations are excluded from formally supervising States' compliance with the EHRs. For instance, the ICRC cannot monitor the complex of arms used or intended to be used by military forces, since its mission is limited to addressing humanitarian concerns in times of armed conflicts. Similarly, environmental organizations cannot supervise the nature of arms processed by military forces; they can only seek to prevent the environmental harm that may result during military operations. However, Greenpeace, a non-governmental organization, has sought to play a role in pressuring States about their observance of the EHRs.<sup>1599</sup>

Furthermore, in observing compliance with the EHRs, States can closely monitor international military cooperation between other signatory nations, and determine whether such cooperation includes suspicious activities that can be interpreted as a violation of the EHRs. Even outside of formal agreements, States enforce their balance of power. For example, in the Cuba missile crisis of 1962,<sup>1600</sup> when Cuba had a mutual military agreement with Russia regarding the establishment of a Russian military base in Cuba, the United States monitored the military cooperation between Russia and Cuba to protect its own interests. Moreover, internal military actions may also be subject to the contracting parties' monitoring. More routinely, States can monitor increments in the budget for the national defense purposes. Increases in arms spending may indicate EHR violation.

##### 5. Unlike International Humanitarian Rules, Enviro-Humanitarian Rules Do Not Vest the ICRC with any Major Role:

There exists some similarity between the IHL rules and the EHRs, since both seek to restrict military activities. However, unlike the EHRs, IHL rules attribute to the ICRC a great role in fulfilling the position of a neutral body.<sup>1601</sup> This role is clearly absent in the EHRs, where treaties provide no such role. Where treaties do not provide for monitoring or supervision, under the Vienna Convention on the Law of Treaties and

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<sup>1599</sup> Karsten Nowrot, *Legal Consequences of Globalization: The Status of Non-Governmental Organizations Under International Law*, 6 INDIANA J. GLOBAL LEGAL STUDIES 579, 580 (1999) [hereinafter Nowrot].

<sup>1600</sup> LUARD, *supra* note (85) at 165.

<sup>1601</sup> Geneva Convention (I), *supra* note (56) art. 10 par. 3; Geneva Convention (II), *supra* note (56) art. 10 par. 3; Geneva Convention (III), *supra* note (56) art. 10 par. 3.

public international law which provide the rules for supervising treaty compliance, only member States can supervise the State's compliance with the EHRs.

However, there have been some indications that neutral NGOs may be able to participate in monitoring compliance with EHRs. In the statement of the former President of the Security Council of the United Nations, Njuguna Mahugu, of May 20, 1998, regarding Sierra Leone, the Security Council recognized "the important role played by [...] non-governmental organizations" in the peacekeeping process in that area.<sup>1602</sup> NGO's like Greenpeace and Amnesty International are playing a significant role in the enforcement of international law by observing States' compliance with international law rules, and providing assistance in the environmental protection and humanitarian law areas.<sup>1603</sup> It is my thesis that Enviro-Humanitarian Law could and should refer to such NGO's, in addition to the ICRC, in order to enforce its rules internationally.

#### 6. State Parties to the Convention Relevant to the Enviro-Humanitarian Rules have the Right to Withdraw at Any Time:

Until 1949, date of the adoption of the four Geneva Conventions, IHL did not prohibit member States to the IHL instruments from withdrawing from their agreements. For example, the 1899 Hague Convention (II) with Respect to the Laws and Customs of War on Land,<sup>1604</sup> and the 1907 Hague Convention (IV) Respecting the Laws and Customs of War on Land,<sup>1605</sup> do not prohibit the right to withdraw. However, since the IHL rules stabilized, IHL conventions started to restrict the right of member States to withdraw, and either impose conditions on withdrawal or prohibited it outright. This is

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<sup>1602</sup> U.N. SCOR, 3882<sup>nd</sup> mtg., at 1-2, U.N.Doc. S/PRST/1998/13 (1998).

<sup>1603</sup> Nowrot, *supra* note (1599) at 579-80.

<sup>1604</sup> Article 5 of the 1899 The Hague Convention (II) provides that "In the event of one of the High Contracting Parties denouncing the present Convention, such denunciation would not take effect until a year after the written notification made to the Netherlands Government, and by it at once communicated to all the other Contracting Powers. This denunciation shall affect only the notifying Power." The Hague Convention (II), *supra* note (630) art. 5.

<sup>1605</sup> Article 8 of the 1907 The Hague Convention (IV) provides that "In the event of one of the Contracting Powers wishing to denounce the present Convention, the denunciation shall be notified in writing to the Netherlands Government, which shall at once communicate a duly certified copy of the notification to all the other Powers, informing them of the date on which it was received. The denunciation shall only have effect in regard to the notifying Power, and one year after the notification has reached the Netherlands Government." The Hague Convention (IV) of 1907, *supra* note (205) art. 8.

the case in Geneva Convention IV,<sup>1606</sup> Additional Protocol I,<sup>1607</sup> and Additional Protocol II.<sup>1608</sup>

Similarly, environmental law conventions do not restrict or prohibit the right to withdrawal, primarily because environmental matters are new agenda items in both national and foreign policy.<sup>1609</sup> States would refrain from participating at all in an international environmental convention if it denied their right to withdraw. Therefore, the majority of environmental law instruments offer member States the right to withdraw. As with the IHL, environmental law rules need to be established and stabilized prior to giving rise to a duty that would restrict or prohibit a State from withdrawing. Only then could such a duty be accepted by the nations of the world. Since 1970, national and international environmental law rules have begun to be as clear and stabilized as the IHL rules, so perhaps that time is approaching.

It would be useful to note that, of all the conventions that have been examined in the Third Part of this thesis, only the Convention on Environmental Impact Assessment in

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<sup>1606</sup> Article 158 of the Geneva Convention (IV) provides that “Each of the High Contracting Parties shall be at liberty to denounce the present Convention. The denunciation shall be notified in writing to the Swiss Federal Council, which shall transmit it to the Governments of all the High Contracting Parties. The denunciation shall take effect one year after the notification thereof has been made to the Swiss Federal Council. However, a denunciation of which notification has been made at a time when the denouncing Power is involved in a conflict shall not take effect until peace has been concluded, and until after operations connected with the release, repatriation and re-establishment of the persons protected by the present Convention have been terminated. The denunciation shall have effect only in respect of the denouncing Power. It shall in no way impair the obligations which the Parties to the conflict shall remain bound to fulfill by virtue of the principles of the law of nations, as they result from the usage established among civilized peoples, from the laws of humanity and the dictates of the public conscience.” Geneva Convention (IV), *supra* note (56) art. 158.

<sup>1607</sup> Article 99 (1) provides that “1. In case a High Contracting Party should denounce this Protocol, the denunciation shall only take effect one year after receipt of the instrument of denunciation. If, however, on the expiry of that year the denouncing Party is engaged in one of the situations referred to in Article I, the denunciation shall not take effect before the end of the armed conflict or occupation and not, in any case, before operations connected with the final release, repatriation or re-establishment of the persons protected by the Convention or this Protocol have been terminated.” Additional Protocol (I), *supra* note (79) art. 99 (1).

<sup>1608</sup> Article 25 (1) of the Additional Protocol II provides that “In case a High Contracting Party should denounce this Protocol, the denunciation shall only take effect six months after receipt of the instrument of denunciation. If, however, on the expiry of six months, the denouncing Party is engaged in the situation referred to in Article 1, the denunciation shall not take effect before the end of the armed conflict. Persons who have been deprived of liberty, or whose liberty has been restricted, for reasons related to the conflict shall nevertheless continue to benefit from the provisions of this Protocol until their final release.” Additional Protocol (II), *supra* note (76) art. 25 (1).

<sup>1609</sup> Nicholas A. Robinson & Gary R. Waxmonsky, *The U.S.—U.S.S.R. Agreement to Protect the Environment: 15 Years of Cooperation*, 18 ENV'T'L L. 403, 437 (1988) [hereinafter Robinson & Waxmonsky].

A Transboundary Context restricts the withdrawal right.<sup>1610</sup> This restriction may be interpreted as a first step in a transition towards the absolute prohibition of withdrawal from environmental law conventions, as happened in the case of IHL, in order to reinforce the environmental law rules and attain their constancy.

The development that occurred in IHL, and is likely to occur in environmental law rules, regarding the right to withdraw is completely absent in the EHRs. This is because EHRs directly involve military activities as well as environmental and humanitarian issues. If EHRs were seen focusing primarily on environmental and humanitarian concerns, then as with IHL and the environmental law instruments, withdrawal would be restricted or prohibited.

However, with most of the EHRs, the military concerns predominate. Where that is so, nations demand an unrestricted withdrawal right. Nevertheless, some Enviro-Humanitarian conventions have been seen as primarily non-military instruments and therefore do restrict any right to withdraw. For instance, the Convention on Prohibition of Restrictions on the Use of Certain Conventional Weapons Which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects,<sup>1611</sup> and the South Pacific Nuclear Free Zone Treaty,<sup>1612</sup> restrict the right of member States to withdraw. However, those instruments are the exception, not the rule.

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<sup>1610</sup> Article 19 of the Environmental Impact Assessment Convention provides that “At any time after four years from the date on which this convention has come into force with respect to a Party, that Party may withdraw from this Convention by giving written notification to the Depositary. Any such withdrawal shall take effect on the ninetieth day after the date of its receipt by the Depositary. Any such withdrawal shall not affect the application of Articles 3 to 6 of the Convention to a proposed activity in respect of which a notification been made pursuant to Article 3, paragraph 1, or a request has been made pursuant to Article 3, paragraph 7, before such withdrawal took effect.” Environmental Impact Assessment Convention, *supra* note (1132) art. 19.

<sup>1611</sup> Article 9 (2) of the Convention on Prohibition of Restrictions on the Use of Certain Conventional Weapons provides that “High Contracting Party is engaged in one of the situations referred to in Article 1, the Party shall continue to be bound by the obligations of this Convention and of the relevant annexed Protocols until the end of the armed conflict or occupation and, in any case, until the termination of operations connected with the final release, repatriation or re-establishment of the person protected by the rules of international law applicable in armed conflict, and in the case of any annexed Protocol containing provisions concerning situations in which peace-keeping, observation or similar functions are performed by United Nations forces or missions in the area concerned, until the termination of those functions.” Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) art 9 (2).

<sup>1612</sup> Article 13 (1) of the South Pacific Nuclear Free Zone Treaty provides that “This Treaty is of a permanent nature and shall remain in force indefinitely, provided that in the event of a violation by any Party of a provision of this Treaty essential to the achievement of the objectives of the Treaty or of the spirit of the Treaty, every other Party shall have the right to withdraw; from the Treaty.” South Pacific

### ***B- When Enviro-Humanitarian Rules can be Applied***

Environmental law rules are applicable both in peacetime and in times of armed conflicts, to prevent activities harmful to the environment. However, under the pretense of emergency situations, some of these rules may be suspended. For example, Article 69 of the Kuwaiti Constitution provides that

The Amir shall proclaim Martial Law in the cases of necessity determined by law and in accordance with the procedure specified therein. The proclamation of Martial Law shall be by decree. Such decree shall be referred to the National Assembly within the fifteen days following its issue, for a decision on the future of Martial Law. If the proclamation takes place during the period the National Assembly is dissolved it shall be referred to the new Assembly at its first sitting. Martial Law may not continue unless a decision to that effect is made by a majority vote of the members constituting the Assembly. In all cases the matter shall be referred to the National Assembly in accordance with the foregoing procedure, every three months.<sup>1613</sup>

And Article 164 of the Kuwaiti Constitution states that “[l]aw shall regulate the Courts of various kinds and degrees and specify their functions and jurisdiction. Except when Martial Law is in force. Military Courts shall have jurisdiction only over military offenses committed by members of the armed and security forces within the limits specified by law.”<sup>1614</sup>

Moreover, the Convention on the Law of the Sea provides, in Article 236, that

The provisions of this Convention regarding the protection and preservation of the marine environment do not apply to any warship, naval auxiliary, other vessels or aircraft owned or operated by a State and used, for the time being only on government non-commercial service. However, each State shall ensure, by the adoption of appropriate measures not impairing operations or operational capabilities of such vessels or aircraft owned or operated by it, that such vessels or aircraft act in a

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Nuclear Free Zone Treaty, art. 13 (1), Aug. 6, 1985, 1445 U.N.T.S. 177 [hereinafter South Pacific Free Zone Treaty].

<sup>1613</sup> KUWAITI CONST., *supra* note (1490) art. 69.

<sup>1614</sup> *Id.*, art. 164.

manner consistent, so far as is reasonable and practicable, with this Convention.<sup>1615</sup>

And the Kuwait Regional Convention, Article XIV, states that

Warships or other ships owned or operated by a State, and used only on Government non-commercial service, shall be exempted from the application of the provisions of the present convention. Each Contracting State shall, as far as possible, ensure that its warships or other ships owned or operated by that State, and used only on Government non-commercial service, shall comply with the present Convention in the prevention of pollution to the marine environment.<sup>1616</sup>

The IHL rules are applicable in times of international and internal armed conflicts only. But they are no longer apply after armed forces are withdrawn from occupied territories, refugees are returned home, bodies are buried, sick and injured are recovered, prisoners of war are exchanged, and criminals of war are prosecuted. Similarly, EHRs apply only in times of international armed conflicts. For example, when Iraq used unlawful arms and chemical weapons during the Gulf War II,<sup>1617</sup> Iraq was internationally held responsible for violating enviro-humanitarian international law.<sup>1618</sup>

In contrast, some agreements apply both in peacetime and times of armed conflicts. One example is the bilateral convention of disarmament, the Anti-Ballistic Missiles,<sup>1619</sup> concluded between the U.S. and Russia in 1972. Compliance with this convention is the domain of military forces of both nations. This convention seeks to avoid the use of weapons that employ high-risk technology, and thus focuses on military activities directly related to war. On the other hand, even in peacetime, according to the bilateral convention's provisions, the U.S. and Russia monitored each other to assure compliance, monitors were posted in each other's countries. Thus, the document applies also in times of peace.

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<sup>1615</sup> Convention on the Law of the Sea, *supra* note (1019) art. 236.

<sup>1616</sup> Kuwait Regional Convention, *supra* note (1139) art. XIV.

<sup>1617</sup> See, Hearing Before the Committee of Veteran's affairs, *supra* note (662).

<sup>1618</sup> S.C. Res. 687, *supra* note (559). See, Bernard, *supra* note (981).

<sup>1619</sup> This Treaty will be examined in Section III "Bilateral Conventions of the Enviro-Humanitarian Rules."

Whenever EHRs apply, detecting violations can be very difficult. The production or obtaining of arms is always considered a national security matter not subject to public disclosure. So proving such violation is not an easy task since no data is available. However, some mechanisms have been suggested for dealing with the difficulty. For example, one mechanism can be a fact-finding mission. Another could be forming a committee of experts to investigate a member State's violation.

### ***C-Arms and Disarmament Conventions are the Main Source of Enviro-Humanitarian Rules***

In the wake of most armed conflicts, the survivors or worried non-belligerents negotiate rules for the next war that they would, in retrospect, like to have seen applicable during the previous war.<sup>1620</sup> Conventions concluded to attenuate atrocities and regulate methods and means of war are most likely to be concluded after wars. These arms control and disarmament conventions are the main source of the EHRs. These conventions “recognize, at least in part, that weapons of modern warfare threaten destruction of humanity via alteration or destruction of the environment.”<sup>1621</sup> While their provisions often do not cover the environment per se,<sup>1622</sup> because of the fear of certain weapons and techniques of war that resulted in the restriction or the prohibition of their use, the duties agreed upon in these agreements are coincident with the environmental protection.

This section will classify the instruments that include EHRs into universal, regional, and bilateral as follows:

#### **1. Universal Instruments of the Enviro-Humanitarian Rules**

Universal instruments of the EHRs are those involving all countries of the world, such as (a) the Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water; (b) Treaty on the Non-Proliferation of Nuclear Weapons; (c) The Convention on the Prohibition of the Development, Production, Stockpiling, and Use

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<sup>1620</sup> George H. Aldrich, *Some Reflections on the Origins of the 1977 Geneva Protocols*, in STUDIES AND ESSAYS ON INTERNATIONAL HUMANITARIAN LAW AND RED CROSS PRINCIPLES 132 (CHRISTOPHE SWINARSKI ED., 1984) [hereinafter Aldrich].

<sup>1621</sup> Popovic, *supra* note (619) at 82.



of Chemical Weapons and on their Destruction; (d) Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxin Weapons; (e) Geneva Protocol on Monitoring Compliance with Biological and Germ Warfare; (f) Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on their Destruction; (g) Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof; (h) Convention on the Prohibition or Restrictions on the Use of Certain Conventional Weapons, which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects; (i) The Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and Bacteriological Methods of Warfare, and (j) Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques. These are all clear examples of the Enviro-Humanitarian conventions. Finally, (k) The United Nations System of Disarmament will be examined among the universal instruments of the EHRs.

#### a. Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water

[The Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space, and Under Water]<sup>1623</sup> was the first concrete result of 18 years of efforts by the United States to impose limits on the nuclear arms race.<sup>1624</sup>

The aim of the three original parties to the Treaty, the U.S., Russia, and the U.K., was to put an end to the armament race and eliminate the incentive to produce and test all kinds of weapons, including nuclear weapons, at all times.<sup>1625</sup>

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<sup>1622</sup> *Id.*, at 83.

<sup>1623</sup> Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water (Partial Test Ban Treaty), Aug. 5, 1963, 14 U.S.T. 1313, [hereinafter PTBT.]

<sup>1624</sup> See, Message from the former President of the United States of America John F. Kennedy to the U.S. Senate Transmitting the 1963 Partial Test Ban Treaty, in Nuclear Test Ban Treaty, Hearings before the U.S. Senate's Committee on Foreign Relations, 88<sup>th</sup> Congress, 1<sup>st</sup> Session, Executive M., Washington, 1963, at 2.

<sup>1625</sup> Nicolas Mateesco Matte, *The Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water*, IX ANNALS AIR & SPACE L. 391, 400-01 (1984) [hereinafter Matte].

The PTBT has only five articles. Article I contains the main prohibition against nuclear tests. It states that

[each Party] to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control:

- (a) in the atmosphere, beyond its limits, including outer space; or under water, including territorial waters or high seas; or
- (b) in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosions is conducted.

According to Article I, nuclear explosions are prohibited in all environments except underground tests that may be carried out within the territorial limits of the member States. Although the phrase “in any other environment” seems to include underground tests, the treaty does not expressly prohibit such tests, as it does with regard to nuclear tests in the atmosphere, outer space, and under water.<sup>1626</sup> However, underground tests which may cause radioactive debris to be present outside the territorial limits of the concerned State party are expressly prohibited.

The PTBT prohibits all nuclear tests carried out in outer space regardless of the distance of their sites from the Earth, since there is no limit to outer space.<sup>1627</sup> Therefore, celestial bodies are covered by such prohibition of nuclear tests, since they constitute part of outer space and testing could result in their contamination.<sup>1628</sup>

Moreover, a careful reading of Article I shows that the phrase “any other nuclear explosion” covers “peace-time nuclear explosions that are not weapons tests.”<sup>1629</sup> Thus nuclear explosions for peaceful purposes are also prohibited. This prohibition applies only to nuclear tests and not conventional, chemical or biological tests, even though they can also contaminate the atmosphere, outer space, and under water.

Article I (2) of the PTBT is ineffective in preventing state Parties from conducting nuclear tests. For example, India, a party to the Treaty, concluded underground nuclear

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<sup>1626</sup> Nambiar, K. R., *The Test Ban Treaty, 1963: Form and Content*, 3 IND. J. INT’L L. 315, 317 (1963).

<sup>1627</sup> Matte, *supra* note (1625) at 402.

<sup>1628</sup> *Id.*

<sup>1629</sup> Nuclear Test Ban Treaty, Hearing before the U.S. Senate’s Committee on Foreign Relations, 88<sup>th</sup> Congress, 1<sup>st</sup> Session, Executive M., Washington, 1963, at 77, 13.

tests,<sup>1630</sup> and other countries such as “Israel, Pakistan, South Africa, South Korea, Brazil, Argentina, Taiwan, France, and China” have developed and are developing their nuclear weapons capacity.<sup>1631</sup> These acts could be considered severe violations of the treaty provisions, and might lead to the State’s international responsibility, as we will discuss in the final part of this thesis.

## b. Treaty on the Non-Proliferation of Nuclear Weapons

Treaty on the Non-Proliferation of Nuclear Weapons of 1968,<sup>1632</sup> was concluded based on the fear that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war.<sup>1633</sup> Therefore, it looks to decrease and eliminate nuclear technology as a weapon in armed conflicts. However, it does not prevent any peaceful use of nuclear power; indeed, it even requires cooperation in this field.<sup>1634</sup> The Non-Proliferation of Nuclear Weapons Treaty sets upon member States a number of obligations that vary according to the nuclear capacity of each State. The Non-Proliferation of Nuclear Weapons Treaty was ratified by 61 countries, including four major powers: China, Russia, United Kingdom and the United States.<sup>1635</sup>

According to the Treaty, nuclear powers are required in the first place to engage in disarmament negotiations aimed at the ultimate elimination of their nuclear arsenals.<sup>1636</sup> Since such powers are considered the main source of nuclear technology, if they can agree to control such technology, the risk of a new nuclear war would be reduced. Moreover, nuclear powers have the duty “not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist,

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<sup>1630</sup> See, David Albright, *The Shots Heard Around the World*, 54 BULL. ATOM. SCIENTISTS (1998), available at <<http://www.bullatomsci.org/issues/1998/ja98/ja98albright.html>> (last visit Nov. 6, 2001)[hereinafter Albright, *The Shots*].

<sup>1631</sup> Hussain, F., *The Impact of Weapons Test Restrictions*, Adelphi Paper No. 165, 1981, at 11 (citing U.S. Dept. of Energy and Swedish National Defense Research Institute source).

<sup>1632</sup> Treaty on the Non-Proliferation of Nuclear Weapons, July 1, 1968, 21 U.S.T. 483, [hereinafter Non-Proliferation of Nuclear Weapons Treaty.]

<sup>1633</sup> *Id.*, pmb1.

<sup>1634</sup> *Id.*, pmb1., art. IV.

<sup>1635</sup> United Nations Treaty Series-UNTS Document Display, available in <<http://untreaty.un.org>> (last visit Aug. 17, 2001).

<sup>1636</sup> Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. VI.

encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.”<sup>1637</sup>

The nuclear powers have a negative and positive duty towards the non-nuclear States. For example, nuclear powers are committed not to attack or threaten to attack non-nuclear States, and they should assist them if they might be attacked by nuclear weapons.<sup>1638</sup> Accordingly, the United States, during the 1978 United Nations Special Session on Disarmament, pledged that it would not use nuclear weapons against any non-nuclear State party to the Non-Proliferation Nuclear Weapons Treaty except in the case of an attack on the United States, its territories or armed forces, or its allies, by such a State allied to a nuclear power or associated with a nuclear power in carrying out or sustaining the attack.<sup>1639</sup> That exception, which has been confirmed on another occasion,<sup>1640</sup> is quiet broad and can include many of the armed conflicts in the world.

It would be useful to mention that the International Court of Justice (ICJ) does not completely prohibit the use of nuclear weapons. It allows their use whenever self-defense is in question. However, it provides that: “a threat or use of force by means of nuclear weapons that is contrary to Article 2, paragraph 4, of the United Nations Charter and that fails to meet all the requirements of Article 51, is unlawful,”<sup>1641</sup> since it violates international law rules and standards.

This trend is reinforced by the 1961 United Nations Declaration on the Prohibition of the Use of Nuclear and Thermo-Nuclear Weapons, which provides that

the use of nuclear and thermo-nuclear weapons is contrary to the spirit, letters and aims of the United Nations and, as such, a direct violation of the Charter of the United Nations [...is considered

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<sup>1637</sup> *Id.*, art. I.

<sup>1638</sup> Thomas Graham, *International Law and the Proliferation of Nuclear Weapons*, 33 GEO. WASH. INT'L L. REV. 49, 49 fn. 60 (2000) [hereinafter Graham].

<sup>1639</sup> George Bunn, *Expanding Nuclear Options: Is the U.S. Negating its Non-Use Pledges?* 26 ARMS CONTROL TODAY 7, 7 (1996) [hereinafter Bunn, *Expanding Nuclear Options*].

<sup>1640</sup> In 1995, the U.S. former Secretary of State, Warren Christopher, delivered to the non-nuclear States the assurance of the United States that it would not use nuclear weapons against any non-nuclear State party to the Non-Proliferation of Nuclear Weapons Treaty. However, he included an exception on this assurance, which contains the same meanings, but was updated to match the actual situation, especially after the dissolution of the Warsaw Pact. *See*, GEORGE BUNN, *ARMS CONTROL BY COMMITTEE: MANAGING NEGOTIATIONS WITH THE RUSSIANS* 8 (Stanford Univ. Press 1992).

<sup>1641</sup> Legality of the Threat or Use of Nuclear Weapons, *supra* note (83) at 43.

as] war directed not against an enemy or enemies alone but also against mankind in general, since the people of the world not involved in such a war will be subjected to all the evils generated by the use of such weapons. Any State using such nuclear and thermo-nuclear weapons is to be considered as violating the Charter of the United Nations, as acting contrary to the laws of humanity and as committing a crime against mankind and civilization [...].<sup>1642</sup>

Except the former Soviet Union, all the major nuclear powers opposed this declaration, which reflected on its international acceptance. Eventhough the Declaration does not bind member States, it refers to the United Nations Charter as a source of such obligation. From my point of view, the international community should be more specific in applying self-defense conditions, particularly, whenever weapons of mass destruction are involved.

On the other hand, non-nuclear States are committed under the Treaty to never develop or otherwise acquire nuclear weapons.<sup>1643</sup> Therefore, for example, even if the nuclear powers do not comply with their obligations under the Treaty, the nuclear weapons risk will still be limited so long as non-nuclear States refrain from receiving such technology. The nuclear risk will increase only if both the sender and receiver States violate their obligations under the Non-Proliferation of Nuclear Weapons Treaty. For example, Iraq breached its obligations under the Non-Proliferation of Nuclear Weapons Treaty provided in Article II,<sup>1644</sup> when it provides that

[e]ach non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any

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<sup>1642</sup> U.N.G.A. Res. 1653 (XVI), reprinted in THE LAWS OF ARMED CONFLICTS (SCHINDLER & TOMAN EDS., 1988), cited in Leslie C. Green, *State Responsibility and Civil Reparation for Environmental Damage*, in PROTECTION OF THE ENVIRONMENT DURING ARMED CONFLICTS at 422-23 (R. GRUNAWALT ET AL. EDS., 1996) [hereinafter Green, *State Responsibility*].

<sup>1643</sup> Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. II.

<sup>1644</sup> Berhanykun Andemicael et al., *Measure for Measure: The NPT and the Road Ahead*, available at <<http://www.iaea.org/worldatom/Periodicals/Bulletin/Bull373/priest.html>>, (last visit June 22, 2001) [hereinafter Andemicael].

assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

The Non-Proliferation of Nuclear Weapons Treaty greatly expands the verification system, and assigns a much more considerable role to the IAEA. According to Article III of the Treaty, the non-nuclear States are subject to the safeguard system of the IAEA.<sup>1645</sup> However, the North Korea breached its obligations under the Treaty when it refused to be subject to the IAEA safeguard system as provided in Article III.<sup>1646</sup>

According to the general rules of international law, particularly the “Pacta Sunt Servanda,”<sup>1647</sup> the Non-Proliferation of Nuclear Weapons Treaty is binding, and this was confirmed by the ICJ Advisory Opinion relating to the Legality of the Threat or Use of Nuclear Weapons.<sup>1648</sup> In its Advisory Opinion the ICJ reaffirms that any use or threat of use of nuclear weapons would “generally be contrary to the rules of international law

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<sup>1645</sup> Article III of the Non-Proliferation of Nuclear Weapons Treaty provides that “1. Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfillment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere. 2. Each State Party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article. 3. The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty. 4. Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.” Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. III.

<sup>1646</sup> Andemicael, *supra* note (1644).

<sup>1647</sup> Vienna Convention on the Law of Treaties, *supra* note (751) art. 26.

<sup>1648</sup> Legality of the Threat or Use of Nuclear Weapons, *supra* note (83) Dissenting Opinion of Justice Higgins, para 40.

applicable in armed conflict, and in particular the principles and rules of humanitarian law.”<sup>1649</sup> The ICJ declared that “the environment is under daily threat and that the use of nuclear weapons could constitute a catastrophe for the environment.”<sup>1650</sup> It added that the “destructive power of nuclear weapons cannot be contained in either space or time. They have the potential to destroy all civilization and the entire ecosystem of the planet.”<sup>1651</sup> Significantly, Justice Weeramantry confirmed that “the use or threat of use of nuclear weapons is incompatible with international law and with the very foundations on which that system rests.”<sup>1652</sup> Because the use of nuclear weapons has the ability to destroy nations and entire ecosystems, any such threat would contravene the principles of international law embodied in the United Nations Charter, the basic document of all international instruments.

According to the non-nuclear States, the worst part in the Treaty is the discriminatory regime,<sup>1653</sup> under which non-nuclear States are subject to an inspection, even though the nuclear powers are not fulfilling their obligations under Article VI of the Treaty, which states that “[e]ach of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”

The Treaty is given a twenty-five years life span from 1970, the date of its entry into force, with options to extend it permanently, for an increment of years or to have no extension thereafter.<sup>1654</sup> States’ dissatisfaction was reflected in their position during the 1995 Review and Extension Conference. During the Conference, participant States completely rejected the idea of a permanent treaty, and instead agreed to hold a Review Conference every five years.<sup>1655</sup>

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<sup>1649</sup> *Id.*, para 105.

<sup>1650</sup> *Id.*, para. 29.

<sup>1651</sup> *Id.*, para. 35.

<sup>1652</sup> *Id.*, dissident opinion of Justice Weeramantry, at 312.

<sup>1653</sup> Graham, *supra* note (1638) at 49.

<sup>1654</sup> Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. X (2).

<sup>1655</sup> Graham, *supra* note (1638) at 49.

However, the Statement of Principles and Objectives for Nuclear Non-Proliferation and Disarmament<sup>1656</sup> was negotiated during the Conference as an associated consensus agreement. It aims at reinforcing the existing regime and thus to keep the treaty in effect. It sets forth a number of primary objectives. For example, member States should universalize the membership and adherence to the treaty. In addition, the Statement of Principles and Objectives reaffirms Article VI of the Non-Proliferation of Nuclear Weapons Treaty and requires member States to pursue, in a good faith, measures related to eventual disarmament.<sup>1657</sup> The Statement calls for the commencement of the negotiation for a fissile material cutoff treaty, which is the effort by the nuclear powers to reduce nuclear arsenals.<sup>1658</sup> Moreover, it confirms the contents of Article VII by encouraging the establishment of nuclear weapon-free zones.<sup>1659</sup> Finally, it requires further steps to protect non-nuclear States from threats from nuclear powers.<sup>1660</sup>

To assure compliance with its provisions, the Non-Proliferation of Nuclear Weapons Treaty established a verification system,<sup>1661</sup> which was subject to member States' reservations.<sup>1662</sup> However, the Statement of Principles and Objectives reinforces the verification system for the compliance with the Treaty. The Statement includes an agreement to strengthen the International Atomic Energy Agency (IAEA) verification system with regard to non-nuclear States.<sup>1663</sup> However, it still fails to include the nuclear powers under the verification system, and only non-nuclear States are subject to the verification requirements.

The environmental aspects were considered by the IAEA during negotiation of an enhanced safeguards protocol that enabled the IAEA to use environmental monitoring

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<sup>1656</sup> U.N. Dep't for Disarmament Affairs, 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons at the Fact Sheet 5, Decision 2 (Press Kit, 2000) U.N. Doc. DPI/2085 (2000) [hereinafter the Statement of Principles and Objectives].

<sup>1657</sup> Andemicael, *supra* note (1644).

<sup>1658</sup> *Id.*

<sup>1659</sup> *Id.* Responding to this objective of the of the Statement of Principles and objectives, number of nuclear weapons free zones were established in Latin America, South Pacific, and Africa.

<sup>1660</sup> *Id.*

<sup>1661</sup> Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. III.

<sup>1662</sup> Graham, *supra* note (1638) at 49.

<sup>1663</sup> *Id.*



techniques to detect trace amounts of residue left behind during the production of enriched uranium and plutonium.<sup>1664</sup> Unfortunately, that protocol is not yet in force.

While the nuclear powers accepted some responsibilities under the Non-Proliferation of Nuclear Weapons Treaty, they have been privileged by the right to suspend any amendment to the Treaty. Article VIII (2) provides that “[a]ny amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty.”<sup>1665</sup>

Practically, the intention of the U.S. Dept. of Defense, under Presidents William Clinton and George W. Bush, to deploy a national defense missile system, in violation of the Anti-Ballistic Missiles Treaty (ABM), which will be discussed in the next few pages, has seriously affected the Non-Proliferation of Nuclear Weapons Treaty’s regime. For instance, the former Russian President, Boris Yeltsin, stated that “[unilateral U.S.] deployment of a national anti-missile defense system would have extremely dangerous consequences for the whole disarmament process.”<sup>1666</sup> Moreover, the Russian President Vladimir Putin has stated that the national missile defense (NMD) “will create insecurity, breach the 1972 Anti-Ballistic Missile (ABM) treaty, disrupt strategic arms reduction talks (START III), and provoke a new arms race.”<sup>1667</sup>

Additionally, the dissatisfaction of Russia, France and China with the American project has moved these States to expand their strategic nuclear arsenals.<sup>1668</sup> For example, a Russian military official said: “recent weapons tests prove that modern technology can pierce any antimissile defense shield.”<sup>1669</sup> And a Russian Tu-95 MS (“Bear”) long-range strategic bomber launched an air-based strategic missile on February 16, 2001 and another bomber, a Tu-22 (“Backfire A”), launched two tactical

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<sup>1664</sup> Strengthened Safeguard System: Additional Protocols, International Atomic Energy Agency <<http://www.iaea.org/worldatom/updates/safeguards.html>> (last visit June 13, 2001).

<sup>1665</sup> Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. VIII (2).

<sup>1666</sup> Yeltsin Warns Clinton Not to Undermine ABM Treaty, BBC WORLDWIDE MONITORING, Feb. 11, 1999 available in <<http://www.lexis.com>> (last visit Aug. 20, 2001)[hereinafter *Yeltsin Warns*].

<sup>1667</sup> Simon Tisdall, *Foreign Fears Won't Deflect Bush on Missile Shield*, <<http://english.sohu.com/20010122/file/0888,244,100014.html>> (last visit Aug. 17, 2001).

<sup>1668</sup> John King, *Clinton, Putin Exchange Complaints in Oslo Meeting*, <<http://www.cnn.com/WORLD/europe/9911/02/clinton.putin/index.html>> (last visit, June 15, 2001).

<sup>1669</sup> Yuri Karash, Russia Responds to U.S. Missile Shield with Massive Missile Tests, Missile Defense, <[http://www.space.com/missionlaunches/launches/missile\\_defense\\_010216.html](http://www.space.com/missionlaunches/launches/missile_defense_010216.html)> (last visit Aug. 17, 2001).

missiles during training exercises.<sup>1670</sup> The Americans' use of anti-ballistic missile shield, and the Russians' missile tests, significantly increase the possibility of massive radioactive contamination that will harm the environment. If nations believe they must choose between national security and environmental protection, they are likely to give priority to national security, by virtue of the old-fashioned thinking that the strength of any nation is measured by the capacity of its military arsenal. As a result, we need time to increase nations' awareness of environmental protection as a high priority for any healthy society.

### c. The Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on their Destruction

The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction<sup>1671</sup> (CWC) was ratified by 143 States, including the five major powers: France, China, Russia, United Kingdom, and the United States,<sup>1672</sup> which shows an international concern regarding chemical weapons and their use. The CWC restricts not only the use of chemical weapons, but even the threat of their usage. Article X (8) of the CWC provides that: “[e]ach State Party has the right to request, and [...] to receive assistance and protection against the use or threat of use of chemical weapons if it considers that: (a) Chemical weapons have been used against it; (b) Riot control agents have been used against it as a method of warfare; or (c) It is threatened by actions or activities of any State that are prohibited for State Parties by Article I.”<sup>1673</sup> Unlike the Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, or other Gases and Bacteriological Methods of Warfare, the CWC deals more specifically with chemical weapons.

To achieve its goals, the CWC urges that further steps be considered, such as imposing “a complete and effective prohibition of the development, production,

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<sup>1670</sup> *Id.*

<sup>1671</sup> Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction, Jan. 13, 1993, 32 I.L.M. 800 (1993) [hereinafter CWC.]

<sup>1672</sup> Multilateral Treaties Deposited with the Secretary General, available in <<http://untreaty.un.org>> (last visit Aug. 17, 2001).

<sup>1673</sup> CWC, *supra* note (1671) art. X (8).

acquisition, stockpiling, retention, transfer and use of chemical weapons, and their destruction [...].”<sup>1674</sup>

Chemical agents are “fast-acting synthetic compounds”<sup>1675</sup> designed to poison enemy armed forces, animals, and plants. They come in either persistent or non-persistent form.<sup>1676</sup> A persistent chemical agent has long-lasting environmental effects. Some experts believe that it is easy for anyone who can make pesticides to make chemical weapons.<sup>1677</sup> Moreover, chemical weapons are frequently used in an active armed conflict in order to poison enemy troops and destroy his land.

In order to avoid ambiguity, the CWC clearly defines the substances that are covered under its jurisdiction. For example, it expressly affirms the prohibition of the herbicides embodied in the pertinent agreements and relevant principles of international law.<sup>1678</sup> It prohibits also the use of riots control agents as methods of warfare.<sup>1679</sup>

The CWC is one of the few international conventions that expressly considers the environment. In three of its provisions the Convention requires member States to assure the protection of the environment. It provides that: “[e]ach State Party, [...] shall assign the highest priority to ensuring the safety of people and to protecting the environment.”<sup>1680</sup> Moreover, in executing the CWC, each member State is required assure the safe and environmentally sound destruction of chemical weapons within its national jurisdiction. For example, the United States now has “successfully destroyed 6,000 tons of chemical weapons by incineration, [and] has learned that there is no silver bullet solution for [chemical weapons] destruction.”<sup>1681</sup> Furthermore, the U.S. Army has concluded that on-site incineration is safe and efficient and carries environmental consequences that are “quite limited in scope and significance.”<sup>1682</sup> It would be useful for

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<sup>1674</sup> *Id.*, pmb1.

<sup>1675</sup> LANIER-GRAHAM, *supra* note (2) at 93.

<sup>1676</sup> Harry Levins, *How To Kill Lots and Lots of People: Weapons of Mass Destruction Come in Three Varieties and You’d Be Surprised Who Has Them*, ST. LOUIS POST-DISPATCH, Nov. 23, 1997, at B1.

<sup>1677</sup> *Id.*, at B1.

<sup>1678</sup> CWC, *supra* note (1671) pmb1.

<sup>1679</sup> *Id.*, art. I (5).

<sup>1680</sup> *Id.*, art. IV (10), V (11), VII (3).

<sup>1681</sup> Mikhail Gorbachev, *Time to Abolish Chemical Weapons*, Sept. 2000

<<http://www.gci.ch/GreenCrossPrograms/legacy/articles/cwupdate.html>> (last visit June 6, 2001)

[hereinafter Gorbachev, *Time to Abolish*].

<sup>1682</sup> Program Manager for Chemical Demilitarization, Chemical Stockpile Disposal Program Final Programmatic Environmental Impact Statement 2.3-2.5 (1988) at 4-1.

the people and the environment as well, while destroying chemical weapons, to reduce to the minimum the effects of their destruction. States are under the international obligation to destroy chemical weapons and to prevent their humanitarian and environmental perils. However, the safety and the mechanism of such destruction are left to the consideration of each State.

The CWC establishes an independent international agency, the Organization for the Prohibition of Chemical Weapons (OPCW), with the mission of implementing, monitoring, and enforcing the Convention's provisions.<sup>1683</sup> Member States are required to declare to the OPCW all the information regarding their chemical arsenals. For instance, OPCW is authorized to verify chemical weapons, abandoned chemical weapons, production facilities, other facilities designed or constructed or used primarily for development of chemical weapons, and riot control agents.<sup>1684</sup> The CWC vests the OPCW with the right of inspection, and, at the same time requires all State Parties to enact the necessary legislation to ensure the ability of OPCW to carry out its activities.<sup>1685</sup> The OPCW's inspection is based either upon the declaration of a member State,<sup>1686</sup> which is called the initial and periodical inspection, or upon another member State's request,<sup>1687</sup> which is called the challenged inspection. The first inspection systematically takes place after a State's declaration to the OPCW.<sup>1688</sup> However, the challenged inspection takes place only after a request for such inspection is made by another member State and submitted to the OPCW according to the procedures enacted

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<sup>1683</sup> CWC, *supra* note (1671) art. VIII.

<sup>1684</sup> *Id.*, art. VIII.

<sup>1685</sup> Article VII of the CWC provides that "1. Each State Party shall, in accordance with its constitutional processes, adopt the necessary measures to implement its obligations under this Convention. In particular, it shall: [...] 4. In order to fulfill its obligations under this Convention, each State Party shall designate or establish a National Authority to serve as the national focal point for effective liaison with the Organization and other States Parties. Each State Party shall notify the Organization of its National Authority at the time that this Convention enters into force for it. 5. Each State Party shall inform the Organization of the legislative and administrative measures taken to implement this Convention. 6. Each State Party shall treat as confidential and afford special handling to information and data that it receives in confidence from the Organization in connection with the implementation of this Convention. It shall treat such information and data exclusively in connection with its rights and obligations under this Convention and in accordance with the provisions set forth in the Confidentiality Annex. 7. Each State Party undertakes to cooperate with the Organization in the exercise of all its functions and in particular to provide assistance to the Technical Secretariat." *Id.*, art. VII (4)-(7).

<sup>1686</sup> *Id.*, art. IV (4).

<sup>1687</sup> *Id.*, art. IX (8).

<sup>1688</sup> *Id.*, art. IV.

by Article IX of the CWC.<sup>1689</sup> Such inspections include on-site investigations by an international verification agency, and will cost an estimated \$33-500 million per year.<sup>1690</sup>

The attitude of the CWC member States substantially affects the effectiveness of the OPCW inspection system. Some States introduced reservations that frustrate the OPCW verification system. For example, the United States Congress included three

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<sup>1689</sup> Article IX of the CWC provides that “8. [e]ach State Party has the right to request an on- site challenge inspection of any facility or location in the territory or in any other place under the jurisdiction or control of any other State [...] by an inspection team designated by the Director- General [...]; 9. Each State Party is under the obligation to [...] provide in the inspection request all appropriate information on the basis of which a concern has arisen regarding possible non- compliance with this Convention; 10. [...]E]ach State Party shall permit the Technical Secretariat to conduct the on- site challenge inspection; 11. [...]T]he inspected State Party shall have: (a) The right and the obligation to make every reasonable effort to demonstrate its compliance with this Convention and, to this end, to enable the inspection team to fulfill its mandate; (b) The obligation to provide access within the requested site for the sole purpose of establishing facts relevant to the concern regarding possible non- compliance; and (c) The right to take measures to protect sensitive installations, and to prevent disclosure of confidential information and data, not related to this Convention[...]; 12. [...] (a) The requesting State Party may, subject to the agreement of the inspected State Party, send a representative who may be a national either of the requesting State Party or of a third State Party, to observe the conduct of the challenge inspection. (b) The inspected State Party shall then grant access to the observer in accordance with the Verification Annex. (c) The inspected State Party shall, as a rule, accept the proposed observer, but if the inspected State Party exercises a refusal, that fact shall be recorded in the final report [...]; 13. The requesting State Party shall present an inspection request for an on- site challenge inspection to the Executive Council and at the same time to the Director- General for immediate processing [...]; 14. The Director- General shall immediately ascertain that the inspection request meets the requirements specified in Part X, paragraph 4, of the Verification Annex, and, if necessary, assist the requesting State Party in filing the inspection request accordingly. When the inspection request fulfills the requirements, preparations for the challenge inspection shall begin [...] 15. The Director- General shall transmit the inspection request to the inspected State Party not less than 12 hours before the planned arrival of the inspection team at the point of entry [...]; 16. After having received the inspection request, the Executive Council shall take cognizance of the Director- General's actions on the request and shall keep the case under its consideration throughout the inspection procedure. However, its deliberations shall not delay the inspection process [...]; 17. The Executive Council may [decide] against carrying out the challenge inspection, if it considers the inspection request to be frivolous, abusive or clearly beyond the scope of this Convention [...] Neither the requesting nor the inspected State Party shall participate in such a decision. If the Executive Council decides against the challenge inspection, preparations shall be stopped, no further action on the inspection request shall be taken, and the States Parties concerned shall be informed accordingly [...]; 18. The Director-General shall issue an inspection mandate for the conduct of the challenge inspection [...]; 19. [...]The inspection team shall be guided by the principle of conducting the challenge inspection in the least intrusive manner possible, consistent with the effective and timely accomplishment of its mission [...] 21. The final report shall contain the factual findings as well as an assessment by the inspection team of the degree and nature of access and cooperation granted for the satisfactory implementation of the challenge inspection. The Director- General shall promptly transmit the final report of the inspection team to the requesting State Party, to the inspected State Party, to the Executive Council and to all other States Parties. The Director- General shall further transmit promptly to the Executive Council the assessments of the requesting and of the inspected States Parties, as well as the views of other States Parties [...] 22. The Executive Council shall[...] review the final report of the inspection team; 23. [...]T]he Executive Council [...] shall take the appropriate measures to redress the situation and to ensure compliance with this Convention[...].” *Id.*, art. IX (8)-(23).

<sup>1690</sup> Detlev Vacts & Raymond A. Zilinskas, *Book Review*, 84 AM. J. INT'L L. 984, 986 (1990) (reviewing NICHOLAS A. SIMS, *THE DIPLOMACY OF BIOLOGICAL DISARMAMENT: VICISSITUDES OF A TREATY IN FORCE 1975-85* (1988) [hereinafter Vacts & Zilinskas.]

‘poison-pill’ provisions introduced by treaty opponents that could impair the CWC inspection’s system.<sup>1691</sup> First, it authorizes the President of the U.S. to refuse a challenged inspection on “national security grounds.”<sup>1692</sup> Second, it prevents the removal of samples from U.S. territory for analysis,<sup>1693</sup> and finally, it limits the number of U.S. chemical plants that are subject to inspection.<sup>1694</sup> These positions of the U.S. can have unfortunate consequences, because other countries may be inclined to put forth similar limitations on OPCW inspections.

Furthermore, when a member State refuses to comply with the CWC requirements, or to cooperate with the OPCW, the OPCW can suspend its privileges under the CWC,<sup>1695</sup> impose collective measures by other State Parties,<sup>1696</sup> or impose measures in accordance with the General Assembly or Security Council of the United Nations.<sup>1697</sup> It would be useful if the OPCW had the authority to directly impose measures against the State that violated the CWC provisions, without having to rely upon the U.N. General Assembly or the Security Council. These bodies are concerned with so many delicate international situations that they may not be able to deal effectively with specific issues of chemical weapons inspections.

Despite the apparent strength of the OPCW measures, their effectiveness is contingent upon their adoption by the Conference of the OPCW, which is a political organ. The Conference of the OPCW is composed of the member States’ representatives, which means that they may consider the interests of their States over the interests of human well being and the environment. Additionally, some States may be subject to the OPCW measures, while some others may not, because of political considerations.

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<sup>1691</sup> Jonathan B. Tucker, Director of the Center of Non-Proliferation Studies, *The Current Status of the BCW Regimes*, Paper Delivered to the HOOVER INSTITUTION CONFERENCE ON BIOLOGICAL AND CHEMICAL WEAPONS at 7 (Stanford University, Nov. 16-18, 1998).

<sup>1692</sup> Michael P. Scharf, *Clear and Present Danger: Enforcing the International Ban on Biological and Chemical Weapons Through Sanctions, Use of Force, and Criminalization*, 20 MICH. J. INT’L L. 477,485(1999) [hereinafter Scharf].

<sup>1693</sup> Chemical Weapons Convention Implementation Act of 1998, Pub. L. No. 105-277, 112 Stat. 2681 (to be codified at 22 U.S.C.A § 302).

<sup>1694</sup> Scharf, *supra* note (1692) at 485.

<sup>1695</sup> CWC, *supra* note (1671) art. XII (2).

<sup>1696</sup> *Id.*, art. XII (3).

<sup>1697</sup> *Id.*, art. XII (4).

Finally, as a rule, any international convention binds its contracting parties only.<sup>1698</sup> Thus, the provisions of the CWC do not bind non-member States, even if they obtain chemical weapons. These States still present a major threat to human health and the environment, since they can use such chemical weapons, and even distribute them to other non-parties to the CWC, such as non-member States, combatants in internal armed conflicts, or terrorists.

Even States which have not ratified the CWC are prohibited from harming the environment of other nations according to the international customary law and the general principles of international law, such as Principle 21 of the Stockholm Declaration and Principle 2 of the Rio Declaration, and the Martens Clause and the IUCN Amman Clause which was examined in Part Two of this thesis. As long as the use, export, sale, production, or possession of chemical weapons is considered a great threat to human health and the environment, their use should be prevented immediately. Even non-member States to the CWC must be in compliance with such general principles of international law in order to protect the common globe.

The question of the legality of herbicides and certain other chemical agents' usage is still subject to arguments. One argument suggests that the prohibition of their usage has become a stable principle in international customary law.<sup>1699</sup> Nevertheless, armed forces are still using herbicides and other chemical agents during armed conflicts in order to defoliate enemy lands.<sup>1700</sup>

#### d. The Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxin Weapons

By ending development of biological weapons and forbidding their use even in retaliation for biological warfare, the United States helped to develop an international standard against any use of biological weapons. The outlawing of biological warfare would preserve the American, Russian, or Chinese strategic positions as nuclear powers. Since they are cheaper and easy to build, biological weapons could give poorer nations a

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<sup>1698</sup> Vienna Convention on the Law of Treaties, *supra* note (751) art. 26.

<sup>1699</sup> Schafer, *supra* note (384) at 301-03.

<sup>1700</sup> Sharp, *supra* note (509) at 55-56.

weapon that could “balance” or level the strategic advantage of the nuclear States.<sup>1701</sup>

Biological weapons can be easily obtained by developing countries, and countries currently suspected of developing biological programs include China, Cuba, India, Iran,<sup>1702</sup> Iraq, Israel, Libya, North Korea, Russia, Japan, and Syria.<sup>1703</sup>

However, the Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxin Weapons<sup>1704</sup> (BWC) of 1972 seeks to completely eliminate bacteriological and toxin weapons through their destruction or conversion to peaceful purposes. It is considered the first convention that completely outlaws an entire category of weapons.<sup>1705</sup> The BWC was ratified by 28 countries and remarkably none of the major powers is a member-State to it.<sup>1706</sup>

Article I (1) of the Convention provides that “[e]ach State Party to this Convention undertakes never in any circumstance to develop, produce, stockpile or otherwise acquire or retain: (1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes.”<sup>1707</sup> This provision may cover military production, use, and stockpiling of bacteriological and toxin weapons since they cannot be described as protective and peaceful. Furthermore, Article II of the BWC provides that “[e]ach State Party to this Convention undertakes to destroy, or to divert to peaceful purposes, as soon as possible but not later than nine months after the entry into force of the Convention, all agents, toxins, weapons, equipment and means of delivery specified in Article I of the Convention, which are in its possession or under its jurisdiction or control. In implementing the provisions of this article all necessary safety precautions shall be observed to protect populations and the environment.” Article II

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<sup>1701</sup> George W. Christopher, *Biological Warfare: A Historical Perspective*, 278 JAMA 412, 415-16 (1997).

<sup>1702</sup> About the Iranian nuclear arsenal, see, Louis Rene Beres, *Israel, Iran, and Nuclear War: A Jurisprudential Assessment*, 1 UCLA J. INT’L L. & FOREIGN AFF. 65 (1996).

<sup>1703</sup> William S. Cohen, *Preparing for a Grave New World*, WASH. POST, July 26, 1999, at A19. See also, Leonard A. Cole, *The Specter of Biological Weapons*, Dec. SCI. AM. 60, 62 (1996).

<sup>1704</sup> Convention on the Prohibition of the Development, production, and Stockpiling of Bacteriological and Toxin Weapons, Apr. 10, 1972, U.N. Doc. A/2826[hereinafter BWC.]

<sup>1705</sup> Anne Q. Connaughton & Steven C. Goldman, *The Chemical Weapons Convention and Department of Commerce Responsibilities*, 760 PLI/COMM 533, 537 (1979) [hereinafter Connaughton & Goldman].

<sup>1706</sup> IHL Database of the ICRC, available at <<http://www.icrc.org>>, (last visit Aug. 17, 2001).

<sup>1707</sup> BWC, *supra* note (1704) art I (1).



gives military forces the possibility of possessing biological weapons, under the condition of transferring their use into peaceful purposes.<sup>1708</sup>

Responding to the fact that member States may not completely comply with the BWC, and non-member States are excluded from BWC jurisdiction, the U.S. Army created a special program to deal with the States that have aggressive biological weapons program, the Biological Defense Research Program (BDRP). The funding of that program grew by 400 percent from 1980 to 1988.<sup>1709</sup> Some of the States, particularly the developing States, obtained their technology from the U.S. For instance, Iraqi scientists ordered and received lab samples of biological warfare agents from the U.S. Centers for Disease Control.<sup>1710</sup> On the other hand, in 1996, the United States expanded its domestic implementation of the BWC to punish crimes associated with possession of biological weapons components.<sup>1711</sup>

In 1979, an accident at a covert Russian biological weapons plant resulted in the outbreak of an epidemic of anthrax in Sverdlovsk,<sup>1712</sup> Russia, and killed up to one thousand persons.<sup>1713</sup> The Russian government denied that the deaths were caused by any activity relating to biological weapons. But thirteen years later, in 1992, the former Russian President, Boris Yeltsin, admitted that the anthrax outbreak was the result of military activity at the facility.<sup>1714</sup> He allowed a team of Western scientists<sup>1715</sup> to investigate the outbreak in Sverdlovsk in June 1992 and August 1993.<sup>1716</sup> Their results showed that on the day of the outbreak all the victims were “clustered along a straight line downwind from the military facility” and the livestock in the same area also died of

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<sup>1708</sup> *Id.*, art II.

<sup>1709</sup> Robert Gould & Nancy D. Connell, *The Public Health Effects of Biological Weapons*, in WAR AND PUBLIC HEALTH 106 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000) [hereinafter Gould & Connell.]

<sup>1710</sup> *Id.*

<sup>1711</sup> Rosen, *supra* note (1021) at 30.

<sup>1712</sup> Now called Ekaterinburg.

<sup>1713</sup> Vacts & Zilinskas, *supra* note (1690) at 986.

<sup>1714</sup> The 1979 Anthrax Leak in Sverdlovsk, available at <<http://www.pbs.org/wgbh/pages/frontline/shows/plague/sverdlovsk/>>, (last visit Aug. 20, 2001) [hereinafter the 1979 Anthrax Leak].

<sup>1715</sup> Western scientists were including Dr. Matthew Meselson, a molecular biologist who has written about biological agents and is the Thomas Dudley Cabot Professor of the Natural Sciences in Harvard University's Department of Molecular and Cellular Biology. <<http://www.pbs.org/wgbh/pages/frontline/shows/plague/sverdlovsk/meselson.html>> (last visit Aug. 20, 2001).

<sup>1716</sup> The 1979 Anthrax Leak, *supra* note (1714).

anthrax.<sup>1717</sup> The team concluded that the outbreak resulted from a release of an aerosol of “anthrax pathogen” at the military facility; however, they were unable to determine what caused the release specifically.<sup>1718</sup> In the Sverdlovsk accident, the BWC proved its inefficiency. Its weakness consists in the absence of verification and enforcement provisions, since no authority could investigate the situation in Sverdlovsk to assure Russian compliance with the BWC provisions. Nevertheless, in such environmental disasters and even in the absence of enforcement measures, the involved countries can appoint a commission composed of military and environmental experts and may seek the assistance of experts from neighboring countries to monitor the violation and investigate the State’s compliance with its duty under the BWC and under international customary law.

#### e. Geneva Protocol on Monitoring Compliance with Chemical and Germs Warfare

The Geneva Protocol on Monitoring Compliance with Biological and Germ Warfare of July 2001<sup>1719</sup> has been rejected formally by the United States. The U.S. chief negotiator, Donald A. Mahley, said: “In our assessment, the draft protocol would put national security and confidential business information at risk.”<sup>1720</sup>

The draft Protocol aims at enforcing the 1972 Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological and Toxin Weapons (BWC), which bans germ weapons. The Protocol aims at providing compliance provisions that were lacking in the BWC, because when the Convention was adopted in

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<sup>1717</sup> *Id.*

<sup>1718</sup> *Id.*

<sup>1719</sup> Elizabeth Olson, *U.S. Rejects New Accord Covering Germ Warfare*, N.Y. TIMES, July 26, 2001, A5 [hereinafter Olson]; U.S. Rejects Anti-Germ Warfare Accord, <<http://www.usatoday.com/news/world/2001/07/25/antigerm.htm>> (last visit Aug. 17, 2001) [hereinafter U.S. Rejects Anti-Germ Warfare Accord].

<sup>1720</sup> *Id.*, at A5.

1972, during the Cold War, negotiators ignored enforcement issues, thinking that one would ever use germ weapons.<sup>1721</sup>

The Protocol was drafted to create a way to inspect biological weapons sites without interfering with other legitimate facilities.<sup>1722</sup> However, Mr. Mahley added “[t]he draft will not improve our ability to verify Biological Weapons Convention compliance” and it will not prevent some countries from developing their biological weapons.<sup>1723</sup>

The negotiators set November 2001 as a target to complete the enforcement provisions, which will be important to ensure compliance with the BWC’s provisions and deter some countries from using or threatening to use or develop biological weapons and resorting to germ warfare.

#### f. The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction

U.N. Secretary General Kofi Annan described the conclusion of the Ottawa Convention as a “landmark step in the history of disarmament.”<sup>1724</sup>

Before 1997, Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices of 1980,<sup>1725</sup> was the only instrument that officially recognized the danger from landmines. Protocol II does not completely prohibit the use of landmines, but only restricts member States from directing them against civilians.<sup>1726</sup> Therefore, using landmines to harm combatants or the environment may not be interpreted as a violation of the Protocol’s provisions as long as civilians are not

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<sup>1721</sup> U.S. Rejects Anti-Germ Warfare Accord, *supra* note (1719).

<sup>1722</sup> *Id.*

<sup>1723</sup> *Id.*

<sup>1724</sup> U.N. Secretary General Kofi Annan, addressed to the Signing Ceremony of the Anti-Personnel Mines Convention, Ottawa, Canada, 3 December 1997.

<sup>1725</sup> Protocol II on Prohibitions or Restrictions on the Use of Mines, Booby-Traps and Other Devices, Oct. 10, 1980, 19 I.L.M. 1529 [hereinafter Protocol II on Mines and Booby-Traps].

<sup>1726</sup> *Id.*, art. 3.

concerned. However, the Protocol does recognize the importance of protecting civilians. On May 3, 1996, Protocol II was amended and promulgated<sup>1727</sup> at the Review Conference of the State Parties to the United Nations on Certain Conventional Weapons Convention (UNCCW). The Amended Protocol II of the UNCCW extends to internal armed conflicts, whereas the original Protocol was limited to international armed conflicts and certain wars of national liberation.<sup>1728</sup> This extension is important for combatants who use mines in internal conflicts, such as in Cambodia and Angola.<sup>1729</sup> Thus, the Amended Protocol II will reduce civilian casualties from landmines and booby-traps. Nevertheless, the Amended Protocol II does not include environmental protection from landmines whether in international armed conflicts or during civil wars. Even though it considers the danger from the use of these weapons in internal armed conflicts on civilians, it ignores their threat to nature and the environment.

As the effects of landmines have grown more apparent, it has become evident that the existing international legal protection is too weak and inadequate to cover the atrocities caused by these weapons. Existing law it does not include measures to enforce compliance with the international conventions' provisions and does not impose a strict liability on States that use landmines. Complete protection from landmines needs to be provided for civilians and the environment in times of armed conflicts and even in post-armed conflict situations. Therefore, the international community formulated a new instrument to cover that need. The Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-personnel Mines and on their Destruction, (Ottawa Convention), was adopted in 1997<sup>1730</sup> to prevent the use of landmines. The Ottawa Convention was ratified by 118 States, including France and the United Kingdom.<sup>1731</sup>

The Ottawa Convention prohibits completely the use of anti-personnel landmines. It also forbids their development, production, stockpiling, and transfer. The

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<sup>1727</sup> Protocol on the Prohibition or Restrictions on the Use of Mines, Booby-Traps and Other Devices, amended May 3, 1996, U.S. Treaty Doc. 105-1, at 37, 35 I.L.M. 1206 [hereinafter Amended Protocol II].

<sup>1728</sup> Protocol II on Mines and Booby-Traps, *supra* note (1725) art. 1 para. 2. A list of wars of national liberation can be found in Article 1 (4) of the Additional Protocol I of 1977.

<sup>1729</sup> Michael Lecey, *Passage of Amended Protocol II*, March ARM. LAW. 7, 8 (2000).

<sup>1730</sup> Convention on the Prohibition of the Use, Stockpiling, Production, and Transfer of Anti-Personnel Mines and on Their Destruction, Sept. 18, 1997, 36 I.L.M. 1507 (1997) [hereinafter Ottawa Convention].

Convention requires the destruction of anti-personnel landmines whether they are in stockpiles or are already placed in the ground. Article 1 of the Ottawa Convention states that “1.[e]ach State Party never undertakes, under any circumstances: (a) To use anti-personnel mines; (b) To develop, produce, otherwise acquire, stockpile, retain or transfer to anyone, directly or indirectly, anti-personnel mines; (c) To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention. 2. Each State Party undertakes to destroy or ensure the destruction of all anti-personnel mines in accordance with the provisions of this Convention.”<sup>1732</sup>

States’ obligations according to the Ottawa Convention are to cease the use of anti-personnel mines, to prohibit their development and production, to prohibit their stockpile, to prohibit their transfer, and to never assist, encourage, or induce anyone to engage in the forecited activities. The use of anti-personnel mines would kill people in one hand and harm the environment on other hand, since cadavers may contaminate the soil, or water bodies where it may be dumped. Moreover, the destruction of anti-personnel mines can also harm the environment since toxic materials and other hazardous substances may be released into the ground, water, and air.

Furthermore, the use of landmines by a signatory State is considered a breach of its international obligations, since under Article 18 of the Vienna Convention on the Law of the Treaties, “a State is obliged to refrain from acts which would defeat the purpose of a treaty when [...] it has signed the treaty.” Although, the U.S. is not a party to the Treaty, the White House in a Statement issued September 17, 1997, declared a new United States landmine policy. The United States would observe a permanent ban on landmines’ export, increase funding for landmine alternatives, and commit substantial funding to de-mining efforts in 1998.<sup>1733</sup>

#### g. Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof

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<sup>1731</sup> Multilateral Treaties Deposited with the Secretary General, available in <<http://untreaty.un.org>> (last visit Aug. 17, 2001).

<sup>1732</sup> Ottawa Convention, *supra* note (1730) art. 1.

<sup>1733</sup> See, Transcript of Clinton’s Remarks on Landmine Elimination, U.S. Newswire, Sept. 17, 1997, available in LEXIS, News Library, Arcnws File.

On December 7, 1970, the United Nations General Assembly approved the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof, known as the Seabed Arms Control Treaty (SACT)<sup>1734</sup> by Resolution 2660 (XXV). On February 11, 1971, the SACT was signed in simultaneous ceremonies held in London, Moscow, and Washington, the capitals of the depository States. In addition, more than sixty other nations also signed the Treaty.<sup>1735</sup> At the signing in Washington, President Nixon said that the Treaty is only another step “towards a greater goal: the control of nuclear weapons on earth and the reduction of that danger that hangs over all the nations of the world as long as those weapons are not controlled.”<sup>1736</sup> Upon ratification by the depository governments, the United Kingdom, the United States, and Russia on May 18, 1972, the SACT entered into force.

It is necessary to examine the historical background of the SACT in order to understand its provisions.

At the 1958 Geneva Conference on the Law of the Sea, Bulgaria was the first country to suggest the demilitarization of the sea-bed.<sup>1737</sup> Bulgaria introduced a proposal to be included in the Convention on the Continental Shelf, that a coastal State shall not use the continental shelf for the purpose of building military bases or installations.<sup>1738</sup> Bulgaria’s proposal was replaced by India’s analogous proposal.<sup>1739</sup> The Indian proposal read as follows: “[t]he continental shelf adjacent to any coastal State shall not be used by the coastal State or any other State for the purpose of building military bases or installations.”<sup>1740</sup> However, India’s proposal was rejected by twenty-one votes to

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<sup>1734</sup> Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof, Feb. 11, 1971, 23 U.S.T. 701, T.I.A.S. No. 7337, [hereinafter SACT].

<sup>1735</sup> Walter W. Krieger, *The United Nations Treaty Banning Nuclear Weapons and Other Weapons of Mass Destruction on the Ocean Floor*, 3 MARITIME L. & COM. 107, 107 (1971-72) [hereinafter Krieger].

<sup>1736</sup> 46 DEPT. STATE BULL. 289-90 (1971), cited in *Id.*

<sup>1737</sup> Wojciech Góralczyk, *Legal Problems of the Peaceful Uses of the Sea-Bed and the Ocean Floor: Denuclearization*, 5 POLISH Y.B INT’L L. 43, 45 (1972-73) [hereinafter Góralczyk].

<sup>1738</sup> A/Conf. 13/C. 4/L. 41 and Rev. 1, *see*, The United Nations Conference on The Law of The Sea, “Official Records”, Vol. 6, at 137.

<sup>1739</sup> A/Conf13/C. 4/L. 57.

<sup>1740</sup> U.N.Doc. A/CONF.62/C.2/L.82, cited in R. PLATZODER ED., THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA: DOCUMENTS 185 (1984).

eighteen, with six abstentions, because the western States were not ready to take an obligation of demilitarizing the continental shelf.<sup>1741</sup>

On March 18, 1969, Russia, the Union of the Soviet Socialist Republics at that time, submitted to the Disarmament Committee a draft treaty on the prohibition of the use of the sea-bed ocean floor and the subsoil thereof for military purposes.<sup>1742</sup> It was based on the complete prohibition of military uses and strict control over compliance with the treaty's provisions.<sup>1743</sup>

On May 22, 1969, the United States submitted its counter-proposal to the Disarmament Committee, The Draft Sea-Bed Arms Control Treaty.<sup>1744</sup> It aimed at banning the emplacement on the sea-bed, ocean floor and the subsoil thereof of nuclear and other weapons of mass destruction.<sup>1745</sup> Accordingly, the U.S. draft treaty provided that the prohibitions should apply beyond the three-mile coastal zone. Russia realized that, without cooperation with the U.S. and its supporters, there could not be any satisfactory seabed arms limitation. Thus, on October 7, 1969, Russia and the U.S. jointly submitted a revised draft treaty.<sup>1746</sup> The joint draft treaty was amended on October 30, 1969,<sup>1747</sup> and as amended was presented during the General Assembly session on April 23, 1970.<sup>1748</sup> Further discussion in the Disarmament Committee resulted in a revised and supplemented draft on September 1, 1970.<sup>1749</sup> This text was presented at the 25<sup>th</sup> session of the General Assembly, and was accepted by ninety-one votes to two (El Salvador, Peru) with six abstentions.<sup>1750</sup> At the plenary meeting of the General Assembly, the treaty was accepted by 104 votes to two (El Salvador, Peru) with two abstentions (Ecuador, France).<sup>1751</sup>

According to Article I of SACT, the parties committed themselves not to implant or emplace on the sea-bed, the ocean floor and on the subsoil thereof beyond the coastal

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<sup>1741</sup> Góralczyk, *supra* note (1737) at 45.

<sup>1742</sup> Eighteen Nation Disarmament Committee (ENDC), 240, March 18, 1969.

<sup>1743</sup> Góralczyk, *supra* note (1737) at 48.

<sup>1744</sup> *Id.*

<sup>1745</sup> ENDC/249, May 22, 1969.

<sup>1746</sup> The Conference of the Committee on Disarmament (CCD), 269.

<sup>1747</sup> CCD/269/Rev.1.

<sup>1748</sup> CCD/269/Rev.2.

<sup>1749</sup> CCD/269/Rev.3.

<sup>1750</sup> The Report of the First Committee A/8198, at 8.

<sup>1751</sup> A/PV. 1919, at 21.

zone defined in Article II, any nuclear weapons or any other types of weapons of mass destruction as well as structures, launching installations or any other facilities specifically designed for storing, testing, or using such weapons and also not to assist, encourage or induce any State to carry out these prohibited activities and not to participate in any other way in such actions. The prohibition includes different types of nuclear weapons, but it does not include nuclear installations of a peaceful, non-military, character.<sup>1752</sup> It also applies to biological and chemical weapons, as it covers all weapons of mass destruction.

Article III provides that each State party shall have the right to verify, through observation, the activities of other States parties on the sea-bed, ocean floor, and subsoil thereof beyond the 12-mile coastal zone, provided that such observation does not interfere with such activities. Nevertheless, it should be noted that the treaty does not provide for the free access to all projects and installations arousing suspicion, which may affect the verification system.

Article VIII of SACT provides that a nation has the right to withdraw from the Treaty if it determines that its “supreme interests” are being jeopardized by “extraordinary events” related to the Treaty. Finally, SACT does not directly solve the problem of the demilitarization on the sea-bed, ocean floor, and the subsoil thereof, and also does not cover activities on the sea waters. Nevertheless, SACT could be cited as an example of “how common interests, representing a compromise among several competing interests, could be achieved.”<sup>1753</sup>

#### **h. The United Nations Convention on the Prohibitions or Restrictions on the Use of Certain Conventional Weapons, which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects**

The United Nations Convention on the Prohibitions or Restrictions on the Use of Certain Conventional Weapons, which may be Deemed to be Excessively Injurious or to Have Indiscriminate Effects of 1980,<sup>1754</sup> and its additional Protocols<sup>1755</sup> are different

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<sup>1752</sup> Krieger, *supra* note (1735) at 119-20.

<sup>1753</sup> Pemmaraju Sreenivasa Rao, *The Seabed Arms Control Treaty: A Study in the Contemporary Law of the Military Uses of the Seas*, 4 MARITIME L. & COM. 67, 92 (1972-73) [hereinafter Rao].

<sup>1754</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761).



from other enviro-humanitarian rules instruments because this convention and its additional protocols deal with specific modes of conventional weapons.<sup>1756</sup> Other enviro-humanitarian rules deal with unconventional weapons or weapons of mass destruction.

Article 1 of the Inhumane Weapons Convention provides a link between this convention<sup>1757</sup> the four Geneva Conventions and the Additional Protocol I.<sup>1758</sup> Therefore, the Inhuman Weapons Convention has been described as an extension of those earlier agreements.<sup>1759</sup> It was ratified by 85 States, including China, France, Russia, United Kingdom, and the United States.<sup>1760</sup>

The Preamble to the Convention provides that “it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment.”<sup>1761</sup> Here, the Preamble reiterates Article 35 (3) of the Additional Protocol I to the Geneva Conventions, which addresses environmental damage in times of armed conflicts. It will be recalled that Article 35 (3)

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<sup>1755</sup> There are three Additional Protocols to the Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, which are: 1) the Non- Detectable Fragments, 19 I.L.M. 1529 (1980)[hereinafter Non-Detectable Fragments Protocol]; 2) Prohibitions or Restrictions on the Use of Mines, Booby Traps and other Devices, 19 I.L.M. 1529 (1980) [hereinafter Booby Traps Protocol]; and 3) Prohibitions or Restrictions on the Use of Incendiary Weapons, Protocol on Prohibitions or Restrictions on the Use of Incendiary Weapons, 19 I.L.M. 1534 (1980) [hereinafter Protocol on Incendiary Weapons].

<sup>1756</sup> Yuzon, *supra* note (695) at 823.

<sup>1757</sup> Article 1 of the Convention on Prohibition or Restriction on the Use of Certain Conventional weapons provides that “[t]his Convention and its annexed Protocols shall apply in the situations referred to in Article 2 common to the Geneva Conventions of 12 August 1949 for the Protection of War Victims, including any situation described in paragraph 4 of Article 1 of Additional Protocol I to these Conventions.” Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) art. 1.

<sup>1758</sup> Article 2 of the four Geneva Conventions provides that “[I]n addition to the provisions which shall be implemented in peace-time, the present Convention shall apply to all cases of declared war or of any other armed conflict which may arise between two or more of the High Contracting Parties, even if the state of war is not recognized by one of them. The Convention shall also apply to all cases of partial or total occupation of the territory of a High Contracting Party, even if the said occupation meets with no armed resistance. Although one of the Powers in conflict may not be a party to the present Convention, the Powers who are parties thereto shall remain bound by it in their mutual relations. They shall furthermore be bound by the Convention in relation to the said Power, if the latter accepts and applies the provisions thereof.” Geneva Conventions (I), (II), (III), and (IV), *supra* note (56) Common art. II; The Additional Protocol (I) provides in Principle 1 (4) that “4. The situations referred to in the proceeding paragraph include armed conflicts in which people fighting against colonial domination and alien occupation and against racist regimes in the exercise of their right of self-determination, as enshrined in the Charter of the United Nations and Declaration of Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations.” Additional Protocol (I), *supra* note (79) art. 1 (4).

<sup>1759</sup> Yuzon, *supra* note (695) at 823.

<sup>1760</sup> Multilateral Treaties Deposited with the Secretary General, available in <<http://untreaty.un.org>> (last visit Aug. 17, 2001).

of the Additional Protocol I's text offers less than ideal environmental protection, because it applies only to damage that is severe, long-term, and widespread.

Because it links human injury to environmental injury, the Inhumane Weapons Convention also provides collateral environmental protection while recalling “[t]he general principle of the protection of the civilian population against the effects of hostilities.”<sup>1762</sup> In times of armed conflicts, civilian populations are subject to direct and indirect injury from the weapons of war. By seeking to avoid such injury, the convention also seeks to protect the environment. However, its Additional Protocol on Prohibitions or Restrictions on the Use of Mines, Booby Traps and Other Devices, provides for much more protection for civilian populations than the protection provided in the Inhumane Weapons Convention itself. For instance, Article 3 (2) of the Booby Traps Protocol states that “[i]t is prohibited in all circumstances to direct weapons to which this Article applies, either in offence, defence or by way of reprisals, against the civilian population as such or against individual civilians.”<sup>1763</sup> This Article prohibits any attack by mines, booby traps or other devices against civilian populations, whether in offensive or defensive cases. It also prohibits indiscriminate uses of mines, booby traps and other devices.<sup>1764</sup> Moreover, it requires combatants to avoid foreseeable injury to civilians or civilian objects.<sup>1765</sup> Civilian objects are defined, in Article 2 (5) of the Booby Traps Protocol, as “all objects which are not military objectives.”<sup>1766</sup> A military object is defined as “any object which by its nature, location, purpose or use makes an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”<sup>1767</sup> Consequently, national parks, zoo, reservoirs, rivers, and forests are considered by their nature civilian objectives, unless they misused by military forces.

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<sup>1761</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) pmbl.

<sup>1762</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) pmbl.

<sup>1763</sup> Booby Traps Protocol, *supra* note (1755) art. 3 (2).

<sup>1764</sup> *Id.*, art. 3 (3).

<sup>1765</sup> *Id.*, art. 3 (3) (c).

<sup>1766</sup> *Id.*, art. 2 (5).

<sup>1767</sup> *Id.*, art. 2 (4).

The Booby Traps Protocol requires member States to take all feasible precautions necessary to assure the protection of civilian population from the effects of weapons.<sup>1768</sup> Therefore, any severe, widespread, and long term environmental damage that may reflect on the public health and safety should be avoided. The Protocol also prohibits the use of mines, booby traps, and other devices in areas of concentration of civilians, such as cities, towns, and villages, except for explicit military purposes, since the booby traps can affect both people and any animals that trigger them.<sup>1769</sup> Moreover, Article 6 (2) of the Protocol prohibits causing any superfluous injury or unnecessary suffering.<sup>1770</sup> Civilian protection does not end by the cessation of combat, it continues after the combat. Article 7 (3) (a) (i) declares that combatants should “take all necessary and appropriate measures, including the use of [records of minefields, mines and booby-traps], to protect civilians from the effects of minefields, mines and booby-traps.”<sup>1771</sup> The absence of these records can lead to the harm of the civilian population as well as the environment.

Similar protection is offered to civilians by the Additional Protocol of the Inhuman Weapons Convention on Incendiary Weapons, which prohibits incendiary weapons attacks against civilian population,<sup>1772</sup> or areas with a concentration of civilian populations.<sup>1773</sup>

Article 2 (4) of the Incendiary Weapons Protocol provides that “[i]t is prohibited to make forests or other kinds of plant cover the object of attack by incendiary weapons[...].”<sup>1774</sup> This provision seeks to eliminate the “tectonic of burned land” used by some military forces during international or internal armed conflicts. Unfortunately, this tactic is still not strictly forbidden. Moreover, once again environmental protection has no priority over military necessity. Accordingly, Article 2 (4) grants the armed forces the right to ignore the protection of natural resources if they are “used to cover, conceal or camouflage combatants or other military objectives, or are themselves military objectives.”<sup>1775</sup> Just as the international community should deal with combatants who use

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<sup>1768</sup> *Id.*, art. 3 (4).

<sup>1769</sup> *Id.*, art. 4 (2).

<sup>1770</sup> *Id.*, art. 6 (2).

<sup>1771</sup> *Id.*, art. 7 (3) (a) (i).

<sup>1772</sup> Incendiary Weapons Protocol, *supra* note (1755) art. 2 (1).

<sup>1773</sup> *Id.*, art. 2 (2), (3).

<sup>1774</sup> *Id.*, art. 2 (4).

<sup>1775</sup> *Id.*, art. 2 (4).

civilian populations as a cover to benefit from their protection, it should prohibit combatants from using nature and natural resources as a cover during armed conflicts. The preamble of the Inhumane Weapons Convention reaffirms the inadequacy of the existing rules of armed conflicts and emphasizes “the need to continue the codification and progressive development of the rules of international law applicable in armed conflict.”<sup>1776</sup>

Another direct environmental protection is provided in the Booby Traps Protocol when it states that “it is prohibited in all circumstances to use [...] booby-traps which are in any way attached to or associated with [...] historic monuments, works of art or places of worship which constitute the cultural or spiritual heritage of peoples; animals or their carcasses.”<sup>1777</sup>

Significantly, the Inhumane Weapons Convention adopted the Martens Clause to cover all the cases that are not covered by its provisions, the three Additional Protocols, or other international agreements. It provides that “the civilian population and the combatants shall at all times remain under the protection and authority of the principles of international law derived from established custom, from the principles of humanity and from the dictates of public conscience.”<sup>1778</sup> Unlike the IUCN Clause, the Martens Clause does not deal directly with the environmental protection, and offers its protection only to civilian populations and combatants.<sup>1779</sup> Therefore, the environment is not considered as high a priority in the Inhumane Weapons Convention as injury to persons.

#### i. The Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and Bacteriological Methods of warfare

The international community fought to ban the use of poisonous gases and bacteriological weapons a long time ago. Yet that campaign has not resulted in significant

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<sup>1776</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) pmbl.

<sup>1777</sup> Booby Traps Protocol, *supra* note (1755) art. 6 (1) (b) (ix), (x).

<sup>1778</sup> Convention on Prohibition or Restriction on the Use of Certain Conventional weapons, *supra* note (761) pmbl.

<sup>1779</sup> See, for more details on the IUCN Amman Clause and the Martens Clause, Part Two of this Thesis “Martens Clause”.

victory. The Hague Conferences of 1899 and 1907 expressly banned the employment of poisoned projectiles used to disburse gases.<sup>1780</sup> Eight years later, while adhering to the letters of the 1899 and 1907 Hague Conventions, the German Army launched the first chemical attack in modern warfare without using poisonous projectiles.<sup>1781</sup> They positioned chlorine-filled containers along a four-mile front, waited until the wind blew toward the French positions, and then opened the canisters and released a cloud of chlorine gas.<sup>1782</sup> Technically, the German did not violate the Hague Conference agreements because they did not use the projectiles to release the poisonous gas, instead they used the wind to transmit the gas to the enemy's line. However, such action can be interpreted as a violation of the general principle of international law, i.e., the good faith codified in Article 15 of the Vienna Convention on the Law of the Treaties.<sup>1783</sup> After the German action, the French, English and Americans developed their own chemical weapons and retaliated.<sup>1784</sup> Chemical weapons caused 1.3 million casualties during World War I.<sup>1785</sup> As a result, Article 171 of the Treaty of Versailles prohibits gas warfare, by providing that "[t]he use of asphyxiating, poisonous or other gases and all analogous liquids, materials or devices being prohibited, their manufacture and importation are strictly forbidden in Germany."<sup>1786</sup> Only one article of the Versailles Treaty deals with gas warfare, which addresses the only German military forces, and a

<sup>1780</sup> First International Peace Conference, The Hague 1899, reprinted in 1 AM. J. INT'L L. 103, 105 (Supp. 1907) See also, The Second International Peace Conference, The Hague, 1907, reprinted in 2 AM. J. INT'L L. 106 (Supp. 1908).

<sup>1781</sup> EDWARD M. SPIERS, *CHEMICAL WARFARE* 17 (Univ. of Illinois Press, 1986) [hereinafter SPIERS]; see also, Leonhard S. Wolf, *Chemical and Biological Warfare: Medical Effects and Consequences*, 28 MCGILL L.J. 732, 735 (1983) [hereinafter Wolf, *Chemical and Biological*]; see also, David Koplow, *Long Arms and Chemical Arms: Extraterritoriality and the Draft Chemical Convention*, 15 YALE J. INT'L L. 1, 3 (1990).

<sup>1782</sup> SPIERS, *supra* note (1781) at 15-16; see also, Tom Buerkle, *80 Years A Go, A Yellow Pall of Terror*, INT'L HERALD TRIBUNE, Apr. 22, 1995, at 1 [hereinafter Buerkle].

<sup>1783</sup> Article 18 of the Vienna Convention provides that "A State is obliged to refrain from acts which defeat the object and purpose of a treaty when: (a) It has signed the treaty or has exchanged instruments constituting the treaty subject to ratification, acceptance or approval, until it shall have made its intention clear not to become a party to the treaty; or (b) It has expressed its consent to be bound by the treaty, bending the entry into force of the treaty and provided that such entry into force is not unduly delayed." Vienna Convention on the Law of Treaties, *supra* note (751) art. 18.

<sup>1784</sup> Buerkle, *supra* note (1782) at 1; SPIERS, *supra* note (1781) at 17-20.

<sup>1785</sup> David B. Merkin, *The Efficiency of Chemical Arms Treaties in the Aftermath of the Iran-Iraq War*, 9 B.U. INT'L L. J. 175, 176 (1991) [hereinafter Merkin]; see also, Philip Louis Reizenstein, Note, *Chemical and Biological Weapons – Recent Legal Developments May Prove to be a Turning Point in Arms Control*, 12 BROOK J. INT'L L. 95, 99, fn.26 (1986) [hereinafter Reizenstein].

<sup>1786</sup> Treaty of Peace with Germany at Versailles, *supra* note (589).

more comprehensive agreement was needed to deal with this matter specifically. Responding to this need, a new instrument was concluded on June 17, 1925: the Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and Bacteriological Methods of Warfare.<sup>1787</sup>

The Geneva Protocol for the Use of Asphyxiating Gases was ratified by 132 countries including the five major powers.<sup>1788</sup> It covers the gaps in The Hague Conventions of 1899 and 1907. It completely outlaws the use of chemical and biological weapons against other treaty signatories.<sup>1789</sup> In addition, the Geneva Protocol for the Use of Asphyxiating Gases recognizes environmental protection, by prohibiting the use of biological weapons, whether on humans, animals, or plants without any distinction. Moreover, Member States to the Geneva Protocol for the Use of Asphyxiating Gases recognize the importance of environmental protection. For example, during the preparatory works of the Protocol, the Polish delegate declared that “[b]acteriological warfare can also be waged against the vegetable world, and not only may corn, fruit and vegetable suffer, but also vineyards, orchards, and fields.”<sup>1790</sup>

Furthermore, the United Nations General Assembly has reflected the principles adopted in the Geneva Protocol for the Use of Asphyxiating Gases in a number of its resolutions. The most relevant to the environment is Resolution 2603A (XXIV) of December 16, 1969, which provides that “chemical and biological methods of warfare [...] are inherently reprehensible because their effects are often uncontrollable and unpredictable and may be injurious without distinction to combatants and non-combatants [...]” That resolution also “[d]eclares contrary to international law: (a) [a]ny chemical agents of warfare – chemical substances [...] which might be employed because

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<sup>1787</sup> The Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and Bacteriological Methods of warfare, June 17, 1925, 26 U.S.T. 571 [hereinafter Geneva Protocol for the Use of Asphyxiating Gases].

<sup>1788</sup> Protocol for the Prohibition of the Use of Asphyxiating Poisonous or Other Gases, and of Bacteriological Methods of Warfare, available at <<http://www.icrc.org>> (last visit Aug. 17, 2001).

<sup>1789</sup> “[T]he use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices, has been justly condemned by the general opinion of the civilized world; and [w]hereas the prohibition of such use has been declared in Treaties to which the majority of Powers of the world are Parties; and [t]o the end that this prohibition shall be universally accepted as a part of International Law, binding alike the conscience and the practice of nations; [d]eclare: [t]hat the High Contracting Parties [...] agree to extend this prohibition to the use of bacteriological methods of warfare and agree to be bound as between themselves[...].” Geneva Protocol for the Use of Asphyxiating Gases, *supra* note (1787) para. 5.

<sup>1790</sup> CBW AND THE LAW OF WAR, *supra* note (705) at 71.

of their direct toxic effects on man, animals or plants; (b) [a]ny biological agents of warfare – living organisms, [...] which are intended to cause disease or death in man, animals or plants, and which depend for their effects to multiply in the person, animal or plant attacked.”<sup>1791</sup>

Non-signatory States are not covered by the protection offered by the Protocol. Moreover, the Protocol “did not, however, prohibit all use of chemical weapons or preclude the development of new technologies or stockpiling of such weapons.”<sup>1792</sup> A number of States ratified the Protocol with reservation of reciprocity, or the right to retaliate, under which the violation of the Protocol by a member State will free other members from their obligations set forth in the Protocol.<sup>1793</sup> In case of either aggression or retaliation, humans might be directly or indirectly affected, but the environment is always the direct victim of such attacks since it cannot run, escape, or find shelter. Needless to say, the use of asphyxiating and poisonous gases will hurt the environment by releasing toxic substances, killing animals and plants, and poisoning bodies of water.

Although some signatories reserved the “right to retaliate,” the International Court of Justice (ICJ) implicitly has rejected the act of reprisal on one occasion.<sup>1794</sup> While this occasion did not involve the use of chemical or bacteriological agents, the Court’s rejection of reprisal can be applied to those circumstances. The occasion was when an Albanian battery fired at two British warships that passed through the Corfu Channel on May 15, 1946. The Albanian Government declared that foreign warships had no right to pass through Albanian territorial waters without previous notification. Nevertheless, the United Kingdom Government replied that if fire was opened on any British warship passing through the Corfu Channel in the future, the fire would be returned.<sup>1795</sup> The ICJ

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<sup>1791</sup> G.A. Res. 2603A (XXIV), U.N. GAOR, 24<sup>th</sup> Sess., Supp. No. 30, at 16, U.N. Doc. A/7630 (1969).

<sup>1792</sup> Fitzgerald, *supra* note (501) at 430.

<sup>1793</sup> R. R. Baxter & Thomas Buergenthal, *Legal Aspects of the Geneva Protocol of 1925*, 64 AM. J. INT’L L. 853, 869-71 (1970) [Baxter & Buergenthal]; Michael Bothe, *Chemical Warfare*, in 3 ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW, 83, 85 (RUDOLF DOLZER ET AL. EDS., 1982). *See also*, Fitzgerald, *supra* note (501) at 431.

<sup>1794</sup> *See Corfu Channel Case*, UK v. Alb., April 9, 1949, General List No. 1, 1949 I.C.J. 4, <<http://www.icj-cij.org>> (last visit June 21, 2001) [hereinafter *Corfu Channel Case*]; *Case Concerning United States Diplomatic and Consular Staff in Tehran* (U.S. v. Iran), May 24, 1980, General List No. 64, 1980 I.C.J. 3 [hereinafter *Case Concerning U.S. Diplomatic Staff in Tehran*].

<sup>1795</sup> *Corfu Channel Case*, *supra* note (1794) at 27.

declared that “the action of the British Navy constituted a violation of Albanian sovereignty” in order to ensure respect for international law.<sup>1796</sup>

The restrictions imposed by the Geneva Protocol for the Use of Asphyxiating Gases are limited to international armed conflicts, and do not apply to internal conflicts or peacetime military operations.<sup>1797</sup> Moreover, the Protocol does not ban testing, production, or stockpiling of biological or chemical weapons, and it permits any retaliatory use of chemical weapons.<sup>1798</sup> For instance, when the United States ratified the Geneva Protocol for the Use of Asphyxiating Gases, it reserved its right to use chemical weapons if an enemy used such weapons first.<sup>1799</sup> Finally, the Protocol does not contain any mechanism to investigate or verify any suspected violation to its provisions.

In fact, restricting gas warfare would provide environmental protection, because manufacture and storage in peacetime could result in accidents, or to theft by terrorists. A considerable debate surrounds the scope of application of the Geneva Protocol for the Use of Asphyxiating Gases, as to whether it limits attacks against civilian populations only, or against animals and plants too.<sup>1800</sup> International law provides a number of standards and guidelines against targeting any environmental object; therefore, member States to the Geneva Protocol for the Use of Asphyxiating Gases should consider these standards and guidelines before when using poisonous gases or bacteriological weapons.<sup>1801</sup>

Additionally, the attitude of the United States during its ratification to the Protocol recalls the principle of good faith examined earlier under this title. The official English text version of the Protocol expressly prohibits the use “asphyxiating, poisonous, or other gases.”<sup>1802</sup> The phrase “other gases” was so open-ended that the United States objected to the English version of the text, and strongly supported the French text that prohibits asphyxiating, poisonous, or similar gases. The French text “similar gases”<sup>1803</sup>

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<sup>1796</sup> *Id.*, at 35.

<sup>1797</sup> Scharf, *supra* note (1692) at 481.

<sup>1798</sup> Rosen, *supra* note (1021) at 61.

<sup>1799</sup> Geneva Protocol for the Use of Asphyxiating Gases, *supra* note (1787) at 571.

<sup>1800</sup> Yuzon, *supra* note (695) at 830.

<sup>1801</sup> *Id.*

<sup>1802</sup> Geneva Protocol for the Use of Asphyxiating gases, *supra* note (1787).

<sup>1803</sup> The French text read as follows: “Considérant que l'emploi à la guerre de gaz asphyxiants, toxiques ou similaires, ainsi que de tous liquides, matières ou procédés analogues, a été à juste titre condamné par l'opinion générale du monde civilisé.”



was expressly interpreted not to preclude irritants or herbicides, used by the United States in Vietnam, because their effects are not similar to more lethal chemical agents like nerve or mustard gas.<sup>1804</sup> In an attempt to clarify the ambiguity arising from the difference between the French and the English texts, the United Nations General Assembly adopted Resolution 2603 A (XXIV) of December 16, 1969, that interpreted the prohibitions in the Geneva Protocol for the Use of Asphyxiating Gases to include “any chemical agents of warfare-chemical substances, whether gaseous, liquid or solid-which might be employed because of their direct toxic effects on man, animals, or plants.”<sup>1805</sup>

In 1935, Italy became the first signatory to the Geneva Protocol for the Use of Asphyxiating Gases to use chemical weapons, when it invaded Ethiopia.<sup>1806</sup> Eventually, the international community sought to strengthen the prohibition against such weapons, by adopting the four Geneva Conventions and the Additional Protocols I and II.<sup>1807</sup> However, these efforts were not successful, and chemical and biological attacks have proliferated significantly during international and internal armed conflicts. The international community has not imposed sanctions for documented violations, such as the use of asphyxiating, poisonous, bacteriological and chemical agents by the United States in Vietnam, Russia in Afghanistan,<sup>1808</sup> during the Gulf War I,<sup>1809</sup> by the Iraqi Army against the Kurds in Northern Iraq,<sup>1810</sup> by Iraq against Iran, and in the terrorist action of the Aum Shinrikyo doomsday religious cult in Japan.<sup>1811</sup> All these incidents show that this instrument does not offer effective environmental protection, and the conclusion of a new treaty to deal more efficiently with the environmental effects of chemical weapons has become a matter of great urgency.

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<sup>1804</sup> Reizenstein, *supra* note (1785) at 102-03.

<sup>1805</sup> G.A. Res. 2603A, 30 U.N. GAOR Supp. (No. 34) at 16, U.N. Doc. A/7630 (1969).

<sup>1806</sup> SPIERS, *supra* note (1781) at 91; Merkin, *supra* note (1785) at 181.

<sup>1807</sup> Refer to the rules examined in Part II of this thesis.

<sup>1808</sup> “During the 1980s, the Reagan administration made a series of allegations about Soviet violations to the 1925 Geneva Protocol and the 1972 BWC. Major purported violations were that an illegal biological weapons facility exploded in Sverdlovsk in 1979, and that the Soviets or their surrogates used yellow rain toxins as weapons in Afghanistan, Cambodia, and Laos the late 1970s and early 1980s.” Gould & Connell, *supra* note (1709) at 106.

<sup>1809</sup> Connaughton & Goldman, *supra* note (1705) at 536-37; WILLIAM E. BURROWS & ROBERT WINDREM, CRITICAL MASS 47 (Simon and Schuster, 1994)[hereinafter BURROWS & WINDREM].

<sup>1810</sup> BURROWS & WINDREM, *supra* note (1809) at 47.

<sup>1811</sup> Fitzgerald, *supra* note (501) at 433-34.

## j. Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques

In 1976, the U.N. General Assembly adopted resolution 31/72,<sup>1812</sup> which contains the Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques (ENMOD).<sup>1813</sup> The ENMOD Convention is not customary international law.<sup>1814</sup> It is the sole Convention designed specifically to protect human welfare by prohibiting any environmental disruption.<sup>1815</sup> It combines military activities, human welfare, and environmental protection. The Convention responded to the environmental modification techniques used by the United States Armed Forces during the Vietnam War.<sup>1816</sup> The U.S. “employed several modern techniques to clear the rainforests and slow the movement of the Viet Cong, [such as] herbicides and defoliants to clear the jungle and reduce food supplies, large bladed tractors known as ‘Rome ploughs’ in deforestation efforts, and ‘cloud-seeding’ techniques to increase rainfall in certain areas to slow guerrilla actions and to impede the supply maneuvers of the North Vietnamese Army.”<sup>1817</sup> It can also be argued that during the Gulf War II, Iraq created the “worst man-made environmental disaster in history,”<sup>1818</sup> by setting fire to the Kuwaiti oil wells, and releasing crude oil into the Gulf. However, whether a State is a party to the Convention as is the United States, or a non-party such as Iraq, it is subject to international responsibility if it violates ENMOD requirements, as we will discuss in the final Part of this thesis.

Article 1 of ENMOD provides that “[e]ach State party to this Convention 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.” According to ENMOD, effects

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<sup>1812</sup> G.A. Res. 31/72, U.N. GAOR, 31<sup>st</sup> Sess., Supp. No. 39, at 37, U.N.Doc. A/31/39 (1976).

<sup>1813</sup> ENMOD, *supra* note (957).

<sup>1814</sup> Department of Defence, Report to Congress on the Conduct of the Persian Gulf War - -Appendix on the Law of War, April 10, 1992, reprinted in 31 I.L.M. 612, 616-17 (1992).

<sup>1815</sup> Popovic, *supra* note (619) at 80.

<sup>1816</sup> Richards & Schmitt, *supra* note (725) at 1063. *See also*, Schwabach, *supra* note (477) at 126 & 128.

<sup>1817</sup> Juda, *supra* note (848) at 976. *See also*, Katherine M. Kelly, Note, *Declaring War on the Environment: The Failure of International Environmental Treaties During the Persian Gulf War*, 7 AM. U.J. INT’L L. & POL’Y 921, 921-923 (1992) [hereinafter Kelly.]

<sup>1818</sup> Ross, *Experts Blame*, *supra* note (9) at A10. *See also*, Kelly, *supra* note (1817) at 921-927.

are “widespread” if they have consequences in areas of several hundred square kilometers. The term “long-lasting” means damage extending beyond a season, and the term “severe” means serious damage to human life, natural or economic resources or other assets.<sup>1819</sup> Some international and political experts viewed that the modification prohibited by ENMOD “must be large scale[, including] earthquakes; an upset in the ecological balance of a region; changes in weather patterns [.]”<sup>1820</sup> Any use or manipulation of the environment that is either widespread, long-lasting, or severe, violates ENMOD’s single element requirement.<sup>1821</sup> This single element requirement is unlike that of Articles 35 and 55 of the Additional Protocol I to the Geneva Conventions,<sup>1822</sup> which requires the presence of the three elements “widespread, long-term, and severe damage” together.<sup>1823</sup>

Article IV of ENMOD provides that “[parties agree] to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under [their] jurisdiction or control.”<sup>1824</sup> However, if the individual efforts of a member State fail to assure compliance with ENMOD provisions, Article V of ENMOD provides enforcement procedures that should be followed whenever a violation of ENMOD has taken place and environmental harm has occurred. Those enforcement procedures, include bilateral consultation and cooperation, an inquiry commission, complaint to the U.N. Security Council, or other member States’ assistance as follows:

#### 1) Bilateral Consultations and Cooperation

In general, consultations and negotiations to resolve any mutual concern are considered the best way to settle the matter. Accordingly, the primary way to assure compliance with ENMOD is mutual negotiations and consultations among nations.

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<sup>1819</sup> The meaning of “widespread”, “long-lasting”, and “severe” does not appear in ENMOD text, however, “the Conference Committee on Disarmament conveyed this understanding to the United Nations General Assembly along with the actual text of the convention.” Baker, *supra* note (725) at 368.

<sup>1820</sup> Yuzon, *supra* note (695) at 806. See also, Glen Plant, *Introduction*, in ENVIRONMENTAL PROTECTION AND THE LAW OF WAR: A ‘FIFTH GENEVA’ CONVENTION ON THE PROTECTION OF THE ENVIRONMENT IN TIME OF ARMED CONFLICT 23 (GLEN PLANT ED., 1992) [hereinafter Plant, *Introduction*].

<sup>1821</sup> Whitaker, *supra* note (725) at 37.

<sup>1822</sup> Additional Protocol (I), *supra* note (79) arts. 35, 55.

<sup>1823</sup> Whitaker, *supra* note (725) at 37.

<sup>1824</sup> ENMOD, *supra* note (957) art. IV.

Article V (1) of ENMOD states that “[t]he States Parties to this Convention undertake to consult one another and to co-operate in solving any problems which may arise in relation to the objectives of, or in the application of the provisions of, the Convention.” States are often willing to cooperate and consult regarding environmental damage caused by warfare, but often do not have adequate experience and qualified experts to settle the problem. This is particularly true of developing States. Nevertheless, the U.N. offers the concerned member States its assistance through its competence organs, such as the United Nations Environment Program (UNEP), and the World Health Organization (WHO). In addition, Article V (1) also provides that “[c]onsultation and co-operation pursuant to this article may also be undertaken through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. These international procedures may include the services of appropriate international organizations, as well as of a Consultative Committee of Experts as provided for in paragraph 2 of this article.” The Consultative Committee of Experts shall make accurate findings of facts and provide expert opinions relevant to any dispute raised by a member State of ENMOD.<sup>1825</sup>

Despite the advantage of the direct consultation and cooperation among member States, it could be argued that when consultation takes place between a superpower and one of the developing countries, it may not attain its purpose because the superpower will use its pressure upon the developing country. If so, environmental protection may be undermined.

## 2) Inquiry Commission

In some cases, consultation and cooperation among member States may be hampered by inadequate information. The ENMOD Convention seeks to remedy that problem by offering an expert commission of inquiry.<sup>1826</sup>

[T]he Depository shall, within one month of the receipt of a request from any State Party to this Convention, convene a Consultative Committee of Experts. Any State Party may appoint

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<sup>1825</sup> *Id.*, Annex to the Convention para. 1. More discussion of the Consultative Committee of Experts to be followed in the next section.

<sup>1826</sup> *Id.*, art. V (2).

an expert to the Committee whose functions and rules of procedure are set out in the annex which constitutes an integral part of this Convention. The Committee shall transmit to the Depository a summary of its findings of fact, incorporating all views and information presented to the Committee during its proceedings. The Depository shall distribute the summary to all States Parties.<sup>1827</sup>

The formulation and the procedures of the committee are laid out in annex to ENMOD, paragraphs 1, 2, 3, 4, and 5, which provide that

1. The Consultative Committee of Experts shall undertake to make appropriate findings of fact and provide expert views relevant to any problem raised pursuant to paragraph 1 of article V of this Convention by the State Party requesting the convening of the Committee. 2. The work of the Consultative Committee of Experts shall be organized in such a way as to permit it to perform the functions set forth in paragraph 1 of this annex. The Committee shall decide procedural questions relative to the organization of its work, where possible by consensus, but otherwise by a majority of those present and voting. There shall be no voting on matters of substance. 3. The Depository or his representative shall serve as the Chairman of the Committee. 4. Each expert may be assisted at meetings by one or more advisers. 5. Each expert shall have the right, through the Chairman, to request from States, and from international organizations, such information and assistance as the expert considers desirable for the accomplishment of the Committee's work.

Each member State may appoint an expert to this committee.<sup>1828</sup> However, some States prefer appointing political experts to defend their foreign policy rather than environmental experts who will consider environmental protection as a high priority.

As to decision-making issues, the Annex to ENMOD distinguishes between procedures and matters of substance. With regard to procedural questions, the Committee's decisions should be adopted by consensus as possible, or they should be adopted by the majority of present and voting members. However, all matters of substance are not subject to voting.<sup>1829</sup>

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<sup>1827</sup> *Id.*, art. V (2).

<sup>1828</sup> *Id.*, art. V (2).

### 3) Complaint to the U.N. Security Council

The U.N. Security Council is charged with examining any matter regarding “international peace and security,”<sup>1830</sup> and therefore has competence to receive complaints regarding aggression and other acts that may threaten international security. A similar procedure was adopted by ENMOD in Article V (3):

Any State Party to this Convention which has reason to believe that any other State Party is acting in breach of obligations deriving from the provisions of the Convention may lodge a complaint with the Security Council of the United Nations. Such a complaint should include all relevant information as well as all possible evidence supporting its validity.

It is notable that ENMOD’s text is general, and does not require any link between a violation of the treaty and a threat to international peace and security. Nevertheless, according to Article 24 (1) of the United Nations Charter, the Security Council is not competent to examine any matter that does not amount to a threat to international peace and security, even if it is considered a violation of ENMOD. To identify whether a certain situation is considered a threat to the maintenance of international peace and security, the Security Council may investigate such situation.<sup>1831</sup>

If any violation is qualified as a threat to international peace and security, member States of ENMOD, and particularly concerned States, are obliged to cooperate with an investigation that may be initiated by the U.N. Security Council. However, initiating an investigation is left to the decision of the Security Council. According to Chapter VI of the United Nations Charter, the Security Council has a number of choices.<sup>1832</sup> For instance, it may invite member States to recur to negotiation, inquiry, mediation, conciliation, arbitration, or judicial settlement, recur to regional agencies or arrangements, and finally, recur to other peaceful means of their own choice.<sup>1833</sup>

In order to resolve the question, the Security Council may decide to initiate an investigation. In such case, ENMOD and Resolution 31/72 require all member States to

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<sup>1829</sup> *Id.*, Annex to the Convention para. (2).

<sup>1830</sup> U.N. CHARTER, *supra* note (71) art. 24 (1).

<sup>1831</sup> *Id.*, art. 34.

<sup>1832</sup> *Id.*, Chapter VI, arts. 33-38.

<sup>1833</sup> *Id.*, art. 33.

cooperate with the Security Council.<sup>1834</sup> On the other hand, according to Article 25 of the United Nations Charter, “[t]he members of the United Nations agree to accept and carry out the decisions of the Security Council in accordance with the present Charter.”<sup>1835</sup> Consequently, the results of the investigation conducted by the Security Council bind all U.N. members, whether or not they are ENMOD signatories.

#### 4) Other Member States’ Assistance

According to the foregoing enforcement procedure, the U.N. Security Council can initiate an investigation to determine if a party has harmed or is likely to harm another member State in violation of ENMOD.<sup>1836</sup> However, to assure the rehabilitation of or the compensation for environmental damages, the harmed State may recur to the assistance of other member States. Article 5 (V) of ENMOD provides that “[e]ach State Party to this Convention undertakes to provide or support assistance, in accordance with the provisions of the Charter of the United Nations, to any State Party which so requests, if the Security Council decides that such Party has been harmed or is likely to be harmed as a result of violation of the Convention.”<sup>1837</sup>

This requirement is consistent with and re-emphasizes Article 49 of the U.N. Charter, which provides that “[t]he Members of the United Nations shall join in affording mutual assistance in carrying out the measures decided by the Security Council.”<sup>1838</sup>

Furthermore, according to the U.N. Charter, several kinds of assistance and support can be provided to the harmed State. For instance, Article 41 of the U.N. Charter provides for coercive actions, which may include “complete or partial interruption of economic relations and of rail, sea, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations.”<sup>1839</sup> The armed forces of the U.N. member States may also be helpful in assisting the harmed State through

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<sup>1834</sup> Article V (4) of ENMOD provides that “[e]ach State Party to this Convention undertakes to cooperate in carrying out any investigation which the Security Council may initiate, in accordance with the provisions of the Charter of the United Nations, on the basis of the complaint received by the Council. The Security Council shall inform the States Parties of the results of the investigation. ENMOD, *supra* note (957) art. V (4).

<sup>1835</sup> U.N. CHARTER, *supra* note (71) art. 25.

<sup>1836</sup> ENMOD, *supra* note (957) art. V (5).

<sup>1837</sup> *Id.*, art. V (5).

<sup>1838</sup> U.N. CHARTER, *supra* note (71) art. 49.

<sup>1839</sup> *Id.*, art. 41.

“demonstrations, blockades, and other operations by air, sea, or land forces.”<sup>1840</sup> Last and most undesirable, according to Article 51 of the U.N. Charter, collective self-defense can be provided to the harmed State.<sup>1841</sup> However, it should be stressed that the U.N. Charter, and international law in general, is not considered a suicide pact and does not provide a license to kill.<sup>1842</sup> In other words, there are limits to the right of self-defense.

The environmental protection of ENMOD applies only to military activities during armed conflicts. Military activities and operations in peacetime are not covered by ENMOD environmental protection and yet they may also cause long lasting, widespread, and severe damage to human health and the environment. For instance, military maneuvers and weapons production and testing in peacetime can contaminate the surrounding environment severely for decades, as mentioned in the first Part of this thesis. Such activities should be covered by ENMOD, since they can manipulate the environment with extremely advanced technology and ENMOD can be violated as a result of these activities. For example, the use since 1941 of Vieques, Puerto Rico, by the U.S. Navy as a maneuver area during peacetime resulted in wide-spread, long lasting, and severe environmental destruction.<sup>1843</sup> Thus ENMOD should be applicable to Vieques situation.

Finally, Article II of ENMOD bans the manipulation of the environment with advanced technology which changes the “natural processes, dynamics, composition or structure of the earth.”<sup>1844</sup> Such manipulation may be affected through the alteration of atmospheric conditions to bring about rainfall or through “ocean current modification (military use of tidal waves).”<sup>1845</sup> It does not cover low technological activities such as tearing down trees to construct an airfield or a dam,<sup>1846</sup> since such low-technology activities have no wide-spread, long lasting, or severe environmental impacts.

ENMOD was ratified by sixty-six States including Russia, United Kingdom, and the United States.<sup>1847</sup> It prohibits environmental modification techniques which change

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<sup>1840</sup> *Id.*, art. 42.

<sup>1841</sup> *Id.*, art. 51.

<sup>1842</sup> Scharf, *supra* note (1692) at 496.

<sup>1843</sup> Ramirez De León, *supra* note (259) at 1.

<sup>1844</sup> ENMOD, *supra* note (957) art. II.

<sup>1845</sup> Whitaker, *supra* note (725) at 37.

<sup>1846</sup> *Id.*

<sup>1847</sup> Multilateral Treaties, available at <<http://untreaty.un.org/>> (last visit Aug. 17, 2001).



the environment through the manipulation of natural processes. Article II of ENMOD states that “the term ‘environmental modification techniques’ refers to any technique for changing- - through the deliberate manipulation of natural processes – the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space.” For example, the techniques which cause “[e]arthquakes; tsunamis; an upset in the ecological balance of a region; changes in weather patterns (clouds, precipitation, cyclones of various types and tornadoes); 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>1848</sup> In addition, herbicides were added to the forecited list at the Second Review Conference in September 1992.<sup>1849</sup>

There is an argument among writers, with respect to Iraq’s international responsibility for the Kuwait oil fires and oil spills during the Gulf War II. The consensus is that Iraq would not have violated ENMOD,<sup>1850</sup> particularly since Iraq is not party to the Convention.<sup>1851</sup> However, some other authorities suggest that Iraq would have violated the Convention.<sup>1852</sup> The former group suggests that there is no violation, since ENMOD prohibits only the use of the environment as a weapon,<sup>1853</sup> and the environment as such was not used a weapon in the Gulf War II. For instance, Adam Roberts states that “[i]t might well be asserted that this was, rather, a case of deliberate abuse of man-made installations and artificial processes: of damage to the environment, but not necessarily

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<sup>1848</sup> Draft Understanding to Article II U.N. Doc. A/31/27 (1976), reprinted in Paul Fauteux, *The Gulf War, The ENMOD Convention and the Review Conference*, 18 U.N. INST. FOR DISARMAMENT RES. NEWSL. 6, 7 (1992).

<sup>1849</sup> The Second Review Conference in September 1992. Final Declaration of the Second Review Conference of the Parties to the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (Geneva, Sept. 14-18, 1992), reprinted in 21 U.N.I.D.I.R. Newsl. 60 (1993), art. II [hereinafter ENMOD Second Review Conference].

<sup>1850</sup> For example, see, Glen Plant, *Environmental Damage and the Law of War*, *supra* note (673) at 168; J. Reiskind, *The Ottawa Conference of Experts on the Use of the Environment as a Tool of Conventional Warfare: A Synopsis*, in VERIFYING OBLIGATIONS RESPECTING ARMS CONTROL AND THE ENVIRONMENT: A POST GULF WAR ASSESSMENT 159-60 (H.B. Schiefer ed., 1992).

<sup>1851</sup> Iraq signed the Convention on August 15, 1977, but has not yet ratified it. United Nations Multilateral Treaties Deposited with the Secretary General: Status as Dec. 31, 1992, U.N. Doc. ST/LEG/SER.E/11, U.N. Sales No. E.93.V.11 (1993) at 809.

<sup>1852</sup> PAUL C. SZASZ, THE GULF WAR: ENVIRONMENT AS A WEAPON, *The American Society of International Law Proceedings* 214, 216 (1991); E.F. Roots, *International Agreements to Prohibit or Control Modification of the Environment for Military Purposes: An Historical Overview and Comments on Current Issues*, in VERIFYING OBLIGATIONS RESPECTING ARMS CONTROL AND THE ENVIRONMENT: A POST GULF WAR ASSESSMENT 23-24 (H.B. Schiefer ed., 1992).

<sup>1853</sup> Bothe, *The Protection of the Environment*, *supra* note (675) at 57.

damage by the forces of the environment.”<sup>1854</sup> On the other hand, the latter group suggests that Iraq violated ENMOD since the environmental damage caused by Iraq during the Gulf War II, specifically the oil fires and the oil spills, have widespread, severe, and long-lasting effects on human life and the environment. It is clear that ENMOD requires a lower level of damage in comparing with the level of damage that is required by the Additional Protocol I.<sup>1855</sup> This view is consistent with the views of the ENMOD’s member States at the Second Review Conference of 1992, which added herbicides to the list of the environmental modification techniques.<sup>1856</sup> It is hard to distinguish between herbicides and oil fires since both damage the environment severely.<sup>1857</sup>

In my view, Iraq would have violated the ENMOD Convention, for the following three reasons: First, the Final Declaration of ENMOD’s Second Review Conference of 1992 confirmed that herbicides are an environmental modification technique, even though it did not address the oil spills and fires explicitly, and thus made it easier to include other examples of environmental modification techniques, that disequilibrate the natural environment. Second, the damage caused by Iraq exceeded the “widespread, long-lasting, or severe” threshold. Finally, a showing of “hostile intent” indicates a violation of ENMOD.<sup>1858</sup> It is clear that Iraq had such intent when it invaded Kuwait in August 2, 1990. Thus, Iraq violated the ENMOD Convention’s provisions by spilling oil into the Gulf and burning the Kuwaiti oil wells.

#### k. The United Nations System of Disarmament

According to the United Nations Charter, maintaining peace and security is the organization’s primary purpose.<sup>1859</sup> This purpose may be achieved by prohibiting the use

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<sup>1854</sup> Adams Roberts, *Environmental Destruction in the Gulf War*, 291 INT’L REV. RED CROSS 538, 544 (1992).

<sup>1855</sup> Y. SANDOZ ET AL. EDS., COMMENTARY ON THE ADDITIONAL PROTOCOLS OF 8 JUNE, 1977 TO THE GENEVA CONVENTIONS OF 12 AUGUST, 1949, at 415 (1987).

<sup>1856</sup> ENMOD Second Review Conference, *supra* note (1849) art. II.

<sup>1857</sup> Luan Low & David Hodgkinson, *Compensation for Wartime Environmental Damage: Challenges to International Law After Gulf War*, 35 VA. J. INT’L L. 405, 432 (1995) [hereinafter Low & Hodgkinson].

<sup>1858</sup> ENMOD, *supra* note (957) arts. I, II.

<sup>1859</sup> U.N. CHARTER, *supra* note (71) art. 1 (1).

of force, and instead promoting the peaceful settlement of international disputes.<sup>1860</sup> Peace and security are threatened as long as nations are involved in the armament race. Therefore, the United Nations efforts cannot be separated from disarmament procedures. Significantly, the Security Council and the General Assembly are the U.N. organs most directly concerned to disarmament procedures.

### 1) Security Council Disarmament Mechanisms

Under the United Nations Charter, the Security Council is directly concerned with the armament system. Since armaments are considered a threat to international peace and security,<sup>1861</sup> they are subject to the supervision and control of the Security Council.<sup>1862</sup> Thus, whenever an armament system in a given State may pose a real threat to international peace and security, the Security Council will be involved in the effort to eliminate such risk, by preventing the concerned State from obtaining any further arms, or disarming its arsenal to the minimum.

According to the U.N. Charter, the Security Council has the authority to sanction any State that exceeds the limit of use of its military power, or threatens other United Nations members. Chapter VII of the United Nations Charter authorizes the Security Council to prohibit any military cooperation with States that threaten international peace and security.<sup>1863</sup> Article 41 of the United Nations Charter provides that

The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures. These may include complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations.

And Article 42 of the United Nations Charter provides that

Should the Security Council consider that measures provided for in Article 41 would be inadequate or have proved to be

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<sup>1860</sup> *Id.*, art. 2 (3) (4).

<sup>1861</sup> Graham, *supra* note (1638) at 49.

<sup>1862</sup> U.N. CHARTER, *supra* note (71) art. 24 (1).

<sup>1863</sup> *Id.*, arts. 41, 42.

inadequate, it may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Such action may include demonstrations, blockade, and other operations by air, sea, or land forces of Members of the United Nations.

Under this authority, the Security Council prohibited the import of arms by Iraq,<sup>1864</sup> Liberia,<sup>1865</sup> former Yugoslavia,<sup>1866</sup> and Libya.<sup>1867</sup> Moreover, international developments following the Iraqi invasion of Kuwait gave the Security Council the power to disarm any State arsenal, through ad hoc bodies, when it may threaten the international peace and security. Iraq was the first U.N. member State that was subjected to the Security Council disarmament system. In its decision 687/1991, based on the 1925 Geneva Protocol for the Use of Asphyxiating Gases, and the Biological Weapons Convention (BWC), the Security Council required that Iraq “unconditionally accept the destruction, removal, or rendering harmless, [...] all chemical and biological weapons and all stocks of agents and all related subsystems and components and all research development, support, and manufacturing facilities.”<sup>1868</sup>

By the end of the Gulf War II, in 1991, to better assist the Security Council in disarming the military capacity of Iraq, an ad hoc body was created under the name of the United Nations Special Commission (UNSCOM). UNSCOM was charged with the duty of inspection and investigation of all known and suspected weapon sites.<sup>1869</sup> The complete execution of 687/1991 Resolution would secure both human health and the environment in Iraq and in the neighboring States from any Iraqi military threat in the future, since harmful arms will be dismantled.

To assure Iraqi compliance with the Security Council requirements, the Security Council required full compliance with its resolutions concerning the elimination of all weapons of mass destruction, including nuclear, chemical, and biological weapons, prior to the cessation of sanctions against Iraq.<sup>1870</sup> Nevertheless, what constitutes full

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<sup>1864</sup> S. C. Res. 687 (1991), *supra* note (559).

<sup>1865</sup> S/RES/1343 (2001), 4287<sup>th</sup> mtng., March 7, 2001, at 5 (a).

<sup>1866</sup> S/RES/1021 (1995) Nov. 22, 1995.

<sup>1867</sup> S.C. Res. 883, U.N. SCOR, 3312th mtg. at 1, U.N. Doc. S/RES/883 (1993).

<sup>1868</sup> S.C. Res. 687 (1991), *supra* note (559).

<sup>1869</sup> *Id.*, at 9 (B) (1).

<sup>1870</sup> *Id.*, para. 22.

compliance with the Security Council resolutions is a matter of major controversy among the permanent members of the Security Council.<sup>1871</sup>

UNSCOM was able to greatly curtail the Iraqi armament program, despite the absence of the Iraqi government's cooperation.<sup>1872</sup> Repeatedly, the Iraqi authorities suspended their cooperation with UNSCOM,<sup>1873</sup> rather than allow U.N. inspections of secret weapons sites. The Iraqi attitude threatened the credibility of the U.N. Security Council.<sup>1874</sup> In response, U.S. and the United Kingdom launched air strikes against targets in Iraq.<sup>1875</sup> Sometimes, the air attacks activated Iraqi cooperation with UNSCOM,<sup>1876</sup> but only temporarily.<sup>1877</sup> Despite the positive results of such strikes in promoting cooperation between Iraq and UNSCOM, negative results against civilians and natural environment may result from such strikes. It would be environmentally safer if the United States and the United Kingdom reinforced the sanctions imposed against Iraq by the U.N., instead of using military tactics.

Moreover, a considerable number of member States of the United Nations condemned the strikes against Iraq, including, Russia, China, and France. Desert Fox air strikes by the United States and the United Kingdom put limit to the function of UNSCOM.<sup>1878</sup> Air strikes hurt the UNSCOM inspection, because inspectors should leave Iraq for their safety, and Iraq use these strikes as a pretext to object the inspection. After

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<sup>1871</sup> J.R. Perlak, *The Greatest Threat: Iraq, Weapons of Mass Destruction, and the Crisis of Global Security*, 167 MIL. L. REV. 248, 250 (2001) [hereinafter Perlak].

<sup>1872</sup> Ruth Wedgwood, *The Enforcement of Security Council Resolution 687: The Threat of Force Against Iraq's Weapons of Mass Destruction*, 92 AM. J. INT'L L. 724, 724 (1998) [hereinafter Wedgwood, *The Enforcement*].

<sup>1873</sup> *Id.*

<sup>1874</sup> Michael A. Lysobey, *How Iraq Maintained Its Weapons of Mass Destruction Programs: An Analysis of the Disarmament of Iraq and The Legal Enforcement Options of The United Nations' Security Council in 1997-1998*, 5 UCLA J. INT'L L. & FOREIGN AFF. 101, 104 (2000).

<sup>1875</sup> United States and the United Kingdom legally based their strikes against Iraq on the text of 678/1991 Resolution which allows U.N. member States to use "all necessary means" to uphold and implement "all relevant resolutions." However, some other members of the Security Council including China, France, and Russia denied that Resolution 678/1991 can be taken as a legal basis to continue air strikes against Iraq. See, Wedgwood, *The Enforcement*, *supra* note (1872) at 727.

<sup>1876</sup> The Iraqi Deputy Prime Minister and the United Nations Secretary General signed a Memorandum of Understanding to accord UNSCOM "immediate, unconditional and unrestricted access." See Memorandum of Understanding (Iraq, U.N.) Feb. 23, 1998), <<http://www.cnn.com/WORLD/9802/23/un.iraq.agreement/index.html>> (last visit May 1, 2001).

<sup>1877</sup> Each time Iraq does not comply with the inspection provisions, the United States and the United Kingdom responded by air strikes. Gerald Seib & Thomas Ricks, *Attack on Iraq: U.S. Launches Strikes as Baghdad Refuses to Comply with U.N.*, WALL ST. J., Dec. 17, 1998, at A1.

the dissolution of the UNSCOM, and after ten years of inspection, Iraq is still presenting a threat to international peace and security. It not only developed chemical weapons, but also had weaponized VX, the most toxic of nerve agents.<sup>1879</sup> Responding to this failure, the Security Council voted to create a successor body, which is the United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC).<sup>1880</sup> UNMOVIC will retain UNSCOM's mandate, rights, privileges, facilities, and immunities.<sup>1881</sup> The establishment of UNMOVIC does not completely overcome the failure of UNSCOM, since the abstention of three major powers of the Security Council, France, China, and Russia, denied the political credibility of UNMOVIC.<sup>1882</sup> This abstention left the U.S. and U.K alone as the only permanent members who support the Resolution.

On January 27, 2000, Kofi Annan, the U.N. Secretary General, announced that the Security Council had approved his appointment of Hans Blix of Sweden as Executive Chairman of UNMOVIC.<sup>1883</sup> However, Iraqi officials continue to refuse any resumption of international weapons inspection by UNMOVIC.<sup>1884</sup>

Two aspects of the experiment with Iraqi disarmament are particularly relevant to environmentalists. First, environmental protection was a high priority, since the Iraqi weapons presented a particular threat to the environment. Second, the disarmament process itself presented an environmental threat. It had been documented through the media that UNSCOM agents had to take precautions, while destroying some biological and chemical weapons in Iraq, because the explosion of such weapons released toxic and poisonous gases, which would necessarily affect the surrounded environment in the short and long terms.

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<sup>1878</sup> Some jurists attributed the dissolution of UNSCOM to Richard Butler, the Executive Chairman of UNSCOM. Perlak, *supra* note (1871) at 248.

<sup>1879</sup> RICHARD A. FALKENRATH ET AL., *AMERICA'S ACHILLES' HEEL, NUCLEAR, BIOLOGICAL, AND CHEMICAL TERRORISM AND COVERT ATTACK* 148 (M I T Press, 1998).

<sup>1880</sup> S.C. Res. 1284, U.N. SCOR, 54th Sess., S/RES/1284 (1999).

<sup>1881</sup> Petter W. Mason, *Arms Control and Disarmament*, 34 INT'L LAW. 609, 622 (2000) [hereinafter Mason].

<sup>1882</sup> Perlak, *supra* note (1871) fn. 12.

<sup>1883</sup> Secretary General Appoints Hans Blix of Sweden Executive Chairman of UN Monitoring, Verification and Inspection Commission, U.N. Press Release SG/A/721 (Jan. 27, 2000), available at <<http://www.un.org/russian/question/sga721.htm>> (last visit Aug. 28, 2001).

<sup>1884</sup> Steven Lee Myers, *Signs of Iraqi Arms Buildup Bedevil U.S. Administration*, N.Y. TIMES, Feb. 1, 2000, at A1.

The Iraqi campaign sought to protect the environment from destruction. For instance, UNSCOM destroyed a significant number of weapons of mass destruction handed over by Iraq or found by its inspectors.<sup>1885</sup> Moreover, some of the sites of weapons of mass destruction were recognized by the United States during the Gulf War II, but were not attacked because of the risk that their accidental destruction could have caused.<sup>1886</sup> The bombing of Iraqi chemical and biological weapons could have created the risk of releasing poisonous agents into the atmosphere and potentially impacting Iraq's environment and civilian populations and those of its neighbors.<sup>1887</sup>

The best methods of disarmament are those that do not harm the environment, or are done in an environmentally friendly manner. In some cases, disarmament can be directed to serve the environment, and some weapons can be transformed to protect the environment, for example, transforming tanks into agricultural watering machines.

## 2) General Assembly Disarmament Mechanisms

After the catastrophic damages caused by the explosion of nuclear bombs on Hiroshima and Nagasaki, the General Assembly was fearful that other countries could obtain such technology. Thus, the General Assembly called for the elimination of nuclear weapons,<sup>1888</sup> by adopting the Resolution on the Prohibition of the Development and Manufacture of New Types of Weapons of Mass Destruction and New Systems of Such Weapons,<sup>1889</sup> which urged States to refrain from developing new weapons of mass destruction whether conventional, chemical, biological or other types of weapons of mass destruction.<sup>1890</sup> However, legally, the Resolution is not binding as it was adopted by the General Assembly rather than the Security Council, and it does not establish any mechanism of enforcement.

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<sup>1885</sup> Richard B. Bilder & David Malone, Book Review, *Iraq: No Easy Response to "the Greatest Threat"*, 95 AM. J. INT'L L. 235, 236 (2001) [hereinafter Bilder & Malone].

<sup>1886</sup> Michael L. Cornell, Comment, A Decade of Failure: The Legality and Efficacy of United Nations Actions in the Elimination of Iraqi Weapons of Mass Destruction, 16 CONN J INT'L L. 325, 355 (2001).

<sup>1887</sup> Captain Sean M. Condrón, *Justification For Unilateral Action In Response To The Iraqi Threat: A Critical Analysis of Operation Desert Fox*, 161 MIL. L. REV. 115, 248 (1999) [hereinafter Condrón].

<sup>1888</sup> JOZEF GOLDBLAT, ARMS CONTROL AGREEMENTS: A HANDBOOK 12 (Praeger Publishers, 1983) [hereinafter GOLDBLAT, ARMS CONTROL].

<sup>1889</sup> G.A. Res. 32/84B on the Prohibition of the Development and Manufacture of New Type of Weapons of Mass Destruction and New System of Such Weapons 32 U.N. GAOR Supp. No. 45 at 50, U.N. Doc. A/32/45/ (1977).

<sup>1890</sup> *Id.*

However, the General Assembly, by Resolution 502 (VI) of January 1952, created the United Nations Disarmament Commission under the Security Council with a general mandate on disarmament questions. However, it met only occasionally after 1959.<sup>1891</sup> In 1978, the first special commission of the General Assembly devoted to disarmament established a successor Disarmament Commission (UNDC) as a subsidiary organ of the Assembly, composed of all member States of the United Nations. It was created as a deliberative body, with the function of considering and making recommendations on various problems in the field of disarmament and following up on the relevant decisions and recommendations of the special session. It reports its findings annually to the General Assembly.<sup>1892</sup>

The UNDC takes the environmental protection into consideration. This mandate was included in the text of principles, guidelines, and recommendations that have been unanimously adopted by the UNDC since its inception in 1978.<sup>1893</sup> The UNDC requires “further steps to prohibit military or any other hostile use of environmental modification techniques.”<sup>1894</sup>

Another body within the General Assembly related to disarmament is the Department for Disarmament Affairs (DDA) which was established in 1982, upon the recommendation of the General Assembly's second special session on disarmament (SSOD II), and continued until 1992. It was re-established in January 1998 by the General Assembly Resolution 52/12.<sup>1895</sup> The Department advises the Secretary General on disarmament-related security matters; monitors and analyzes developments and trends in the field of disarmament; supports the review and implementation of existing disarmament agreements; assists member States in multilateral disarmament negotiation and deliberation activities towards the development of disarmament norms and the creation of agreements; promotes openness and transparency in military matters,

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<sup>1891</sup> Disarmament Commission, available at <<http://www.un.org/Depts/dda/undiscom.htm>>, (last visit Aug. 20, 2001).

<sup>1892</sup> *Id.*

<sup>1893</sup> Boutros Boutros Ghali, The United Nations Secretary General, Note, *A Compilation of all Texts of Principles, Guidelines, or Recommendations on Subject Items that have been Unanimously Adopted by the Disarmament Commission*, Jul. 1, 1996, G.A. 51<sup>st</sup> Sess., G.A. Doc. A/51/182.

<sup>1894</sup> *Id.*, at 9, 18, 31.

<sup>1895</sup> Department of Disarmament Affairs, available at <<http://www.un.org/Depts/dda/dda.htm>>, (last visit Aug. 21, 2001) [hereinafter UNDDA].



verification, confidence-building measures, and regional approaches to disarmament.<sup>1896</sup>

It is composed of five branches that function as follows:

- (1) A Secretariat and Conference Support Branch;
- (2) A Weapons of Mass Destruction Branch (WMD) which provides substantive support in the area of the disarmament of weapons of mass destruction (nuclear, chemical and biological weapons). It supports and participates in multilateral efforts to strengthen the non-proliferation of WMD and in this connection cooperates with the relevant intergovernmental organizations and specialized agencies of the United Nations system, in particular the IAEA, the OPCW and the CTBTO;<sup>1897</sup>
- (3) A Conventional Arms Branch (CAB), which focuses its efforts in the field of conventional arms disarmament;
- (4) A Regional Disarmament Branch (RDB), which provides substantive support to member States, regional and sub-regional organizations on disarmament measures and related security matters. It oversees and coordinates the activities of the three regional centers: in Africa, in Asia and the Pacific, and in the Latin America and the Caribbean;
- (5) A Monitoring, Database and Information Branch (MDI), which organizes a wide variety of special events and programs in the field of disarmament, produces DDA publications (such as the Disarmament Yearbook) and occasional papers, and maintains the database for specialized areas like Register of Conventional Arms, and Status of Treaties.<sup>1898</sup>

Another related U.N. body is the United Nations Institute for Disarmament Research (UNIDIR). UNIDIR was approved by the General Assembly in December 1984 and became effective on January 1, 1985.<sup>1899</sup>

The UNIDIR is charged to

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<sup>1896</sup> *Id.*,

<sup>1897</sup> The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is an international organization, located in Vienna, and was established on Nov. 19, 1996 by a Resolution adopted by the Meeting of States Signatories at the United Nations in New York. *See*, <<http://www.ctbto.org>> (last visit Aug. 29, 2001).

<sup>1898</sup> UNDDA, *supra* note (1895).

<sup>1899</sup> UNIDIR, *Background*, available at <<http://www.unog.ch/UNIDIR/EBACKG.HTM>>, (last visit Aug. 21, 2001).

- (a) Provid[e] the international community with more diversified and complete data on problems relating to international security, the armaments race and disarmament in all fields, particularly in the nuclear field, so as to facilitate progress, through negotiations, towards greater security for all States and towards the economic and social development of all peoples;
- (b) Promot[e] informed participation by all States in disarmament efforts;
- (c) Assist[...] ongoing negotiations on disarmament and continuing efforts to ensure greater international security at a progressively lower level of armaments, particularly nuclear armaments, by means of objective and factual studies and analyses;
- (d) Carry[...] out more in-depth, forward-looking and long-term research on disarmament, so as to provide a general insight to the problems involved and stimulating new initiatives for new negotiations.<sup>1900</sup>

The UNIDIR considers as the United Nations center that enhances and encourages member States to fulfill their international obligations in the field of disarmament, and to focus on nuclear disarmament.

Except for ENMOD, the universal instruments of the EHRs are not providing for a real and complete environmental protection. Their goals are diffuse since they aim at disarmament and arms control on one hand, and environmental protection in the other hand. However, such weakness does not affect their important rule in minimizing environmental harm during and after armed conflicts. Even though some of the environmental law instruments do not specifically provide substantial environmental protection, they still represent an important source of legal authority for future actions and enactment.

## ***2. Regional Instruments of the Enviro-Humanitarian Rules***

Regional instruments are those international agreements among States located in a certain region. In general, any State located out of the concerned region is restricted from being party to such instruments. This section will examine the Treaty for the Prohibition of Nuclear Weapons in Latin America, the South Pacific Nuclear Free Zone, the African

Nuclear Weapons Free Zone, and the Southeast Asian Nuclear Weapons Free Zone. In addition, this section will discuss the urgent need for a Middle East Nuclear Weapons Free Zone.

#### **a. General Background of the Nuclear Weapons Free Zones**

As a result of the environmental consequences of nuclear tests, and to keep their territories clean and safe from tests' effects, nuclear power States often prefer to test their weapons abroad.<sup>1901</sup> For example, French nuclear tests took place in Mururoa and Fangataufa Atolls, 6,000 kilometers east of Australia,<sup>1902</sup> and the United States tests of the hydrogen bomb took place in a number of islands under the trusteeship of the United States in the South Pacific area.<sup>1903</sup> Nuclear weapons free zones were created to avoid nuclear States' abuse of other regions of the world as well as to prevent an arms race to acquire nuclear weapons by any State in a region.

The idea of establishing a free zone was first presented to the U.N. General Assembly by the Polish Foreign Minister, Adam Rapacki, in 1957, as an "atom free zone" for central Europe,<sup>1904</sup> which was not adopted. Then, in the late 1950s a proposal to establish the Nordic nuclear weapons free zone, which encompasses Norway, Finland, Sweden, and Denmark was adopted.<sup>1905</sup> The Balkan area was also proposed as a nuclear weapons free zone.<sup>1906</sup> However, none of these proposals has ever seen the light.

The nuclear weapons free zones were established in response to Article VII of the Non-Proliferation of Nuclear Weapons Treaty, which provides that "[n]othing in this Treaty affects the right of any group of States to conclude regional treaties in order to

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<sup>1900</sup> UNIDIR, *Mandate*, <<http://www.unog.ch/UNIDIR/EMAND.HTM>> (last visit Aug. 21, 2001).

<sup>1901</sup> Winston P. Nagan, *Nuclear Arsenals, International Law, and the Challenge of the Millennium*, 24 YALE J. INT'L L. 485, 499 (1999) [hereinafter Nagan].

<sup>1902</sup> *Id.*

<sup>1903</sup> Under the pretext of self-defense, the United States tested its hydrogen bomb in the South Pacific. U.S. scientists grossly underestimated the test explosion of March 1945. American and Japanese sailors were injured while the latter vessel *Fukuryu Maru* was sailing clear of the safety zone. Such tests were interpreted as a violation of the Article 73 of the United Nations Charter and the Trusteeship Agreement. See, W. Michael Reisman, *International Lawmaking: A Process of Communication*, 75<sup>th</sup> Proceeding of the American Society of International Law 101 (1981); Myres S. McDougal & Norbert A. Schlei, *The Hydrogen Tests in Perspective: Lawful Measures for Security*, 64 YALE L. J. 648, 654, 682-90 (1955).

<sup>1904</sup> PAUL E. ZINNER, NUCLEAR FREE ZONES 26 (1988).

<sup>1905</sup> *Id.*, at 30.

<sup>1906</sup> *Id.*, at 31.

assure the total absence of nuclear weapons in their respective territories.”<sup>1907</sup> Moreover, the objectives cited in the Statement of Principles and Objectives for Nuclear Non-Proliferation and Disarmament<sup>1908</sup> confirms the need for nuclear weapons free zones.

Nuclear weapons free zones have a number of advantages. For example, they can restrict activities more than the international treaties, since they concluded among a smaller group of States, which often have common goals and concerns. Consequently, free zones can establish norms regionally, which cannot be established universally, such as the prohibition of testing or stationing of nuclear weapons inside a certain region.<sup>1909</sup> Moreover, the free zones can be used to establish an inspection safeguard system that covers a greater number of activities than the International Atomic Energy Agency (IAEA) system found in the Non-Proliferation of Nuclear Weapons Treaty.<sup>1910</sup> For instance, a regional weapons-free zone would be able to cover nuclear activities of regional States that are not parties to the Non-Proliferation of Nuclear Weapons Treaty, as we will examine in the next few pages.

Significantly, three nuclear weapons free zones were initially established in different parts of the world, Latin America, South Pacific and Africa. These parts of the world compose altogether some ninety nations.<sup>1911</sup> Later on, a Southeast Asia Nuclear Weapons Free Zone was created among ASEAN members. Despite the role that these nuclear weapons free zones play in minimizing the risk of a future nuclear warfare, a much more important zone, the Middle East, witnesses ongoing armed conflicts and is badly in need of a similar agreement.

Most of the regional instruments contain one or more protocols that the nuclear powers are eligible to sign. These Protocols provide negative security assurance,<sup>1912</sup> according to which nuclear powers confirm their obligations to never use or threaten to use nuclear weapons against the contracting parties in the nuclear weapons free zone treaty. For example, according to Protocol II of the South Pacific Nuclear Free Zone Treaty the five major powers (U.S., France, U.K., Russia, and China) agree not to use or

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<sup>1907</sup> Non-Proliferation of Nuclear Weapons Treaty, *supra* note (1632) art. VII.

<sup>1908</sup> The Statement of Principles and Objectives, *supra* note (1656).

<sup>1909</sup> Rosen, *supra* note (1021) at 33.

<sup>1910</sup> *Id.*

<sup>1911</sup> Graham, *supra* note (1638) at 49.

<sup>1912</sup> Rosen, *supra* note (1021) at 34.

threaten to use nuclear explosive devices against any party to the Treaty. France, China, the U.K., and Russia ratified Protocol II; however, the United States signed it on March 25, 1996, but has not yet ratified it.<sup>1913</sup>

Additionally, the binding character of the nuclear weapons free zone treaties, in general, was reaffirmed in the 1996 advisory opinion of the ICJ. The ICJ implied that the Non-Proliferation of Nuclear Weapons Treaty related assurance commitments are as binding as the nuclear weapons free zones undertakings.<sup>1914</sup>

### **b. Nuclear Weapons Free Zone in Latin America**

The Treaty for the Prohibition of Nuclear Weapons in Latin America<sup>1915</sup> (Tlateloco Treaty) creates a Latin American nuclear-free zone. It provides that “nuclear weapons, whose terrible effects are suffered indiscriminately and inexorably [...] constitute [...] an attack on the integrity of the human species and ultimately even render the whole earth uninhabitable.”<sup>1916</sup>

This regional agreement was easier to achieve, in part, because the diversity among member States, in terms of their quantity and quality<sup>1917</sup> is much less than the diversity among member States involved in drafting universal instruments. Regional instruments can establish much stronger obligations and duties than international conventions normally do. For instance, the Treaty of Tlateloco established safeguards for Brazil’s nuclear programs during the period of time Brazil remained outside the Non-Proliferation of Nuclear Weapons Treaty.<sup>1918</sup> After signing the Tlateloco Treaty in 1967, Brazil did not ratify it until 1994. However, according to Article 18 (a) of the Vienna Convention on the Law of Treaties, Brazil was obliged to “refrain from acts which would

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<sup>1913</sup> South Pacific Nuclear Free Zone Treaty, *supra* note (1612).

<sup>1914</sup> Legality of the Threat or Use of Nuclear Weapons, *supra* note (83) Dissenting Opinion of Justice ODA para. 41.

<sup>1915</sup> Tlateloco Treaty, *supra* note (278).

<sup>1916</sup> *Id.*, pmbi.

<sup>1917</sup> The level of quantity means that an agreement among twenty or thirty States is much easier to achieve than an agreement among 188 States. The level of the quality means that an agreement among States from the same region, which have the same culture, tradition, religion, habits, and language would be much easier than an agreement among nations belong to different cultures, traditions, religions, habits, and languages.

<sup>1918</sup> Rosen, *supra* note (1021) at 33.

defeat the object and purpose of [the Treaty].”<sup>1919</sup> This obligation was confirmed in 1991, when Brazil signed an agreement with the IAEA to abandon its nuclear weapons development programs.<sup>1920</sup>

The Additional Protocol II to the Tlateloco Treaty of 1968<sup>1921</sup> provides a negative security assurance, which prohibits the use or threat to use nuclear weapons against a contracting party. The United States signed the Additional Protocol II in 1968,<sup>1922</sup> even before signing the Additional Protocol I in 1977.<sup>1923</sup> The U.S. military bases at Guantanamo Bay, Cuba, Panama, and Puerto Rico are located in the Latin America zone and, therefore, are subject to the jurisdiction of the Tlateloco Treaty and its Additional Protocols.<sup>1924</sup> Except for Belize, Cuba, St. Lucia and St. Christopher/Nevis,<sup>1925</sup> all the other Latin American countries have now ratified the Treaty, although in some cases not until years after signing it. For instance, although Brazil and Argentina signed the Tlateloco Treaty in 1967, Brazil ratified it only in 1994, and Argentina ratified it in 1996.<sup>1926</sup> Similarly, Chile had ratified the treaty in 1974, but its posture was dependent primarily on that of Argentina. Consequently, Chile became party of Tlateloco six months after Argentina’s ratification.<sup>1927</sup> This delay necessarily affected the efficiency of the treaty.

### **c. Nuclear Weapons Free Zone in South Pacific**

The South Pacific Nuclear Free Zone Treaty was negotiated and signed in the mid 1980s under the auspices of the South Pacific Forum.<sup>1928</sup> It entered into force in 1986.

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<sup>1919</sup> Vienna Convention on the Law of Treaties, *supra* note (751) art 18 (a).

<sup>1920</sup> Rosen, *Nuclear Weapons Free Zones*, *supra* note (1021) at 38.

<sup>1921</sup> Additional Protocol II to the Treaty for the Prohibition of Nuclear Weapons in Latin America, Apr. 1, 1968, 22 U.S.T. 754 [hereinafter Additional Protocol II to the Tlateloco].

<sup>1922</sup> UNITED STATES ARMS CONTROL & DISARMAMENT AGENCY, ARMS CONTROL AND DISARMAMENT AGREEMENTS 130 (1990).

<sup>1923</sup> Rosen, *supra* note (1021) at 37.

<sup>1924</sup> *Id.*, at 38.

<sup>1925</sup> These States signed the Tlateloco Treaty but not yet ratified it. *See*, The Transnational Institute, *Nuclear Weapon-Free Zones Project*, available at <<http://www.tni.org/nwzf/pages/exinwzf.htm>>, (last visit Dec. 30, 2001) [hereinafter The Transnational Institute].

<sup>1926</sup> Rosen, *supra* note (1021) at 338 fn 51.

<sup>1927</sup> *See*, Savita Pande, *Regional Denuclearization-I Tlateloco Treaty: How Successful?* 12 STRATEGIC ANALYSIS 35, 35-45 (1998), available at <<http://www.idsa-india.org/an-apr8-3.html>> (last visit Dec. 30, 2001).

<sup>1928</sup> South Pacific Nuclear Free Zone Treaty, *supra* note (1612) art. pmb.

The Treaty has three protocols, prohibiting activities related to the manufacture, stationing, and testing of nuclear explosive devices on the territories of the contracting parties.<sup>1929</sup> Protocol II contains the prohibition of any actual or threatened use of nuclear weapons, i.e., the negative security insurance.<sup>1930</sup> Protocol III prohibits testing of nuclear weapons.<sup>1931</sup> The treaty provisions affect the world's nuclear powers.<sup>1932</sup> Under Protocol I, the United States, France, and the United Kingdom are required to apply the basic provisions of the Treaty to their territories in the zone established by the Treaty. Therefore, the Treaty will apply to the U.S. possession in the South Pacific, Jarvis Island and American Samoa although they do not contain any military facilities. Under Protocol II, the U.S., France, the U.K., the Russian Federation and China agree not to use or threaten to use nuclear explosive devices against any party to the Treaty or to each others territories within the zone. Under Protocol III, the U.S., France, the U.K., the Russian Federation, and China agree not to test nuclear explosive devices within the zone established by the Treaty.<sup>1933</sup> However, the French nuclear tests that took place in October 20, 1995, in the Mururoa and Fangataufa Atolls,<sup>1934</sup> apparently to violate the treaty, provoking public opinion against the nuclear States, and resulting in the French adherence to the Additional Protocol III.<sup>1935</sup> Consequently, France scaled back the number of tests conducted from eight to six to adhere to the South Pacific Free Zone Treaty and its protocols.<sup>1936</sup>

The South Pacific Free Zone Treaty, unlike other regional agreements, gave a great consideration to zone's environmental protection. For instance, member States "[d]etermined to ensure, so far as lies within their power, that the bounty and beauty of the land and sea in their region shall remain the heritage of their peoples and their descendants in perpetuity to be enjoyed by all in peace."<sup>1937</sup> Member States also "[d]etermined to keep the region free of environmental pollution by radioactive wastes

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<sup>1929</sup> *Id.*, Protocol I.

<sup>1930</sup> *Id.*, Protocol II.

<sup>1931</sup> *Id.*, Protocol III.

<sup>1932</sup> *Id.*, Protocol I art. 3, Protocol II art. 4, and Protocol III art. 3.

<sup>1933</sup> *Id.*

<sup>1934</sup> David S. Yost, *France's Nuclear Dilemma*, Jan-Feb FOREIGN AFF. 108, 108-109 (1996).

<sup>1935</sup> Rosen, *supra* note (1021) at 46.

<sup>1936</sup> *Id.*

<sup>1937</sup> South Pacific Free Zone Treaty, *supra* note (1612) pmb1.

and other radioactive matters.”<sup>1938</sup> In order to achieve such environmental protection, the Treaty requires member States “to support the conclusion as soon as possible of the proposed Convention relating to the protection of the natural resources and environment of the South Pacific region and its Protocol for the prevention of pollution of the South Pacific region by dumping, with the aim of precluding dumping at sea of radioactive wastes and other radioactive matter by anyone anywhere in the region.”<sup>1939</sup> These provisions show the signatories concern not only for the prevention of the nuclear weapons proliferation, but for protecting the environment as well.

Moreover, the South Pacific Free Zone Treaty requires member States to refrain from possessing nuclear weapons.<sup>1940</sup> It also regulates peaceful use of nuclear materials and equipment.<sup>1941</sup> It prevents member States from stationing on their territories nuclear devices,<sup>1942</sup> or even testing them.<sup>1943</sup> Moreover, it prohibits dumping of radioactive wastes and other material in the sea of the zone.<sup>1944</sup> However, the South Pacific Free Zone Treaty did not address the dumping of radioactive wastes and other materials on the land.

#### **d. Nuclear Weapons Free Zone in Africa**

The African Nuclear Weapons Free Zone Treaty was signed in Cairo on April 11, 1996.<sup>1945</sup> According to Annex I, the Treaty’s jurisdiction consist of the entire continent mainland Africa and certain number of islands.<sup>1946</sup> This zone covers the U.S. Naval Facility leased from the British on the island of Diego Garcia.<sup>1947</sup>

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<sup>1938</sup> *Id.*

<sup>1939</sup> *Id.*, art. 7 (1) (d).

<sup>1940</sup> *Id.*, art. 3.

<sup>1941</sup> *Id.*, art. 4.

<sup>1942</sup> *Id.*, art. 5.

<sup>1943</sup> *Id.*, art. 6.

<sup>1944</sup> *Id.*, art. 7.

<sup>1945</sup> Treaty on an African Nuclear-Weapon-Free Zone in Africa (Pelindaba Treaty) pmb., Sept. 13, 1995, U.N. GAOR, G.A. Res. 426, 50<sup>th</sup> Sess., Annex, U.N. Doc A/50/426 [hereinafter African Nuclear Weapon Free Zone Treaty].

<sup>1946</sup> Agalega Island Bassas da India Canary Islands Cape Verde Cardagos Carajos Shoals Chagos Archipelago - Diego Garcia\* Comoros Europa Juan de Nova Madagascar Mauritius Mayotte Prince Edward & Marion Islands Principe Reunion Rodrigues Island Sao Tome Seychelles Tromelin Island. *See*, African Nuclear Weapon Free Zone Treaty, *supra* note (1945) Annex I.

<sup>1947</sup> Rosen, *supra* note (1021) at 47.



According to some scholars, the African continent “represents the smaller States of the world that do not wish to have their security compromised by the threat and/or use of nuclear weapons.”<sup>1948</sup> However, it is also the case that the widespread poverty and short-sighted governmental policies have led many African countries to accept shipments of wastes, including radioactive wastes.<sup>1949</sup> For example, an American-European company signed a contract with the government of Guinea-Bissau to dump 3.5 million tons of wastes in its territory in exchange for 140 million dollars granted to the government of Guinea-Bissau.<sup>1950</sup> In addition, some American companies signed contracts with the Congo and Senegal governments to store wastes in their territories for a payment of \$100 per barrel.<sup>1951</sup> As a result, these companies got clean waste disposal, officialdom was paid, and the general population suffered consequences, or moved.<sup>1952</sup> The risk of receiving such nuclear wastes is that most of the African countries are developing States; they lack the advanced technology and equipment to treat such wastes which if dumped into water bodies or released into the air or even leaked into the ground will cause severe damage to human health and the environment. Thus, rather than actually solving the problem of safe disposal of radioactive materials, developed countries have often simply moved the problem to poorer, less developed states.

The nuclear States have shown little support for the African Nuclear Weapons Free Zone, because it does not advance their interests. Unfortunately, in international relations, States’ interests are a higher priority than the protection of human life, and the natural environment. The United States and the United Kingdom led the efforts of partial support when adhered to the three Additional Protocols to the African Nuclear Weapons Free Zone, but not to the treaty itself,<sup>1953</sup> because it is not open to them yet.

The existence of rogue States in the African Nuclear Weapons Free Zone has had an effect on the attitude of the nuclear powers. For instance, the fear of a possible Libyan

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<sup>1948</sup> Nagan, *supra* note (1901) at 506.

<sup>1949</sup> See, Khaled Zagloul, *Amaleiat Dafn Inifayat Fy Afrigia [The Operations of Dumping Hazardous Wastes in Africa]*, 98 AL-SEYASSA AL-DAWLEIAH [International Policy] 200-01 (1989) (in Arabic); Ian G. S. Curtis, *War Clean-Up Popular in Kuwait, Share Skills with “National Salvage”*, April DEF. & FOREIGN AFF. STRATEGIC POL’Y 6, 7 (1992) [hereinafter Curtis].

<sup>1950</sup> *Id.*, at 202.

<sup>1951</sup> *Id.*

<sup>1952</sup> Curtis, *supra* note (1949) at 7.

<sup>1953</sup> Rosen, *supra* note (1021) at 48.

nuclear attack against NATO Forces or land targets in Southern Europe,<sup>1954</sup> has led the United States and the United Kingdom to show little enthusiasm for the African Nuclear Weapons Free Zone Treaty.

Long ago, the Organization of the African Unity (OAU) recognized the need for a nuclear weapons free zone. All African countries have endorsed that policy, even the Republic of South Africa, which halted its nuclear weapons program.<sup>1955</sup>

The sole environmental consideration in the African Nuclear Weapons Free Zone Treaty is found in the Preamble. It provides that member States have “[d]etermined to keep Africa free of environmental pollution by radioactive wastes and other radioactive matter.”

Furthermore, the African Nuclear Weapons Free Zone Treaty considers the fact that developed countries dump their nuclear wastes in Africa, and therefore prohibits dumping of radioactive wastes in the free zone.<sup>1956</sup> However, only member States are bound by this obligation, unless general principles of international law or international customary law extend it to other countries.

Article 3 of the Nuclear Weapons Free Zone Treaty requires member States to renounce nuclear weapons devices,<sup>1957</sup> whether developed by their own capacity or assisted by other States.<sup>1958</sup> Member States are also prevented from developing, manufacturing, stockpiling, acquiring, or possessing any nuclear explosive devices.<sup>1959</sup> Similarly, member States are prevented from testing, assisting or encouraging the tests of nuclear explosive devices in the African Nuclear Weapons Free Zone.<sup>1960</sup> Moreover, even if member States obtained nuclear devices prior to the entry into force of the Treaty, they are required, according to Article 6 (b) and (c), “[t]o dismantle and destroy any nuclear device that it has manufactured prior to the coming into force of this Treaty;

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<sup>1954</sup> *Id.*, at 51.

<sup>1955</sup> Nagan, *supra* note (1901) at 506, 509.

<sup>1956</sup> Article 7 of the African Nuclear Weapons Free Zone Treaty provides that “[e]ach Party undertakes: (a) To effectively implement or to use as guidelines the measures contained in the Bamako Convention on the Ban of the Import into Africa and Control of Transboundary Movement and Management of Hazardous Wastes within Africa in so far as it is relevant to radioactive waste; (b) Not to take any action to assist or encourage the dumping of radioactive wastes and other radioactive matter anywhere within the African nuclear-weapon-free zone.” African Nuclear Weapons Free Zone Treaty, *supra* note (1945) art. 7.

<sup>1957</sup> *Id.*, art. 3.

<sup>1958</sup> *Id.*, art. 3 (a) (b).

<sup>1959</sup> *Id.*, art. 3 (c).

[and] (c) [t]o destroy facilities for the manufacture of nuclear explosive devices or, where possible, to convert them to peaceful uses.”

As most States in Africa are developing countries, and are wary of threats to their sovereignty, Article 4 of the African Nuclear Weapons Free Zone Treaty combines the Treaty’s objectives and the member States’ sovereignty by providing that “[e]ach Party undertakes to prohibit, in its territory, the stationing of any nuclear explosive device. Without prejudice to the purposes and objectives of the treaty, each party in the exercise of its sovereign rights remains free to decide for itself whether to allow visits by foreign ships and aircraft to its ports and airfields, transit of its airspace by foreign aircraft, and navigation by foreign ships in its territorial sea or archipelagic waters in a manner not covered by the rights of innocent passage, archipelagic sea lane passage or transit passage of straits.”<sup>1961</sup>

To assure compliance with the Treaty’s provisions, the African Nuclear Weapons Free Zone Treaty established a verification process that includes the creation of the African Commission on Nuclear Energy.<sup>1962</sup> Article 6 (d) of the Treaty requires States to verify “the processes of dismantling and destruction of the nuclear explosive devices, as well as the destruction or conversion of the facilities for their production.” Moreover, according to Article 12 of the Treaty, the Commission on Nuclear Energy is also responsible for

(a) [c]ollating the reports and the exchange of information as provided for in article 13; (b) arranging consultations as provided for in annex IV, as well as convening conferences of Parties on the concurrence of simple majority of State Parties on any matter arising from the implementation of the Treaty; (c) reviewing the application to peaceful nuclear activities of safeguards by IAEA as elaborated in annex II; (d) bringing into effect the complaints procedure elaborated in annex IV; (e) encouraging regional and sub-regional programmes for cooperation in the peaceful uses of nuclear science and technology; (f) promoting international cooperation with extra-zonal States for the peaceful uses of nuclear science and technology.

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<sup>1960</sup> *Id.*, art. 5.

<sup>1961</sup> *Id.*, art. 4.

<sup>1962</sup> *Id.*, art. 12, Annex III.

Finally, despite the role that the Treaty should play to exclude any nuclear arms from the African zone, Africa still suffers from radioactive materials that have been dumped or stored in the free zone. Moreover, while the Treaty deals with future nuclear danger, it says nothing about the risk of materials that have already been dumped and does not provide for cleanup and rehabilitation procedures.

#### **e. Nuclear Weapon Free Zone in Southeast Asia**

The Southeast Asia Nuclear Weapon Free Zone Treaty, the Treaty of Bangkok, was signed by the ASEAN States in Bangkok, Thailand, on December 15, 1995<sup>1963</sup> to minimize nuclear weapons proliferation in the Southeast Asian region.

Significantly, India and Pakistan are the most dangerous nuclear States in the region. However, neither India nor Pakistan has ratified the broader Non-Proliferation of Nuclear Weapons Treaty.<sup>1964</sup> Long ago, the States in the region attempted to eliminate the nuclear risk posed by India and Pakistan. For example, they attempted to establish an ASEAN Zone of Peace, Freedom and Neutrality to serve as a buffer between Southeast Asia and Pakistan on one side, and India on the other side.<sup>1965</sup> In the mid-1980s, Indonesia and Malaysia proposed the establishment of a Southeast Asia Nuclear Weapon Free Zone. And in 1995, all the ten Southeast Asian States signed the Treaty.<sup>1966</sup>

Under the Treaty, member States pledge themselves to environmental protection, having “[d]etermined to keep the region free of environmental pollution by radioactive wastes and other radioactive matter.”<sup>1967</sup> It also requires member States to undertake “to support the conclusion as soon as possible of the proposed Convention relating to the protection of the natural resources and environment of the South Pacific region and its Protocol for the prevention of pollution of the South Pacific region by dumping, with the

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<sup>1963</sup> Southeast Asia Nuclear Weapon Free Zone Treaty, Dec. 15, 1995, 35 I.L.M. 639 [hereinafter Southeast Asian Nuclear Weapons Free Zone Treaty].

<sup>1964</sup> Rosen, *supra* note (1021) at 37.

<sup>1965</sup> *Id.*, at 36.

<sup>1966</sup> They are: Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, Cambodia, Myanmar, and Laos. See, Evan S. Medeiros, *Southeast Asian Countries Agree to Create Nuclear-Weapon-Free-Zone*, ARMS CONTROL TODAY, Dec. 1995- Jan. 1996, at 23; The Transnational Institute, *supra* note (1925).

<sup>1967</sup> Southeast Asia Nuclear Weapon Free Zone Treaty, *supra* note (1963) pmb1.

aim of precluding dumping at sea of radioactive wastes and other radioactive matter by anyone anywhere in the region.”<sup>1968</sup>

The United States has expressed some support for the Treaty, but only of a limited nature. In 1993, the former U.S. Secretary of State, Mr. Christopher, told ASEAN that the United States was willing to see a draft of the Treaty. However, in early 1995, then President Clinton informed the Indonesian President that the text of the Treaty and its Protocol did not meet all fundamental U.S. concerns, and that the U.S. would not sign the document until it did.<sup>1969</sup>

#### **f. The Urgent Need for A Middle East Nuclear Weapons Free Zone**

Like the other regions discussed in this section, the Middle East region also needs the conclusion of a nuclear weapons free zone treaty. In fact, the Middle East has an urgent need for this kind of agreement, because the region contains a number of rogue States that aim at building a nuclear arsenal to face the United States intervention in the region. The creation of the State of Israel, and the development of its nuclear weapons program, in the middle of this region has created a heightened state of tension. The nuclear powers have interests in the area, which facilitate the advancement of nuclear weapons program in the region. Moreover, the Israeli success at developing a nuclear weapons program, and its vulnerable geographic position, led to its refusal to adhere to the Non-Proliferation of Nuclear Weapons Treaty.<sup>1970</sup> On the other hand, Libya, Iran, and Iraq, with the support of Russia, have taken steps to develop similar nuclear weapons programs capable of countering the Israeli program that is supported by the United States. Moreover, acts of terrorism that have occurred in the region raise concerns about terrorists’ access to nuclear weapon sites and ability to use such weapons in their attacks.

Given all of these dangers and tensions, the establishment of a nuclear weapons free zone is an urgent matter. This fact was expressed, universally, by the Revision Conference of the Non-Proliferation of Nuclear Weapons Treaty of 1995, which announced that the “the development of [Nuclear Weapons Free Zones] and zones free of

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<sup>1968</sup> *Id.*, 7 (1).

<sup>1969</sup> Southeast Asia Nuclear Weapon Free Zone (SEANWFZ) Treaty of Bangkok, available at <<http://www.fas.org/nuke/control/seanwfp/index.html>>, (last visit Aug. 20, 2001).

all weapons of mass destruction, especially in regions of tension such as the Middle East, was encouraged as a matter of priority.”<sup>1971</sup> On the regional level, the Cairo Declaration, adopted on the occasion of the signing the African Nuclear Weapons Free Zone Treaty, provides that “the establishment of nuclear-weapon-free zones, especially in regions of tension, such as the Middle East, on the basis of arrangement [...] enhance global and regional peace and security.”<sup>1972</sup>

The rules of the Middle East Nuclear Weapons Free Zone Treaty should be formulated by Israel, Iran, and the Arab States, in order to prevent a future nuclear war in the region, especially since they all have the same concerns. For example, in 1974, Egypt and Iran raised the necessity of establishing a Middle East Nuclear Weapons Free Zone, before the United Nations General Assembly.<sup>1973</sup> And in 1980, Israel also urged the establishment of a regional nuclear weapons free zone.<sup>1974</sup>

The establishment of the free zone requires cooperation among regional States, and the participation of a neutral State, excluding the United States and Russia, or an international organization that can supervise the application of such a Treaty. This neutral body would be charged also with verifying compliance, with the treaty’s provisions.

### ***3. Bilateral Conventions of the Enviro-Humanitarian Rules***

Bilateral conventions are those which involve two States only, without any reference to the region in which they are located. The most relevant bilateral convention that I will examine are the Anti-Ballistic Missile Treaty, and the Strategic Arms Reduction Treaties.

#### **a. The Anti-Ballistic Missile Treaty:**

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<sup>1970</sup> Rosen, *supra* note (1021) at 42.

<sup>1971</sup> Andemicael, *supra* note (1644).

<sup>1972</sup> Cairo Declaration, Apr. 11, 1996, available at <<http://www.unog.ch/frames/disarm/distreat/cairo.htm>>, (last visit June 28, 2001).

<sup>1973</sup> See, G.A. Res. 3263, U.N. GAOR First Comm., 29<sup>th</sup> Sess., Supp. No. 31, at 27, U.N. Doc. A/9631 (1974).

<sup>1974</sup> U.N. INTST. FOR DISARMAMENT RESEARCH, A ZONE FREE OF WEAPONS OF MASS DESTRUCTION IN THE MIDDLE EAST at 59, U.N. Doc. UNIDIR/96/24, U.N. Sale No. GV.E.96.0.19 (1996).

The Anti-Ballistic Missile Treaty (ABM)<sup>1975</sup> was concluded between the United States and the former Soviet Union on May 26, 1972.<sup>1976</sup> The ABM Treaty was based on Article VI of the Non-Proliferation of Nuclear Weapons Treaty, which requires member States to pursue, in a good faith, measures related to eventual disarmament. Four years after the conclusion of the Non-Proliferation of Nuclear Weapons Treaty, the United States and Russia concluded the ABM Treaty as a means of promoting disarmament in those two countries.

The contracting parties agreed that each would have only two ABM deployment areas.<sup>1977</sup> Later on, both countries signed a Protocol to the treaty in order to reduce the number of ABM deployment areas to one.<sup>1978</sup> Accordingly, the former Soviet Union chose to deploy an ABM system around Moscow, but the U.S., as an indication of the great success of the treaty's efforts, decided not to deploy an ABM system at all.<sup>1979</sup> Moreover, the ABM Treaty requires that "[e]ach Party may have no more than a total of fifteen ABM launchers at test range."<sup>1980</sup> Any excessive number of restricted or prohibited devices should be "destroyed or dismantled under agreed procedures within the shortest possible agreed period of time."<sup>1981</sup> The Treaty represented the minimum agreement reached by the U.S. and the former Soviet Union, and therefore it requires the parties to continue "active negotiations [to achieve a real] limitations on strategic

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<sup>1975</sup> Anti-Ballistic Missile Treaty, (U.S., Russia) May 26, 1972, U.S.-U.S.S.R., 23 U.S.T. 3435 [hereinafter ABM Treaty].

<sup>1976</sup> *Id.*, pmbl.

<sup>1977</sup> Article III of the ABM provides that "[e]ach Party undertakes not to deploy ABM systems or their components except that: (a) within one ABM system deployment area having a radius of one hundred and fifty kilometers and centered on the Parties national capital, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, and (2) ABM radars within no more than six ABM radar complexes, the area of each complex being circular and having a diameter of no more than three kilometers; and (b) within one ABM system deployment area having a radius of one hundred and fifty kilometers and containing ICBM silo launchers, a Party may deploy: (1) no more than one hundred ABM launchers and no more than one hundred ABM interceptor missiles at launch sites, (2) two large phased-array ABM radars comparable in potential to corresponding ABM radars operational or under construction on the date of signature of the Treaty in an ABM system deployment area containing ICBM silo launchers, and (3) no more than eighteen ABM radars each having a potential less than the potential of the smaller of the above-mentioned two large phased-array ABM radars." *Id.*, art. III.

<sup>1978</sup> Protocol to the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, Jul. 3, 1974, U.S.-U.S.S.R., 27 U.S.T. 1647, 1648 [hereinafter 1974 Protocol to the ABM Treaty].

<sup>1979</sup> John Pike, Anti-Ballistic Missile Treaty, <<http://sun00781.dn.net/nuke/control/abmt/>> (last visit May 1, 2001) [hereinafter Pike].

<sup>1980</sup> ABM Treaty, *supra* note (1975) art. IV.

offensive arms.”<sup>1982</sup> Consequently, the treaty “has subsequently been extensively modified by amendment, and various common understandings and protocols.”<sup>1983</sup>

According to Article IX of the ABM Treaty, the two nations are prohibited from transmitting anti-ballistic missiles technology to other States. Therefore, the United States violated its obligations under the treaty by providing Israel an advanced missile defense system and its components, to face threats from the neighboring States<sup>1984</sup> that illegally obtained from other nuclear powers, i.e., China and Russia, such technology.<sup>1985</sup> In addition, a number of violations have been committed by the Russians. The most blatant of these was the construction of the Krasnoyarsk radar facility, which was deployed in violation of the ABM Treaty.<sup>1986</sup>

In order to comply with the ABM Treaty provisions, the two countries were required to destroy excessive numbers of devices. According to Article XII (1), each country was entitled to verify that the other had in fact complied. However, that Article also required the signatories to consider the generally recognized principles of international law,<sup>1987</sup> such as the precautionary principle, intergeneration and intergenerational equity, and avoiding harm to the environment of other nations. Therefore, enforcing the provisions of the ABM Treaty would entail consideration of the recognized principles of international law, including environmental protection. Environmental protection was included in the agenda of the 1972 Summit at which the Treaty was concluded, in addition to the policies of the two superpowers’ cooperation, Vietnam War, negotiations for a strategic arms limitations, trade, science, and technology.<sup>1988</sup>

Furthermore, in May 23, 1972, the two nations concluded an Agreement on Cooperation in the Field of Environmental Protection,<sup>1989</sup> which restricted any

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<sup>1981</sup> *Id.*, art. VIII.

<sup>1982</sup> *Id.*, art. XI.

<sup>1983</sup> Pike, Anti-Ballistic, *supra* note (1979).

<sup>1984</sup> Graham, *supra* note (1638) at 49.

<sup>1985</sup> Baker Spring, *Why the ABM Treaty is Already Dead and What it Should Mean for United States Secretary*, 4- SPG NEXJOP 31, 38 (1999) [hereinafter Spring, *Why The ABM Treaty is Already Dead*].

<sup>1986</sup> *Id.*

<sup>1987</sup> *Id.*, art. XII (1).

<sup>1988</sup> Robinson & Waxmonsky, *supra* note (1906) at 410.

<sup>1989</sup> Agreement on Cooperation in the Field of Environmental Protection with the Union of Soviet Socialist Republics, May 23, 1972, U.S.-U.S.S.R., 23 U.S.T. 845 [hereinafter Agreement on Environmental Protection with the Soviet Republics].



environmental disturbance resulting from the ABM Treaty application. This environmental agreement was the effort of a series of informal discussions, involving specialists such as Dean Douglas Costle<sup>1990</sup> and Professor Nicholas A. Robinson,<sup>1991</sup> and sponsored by the United Nations Association of the U.S. (UNA-USA) and the United Nations Association of the U.S.S.R. (UNA-USSR),<sup>1992</sup> as proxies for both nations' governments.

The ABM Treaty does not completely eliminate the risk of attacks by anti-ballistic missiles. Inadequate technology can still lead to errors. For example, "[o]n January 25, 1995, a scientific rocket was launched from Norway into space. The rocket's payload contained instruments for studying the Aurora Borealis. The Norwegian government had notified the Russian Foreign Ministry of the launch plan well in advance of the launch date. But the Foreign Ministry failed to pass this information to the Russian Ministry of Defense. The result was that the Russian military authorities initially misinterpreted the launch as a missile attack heading for Russian territory. This precipitated a nuclear alert that caused the former Russian President Mr. Boris Yeltsin and the chief of the Russian General Staff General Mikhail Kolesnikov to open their nuclear control briefcases and consult each other via a hotline."<sup>1993</sup> Some commentators expected that, in response to that kind of mistake, Russia would necessarily target the United States.<sup>1994</sup> Fearful of such mistakes, the U.S. Congress concluded that the national security of the United States requires the funding of Russian programs to eliminate nuclear, chemical, and biological weapons, and thus promote "defense by other means."<sup>1995</sup> Approximately 1.6 billion has been appropriated through Department of Defense to fund the Cooperative Threat Reduction (CTR) program.<sup>1996</sup> Besides

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<sup>1990</sup> Dean Douglas Costle was Connecticut's air pollution commissioner and co-chair the Joint Committee as U.S. Environmental Protection Agency Administrator under President Carter. *See*, Robinson & Waxmonsky, *supra* note (1906) at 409.

<sup>1991</sup> Nicholas A. Robinson is a Professor of Law at Pace University, School of Law and the Legal Advisor of the International Union for the Conservation of Nature and Natural Resources (IUCN).

<sup>1992</sup> *Id.*

<sup>1993</sup> Bruce Blair, *Who's Got the Button?* WASH. POST, Sept. 29, 1996, at C- 1.

<sup>1994</sup> Spring, *Why the ABM is Already Dead*, *supra* note (1985) at 37.

<sup>1995</sup> *See*, Soviet Nuclear Threat Reduction Act, 22 U.S.C. § 2551 (1994).

<sup>1996</sup> *See*, Jack M. Bread, *A New Legal Regime of Bilateral Assistance Programs: International Agreements Governing the "Nunn-Lugar" Demilitarization Program in the Former Soviet Union*, 35 VA. J. INT'L L. 895, 895 fn. 3 (1995) [hereinafter Bread, *A New Legal Regime*]. *See also*, Guruswamy & Aamodt, *supra* note (298) at 299.

increasing the national security of the United States from a Russian nuclear threat, this Program also secures the environment from future harm or threats that may result from such arsenal.

Moreover, the 1994 Agreement between the United States and Russia on the Cooperation in the Prevention of Pollution of the Environment in the Arctic<sup>1997</sup> requires bilateral consultation on technical solutions for the elimination of radioactive and other types of pollution. Norway, as a neighboring country, fears nuclear pollution and has therefore agreed to protect its shared environment with Russia<sup>1998</sup> by rendering free technical assistance for the dismantling of Russian nuclear powered submarines, delivering equipment, transferring technology, and providing financial assistance.

When the ABM Treaty was concluded during the cold war, it was described by U.S. President Kennedy as, “a step back from the shadows of war.”<sup>1999</sup> The importance of the agreement was reflected in the provision that “this treaty shall be of unlimited duration.”<sup>2000</sup> However, in 1998, many U.S. Congressmen asserted that the ABM Treaty was a relic of the Cold War, and argued that U.S. national security requires the deployment of a limited missile defense system against missile attacks from “rogue States” regardless of the ABM Treaty.<sup>2001</sup> They described the ABM Treaty as the second mistake committed during the cold war, along with the mistake of managing the Vietnam War.<sup>2002</sup> Therefore, the former U.S. President Clinton was prepared to pull out of the ABM Treaty,<sup>2003</sup> if an amended agreement was not reached with Russia.<sup>2004</sup> Later, President Clinton’s successor, President George Walker Bush, declared that the “thirty years old ABM treaty with Russia should be scrapped.”<sup>2005</sup> He added that “no treaty that prevents us from addressing today’s threats, that prohibits us from pursuing promising

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<sup>1997</sup> Cooperation in the Prevention of Pollution of the Environment in the Arctic, Dec. 16, 1994, U.S., Russian Federation, 1994 WL 761204.

<sup>1998</sup> Morten Bremer Maerli, *Proliferation and Pollution Risks from Naval Nuclear Activities in Northwest-Russia*, 30 FORUM ON PHYSICS & SOC’Y (2001), available at <<http://www.aps.org/units/fps/jul01/701art3.html>> (last visit Nov. 7, 2001).

<sup>1999</sup> Dunkley, *supra* note (314).

<sup>2000</sup> ABM Treaty, *supra* note (1975) art. XV (1).

<sup>2001</sup> Graham, *supra* note (1638) at 49.

<sup>2002</sup> Spring, *Why the ABM is Already Dead*, *supra* note (1985) at 35.

<sup>2003</sup> *Id.*

<sup>2004</sup> Graham, *supra* note (1638) at 49.

<sup>2005</sup> President Bush Speech on Missile Defense, May 1, 2001, available at <<http://www.cnn.com/2001/ALLPOLITICS/05/01/bush.missile.trans/>>, (last visit May 2, 2001).

technology to defend ourselves, our friends, and our allies, is in our interests or in the interests of the world peace.”<sup>2006</sup> This statement may be interpreted as an intention to abrogate the ABM Treaty. However, according to Article XV (2) of the treaty, a member State has the right to withdraw from the treaty only if it decides that extraordinary events demanded it. Accordingly, in order to effectuate the withdrawal, each signatory “shall give notice of its decision to the other Party six months prior to withdrawal from the Treaty. Such notice shall include a statement of the extraordinary events the notifying Party regards as having jeopardized its supreme interests.”<sup>2007</sup> However, as a result to the dissolution of the former Soviet Union, some legal fellows believe that the ABM Treaty, which was concluded with the former Soviet Union: Russia, Byelarus, Kazakhstan, and Ukraine, is no longer binding to Russia itself, and that Russia is not a part to the Treaty.<sup>2008</sup> Recently, the American President George W. Bush believed that ABM Treaty presented a different era and was formulated to face the threat of different enemies, therefore he submitted a withdrawal request to Russia.<sup>2009</sup> Since ABM Treaty is a bilateral treaty, the withdrawal of the United States would eliminate the jurisdiction of the treaty.

The ABM Treaty of 1972 was concerned only the United States and the former Soviet Union. Nevertheless, now, “more than [twenty] Third World countries, including rogue States, possess ballistic missiles,”<sup>2010</sup> and the ABM Treaty does not cover them. This situation effectively requires an international instrument to regulate the matter internationally, in order to protect human health and the environment.

## **b. The Strategic Arms Reduction Treaties**

The Strategic Arms Reduction (START) program is a four steps program, each step of which requires the conclusion of a START treaty.<sup>2011</sup> Each treaty seeks to reduce

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<sup>2006</sup> *Id.*

<sup>2007</sup> ABM Treaty, *supra* note (1975) art. XV (2).

<sup>2008</sup> Spring, *Why the ABM is Already Dead*, *supra* note (1985) at 35.

<sup>2009</sup> Bradley Graham & Mike Allen, *Bush to Tell Russia U.S. Will Withdraw From '72 ABM Pact*, WASH. POST, Dec. 12, 2001, at A3.

<sup>2010</sup> See, PETER VINCENT PRY, *WAR SCARE: NUCLEAR COUNTDOWN AFTER THE SOVIET FALL* 243-310 (Turner Publishing, 1997).

<sup>2011</sup> See, US Arms Control and Disarmament Agency, *The Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms*, July 31, 1991, <<http://www.acda.gov/treaties/start/starttex.htm>> (last visit Mar. 20, 2001) [hereinafter

the nuclear arms of the contracting parties beyond the level reached by the previous one. The program started in a bilateral treaty, concluded on July 31, 1991, between the United States and the former Soviet Union.<sup>2012</sup> The dissolution of the former Soviet Union, five months later, produced number of States, some of which inherited nuclear arms, such as Byelarus, Kazakhstan, Russia, and Ukraine.<sup>2013</sup> Consequently, to control these weapons and to respond to the needs of the new international circumstances, START I has been modified in the Lisbon Protocol<sup>2014</sup> of 1992. Under that Protocol START I became a multilateral convention concluded among five States: The United States, Byelarus, Kazakhstan, Russia, and Ukraine.<sup>2015</sup> According to the Lisbon Protocol and its associated documents, Byelarus, Kazakhstan, and Ukraine committed to accede to the Non-Proliferation Treaty (NPT) as non-nuclear States “in the shortest possible time,”<sup>2016</sup> and to fulfill all the duties and obligations under that Treaty.<sup>2017</sup> Consequently, member States required to get rid of all nuclear weapons and other strategic offensive arms from their territories.

For Byelarus, Kazakhstan, Russia, and Ukraine to be included in the program to eliminate their nuclear arms that were inherited from the former Soviet Union, they have to ratify START I. In addition, they are required to ratify the NPT. Since these States have different governmental systems, the process of ratification also varies. For example, the legislatures in Ukraine delayed the ratification of both the START I and the NPT, by voting against the dismantling of Ukraine’s nuclear weapons, and in favor of remaining

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START I]; Treaty on Further Reductions and Limitations of Strategic Offensive Arms, Jan. 3, 1993, U.S.-Rus. Fed., S. Treaty Doc. 1, 103rd Cong., 1st Sess. (1993) [hereinafter START II].

<sup>2012</sup> Federation of American Scientists: Weapons of Mass Destruction, *Strategic Arms Reduction Treaty (START I)*, <<http://www.fas.org/nuke/control/start1/index.html>> (last visit Aug. 20, 2001) [ hereinafter FAS, START I].

<sup>2013</sup> Marian Nash, *Contemporary Practice of The United States Relating To International Law: Arms Control And Disarmament (U.S. Digest, Ch. 14, §7) U.S.—CIS Protocols to START Treaty*, 86 AM. J. INT’L L. 799,800 (1992) [hereinafter Nash].

<sup>2014</sup> Protocol to the Treaty on the Reduction and Limitation of Strategic Offensive Arms, May 23, 1992, U.S.-Russia, Ukraine-Belarus-Kazakhstan, S. Treaty Doc. No. 32, 102d Cong., 2d Sess. (1992), available at <<http://www.acda.gov/treaties/start/lisbon.htm>>, (last visit Aug. 15, 2001) [hereinafter Lisbon Protocol].

<sup>2015</sup> Nash, *supra* note (2013) at 800.

<sup>2016</sup> Lisbon Protocol, *supra* note (2014) art. V.

<sup>2017</sup> These duties and obligations were examined under Section “The Treaty of Non-Proliferation of Nuclear Weapons.”

as a nuclear power for an unspecified transitional period.<sup>2018</sup> The Kazakhstan legislature took similar action.<sup>2019</sup> Although these new States were sensitive to the international interest in reducing nuclear arms, they did not seriously want to fulfill their obligations under the treaty, because they think that getting rid of these nuclear arms would weaken and threaten their national security. Therefore, some nuclear States, such as the United States and the United Kingdom, offered to provide these new member States with security assurance,<sup>2020</sup> in order to encourage them to ratify START I. The United States went even further by offering 175 million dollars in Nunn-Lugar funds to aid Ukraine in dismantling their nuclear weapons when it ratified START I and NPT.<sup>2021</sup> The United States also informed Russia that it would not purchase uranium from its dismantled weapons until Russia reaches an agreement with the other States on an equitable sharing of the proceeds.<sup>2022</sup>

After all these efforts, all the Lisbon Protocol signatories fulfilled their obligations under START I and its associated documents. However, a delay of three and a half years, from the original date of the START I's entry into force resulted from involving the post-Soviet States.<sup>2023</sup>

The objective of START I is to increase stability at significantly lower levels of nuclear weapons.<sup>2024</sup> It addresses the “daunting challenge of reducing the balance of terror created by nuclear weapons through dramatic cuts in submarine-launched ballistic missiles.”<sup>2025</sup> On the other hand it raises concerns regarding the need to safely dispose of

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<sup>2018</sup> Lee S. Wolosky et al., *START, START II, and Ownership of Nuclear Weapons: The Case for a “Primary” Successor State*, 34 HARV. INT'L L.J. 581, 584 fn. 19 (1993).

<sup>2019</sup> Federation of American Scientists: *START I: Lisbon Protocol and the Nuclear Nonproliferation Treaty*, <<http://www.fas.org/nuke/control/start1/news/npt-95.htm>> (last visit Aug. 20, 2001).

<sup>2020</sup> Louis B. Sohn, *START II Treaty, Section Recommendation and Report: American Bar Association Section of International Law and Practice Reports to the House of Delegates*, 28 INT'L LAW. 552, 555 (1994) [hereinafter Sohn]; *Id.*

<sup>2021</sup> *Id.*, at 555.

<sup>2022</sup> Antonio F. Perez, *To Judge Between the Nations: Post Cold War Transformations in National Security and Separation of Powers—Beating Nuclear Swords into Plowshares in an Imperfectly Competitive World*, 20 HASTINGS INT'L & COMP. L. REV. 333, 342-43 (1997); Sohn, *supra* note (2020) at 555.

<sup>2023</sup> FAS, *START I*, *supra* note (2012).

<sup>2024</sup> Federation of American Scientists: *START I Entry Into Force*, available at <<http://www.fas.org/nuke/control/start1/news/starteif.htm>>, (last visit Aug. 20, 2001) [hereinafter FAS, *START I Entry Into Force*].

<sup>2025</sup> *START I*, *supra* note (2011).

huge quantities of weapons, launchers, and nuclear and fissile materials mandated by the Treaty.<sup>2026</sup>

The strength of START I lies in its verification system, which responds to question of trust between the enemies of yesterday and friends of today. The well-established verification system was the result of a nine-year period of negotiations.<sup>2027</sup> The verification regime established by START I provides for: (a) data exchanges and notifications on strategic systems and facilities covered by the Treaty; (b) exchange of telemetry data from missile flight tests; (c) a ban on the encryption of telemetry data; (d) twelve types of on-site inspections and exhibitions; and (e) continuous monitoring of mobile intercontinental ballistic missiles (ICBM).<sup>2028</sup>

To better assure compliance with START I and its verification system, a Joint Compliance and Inspection Commission (JCIC) was formed under to Article XV of the START I. Consequently, a number of inspections have been conducted in Russian and American facilities to detect nuclear weapons.<sup>2029</sup> Moreover, the United States began continuous portal monitoring activities at missile assembly plants in Votkinsk and Pavlohrad.<sup>2030</sup> Similarly, Russian inspectors began portal monitoring at a Thiokol Corporation facility in Promontory, Utah.<sup>2031</sup>

The development of disarmament systems shows that the arms controllers, themselves, are becoming aware of the environmental problems they have created.<sup>2032</sup> Thus, the Cooperative Threat Reduction Program (CTR) sought to dismantle nuclear warheads and missiles. In START I, they are dealing with dismantling the reactors of nuclear submarines from which these missiles are launched.<sup>2033</sup> START II was the next step towards demilitarization.

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<sup>2026</sup> See, The White House, U.S. Nunn-Lugar Safety, Security, Dismantlement Program, <<http://www.acda.gov/factshee/wmd/nuclear/ctr/ssd32194.htm>> (last visit May 14, 2001).

<sup>2027</sup> Sohn, *supra* note (2020) at 553.

<sup>2028</sup> FAS, *START I Entry Into Force*, *supra* note (2024).

<sup>2029</sup> FAS, *START I*, *supra* note (2012).

<sup>2030</sup> FAS, *START I Entry Into Force*, *supra* note (2024).

<sup>2031</sup> *Id.*

<sup>2032</sup> Guruswamy & Aamodt, *supra* note (298) at 306.

<sup>2033</sup> *Id.*

START II was signed on January 3, 1993. The U.S. ratification was completed on January 26, 1996, and the Russian Duma completed its ratification on April 14, 2000.<sup>2034</sup>

Unlike START I, START II is a purely bilateral treaty, between the U.S. and Russia. While START I reduced the strategic arms possessed by both sides, START II went beyond this limit to require reduction of the strategic forces on each side to no more than 3,500 warheads. START II bans all Russian heavy ICBMs and their launchers by the year 2003,<sup>2035</sup> including Multiple Independent Targeted Reentry Vehicles, which will necessarily reduce the risk of nuclear war.<sup>2036</sup> According to START II, Russia agreed to eliminate all SS-18 n-missiles, both deployed and non-deployed.<sup>2037</sup>

START II does not stand-alone, but relies upon START I, and cannot enter into force without the prior entry into force of START I.<sup>2038</sup> START II contains the same provision as START I, except as explicitly modified by its provisions.<sup>2039</sup> Consequently, START II adopted the same verification system provided in START I, except that START II provides for additional inspections to confirm the elimination of heavy ICBMs and their launch canisters, as well as additional inspections to confirm the conversion of heavy ICBM silo launchers.<sup>2040</sup>

Despite the substantial reduction in strategic arms, the nuclear risk still persists. A minimum number of warheads are still permitted under START II. Therefore, on March 22, 1997,<sup>2041</sup> the former American President Clinton and the former Russian President Yeltsin affirmed their intention to establish a framework for START III.<sup>2042</sup>

START III will be established by December 31, 2007, and will impose a ceiling of 2,000-2,500 strategic nuclear weapons for each party.<sup>2043</sup> START III will be based on

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<sup>2034</sup> Federation of American Scientists: *Strategic Arms Reduction Treaty (START II)*, available at <<http://www.fas.org/nuke/control/start2/index.html>>, (last visit Aug. 20, 2001).

<sup>2035</sup> Sohn, *supra* note (2020) at 554.

<sup>2036</sup> *Id.*, at 553, 554.

<sup>2037</sup> Nash, *supra* note (2013) at 261; Sohn, *supra* note (2020) at 554.

<sup>2038</sup> *Id.*, at 553-55.

<sup>2039</sup> Treaty Between the United States of America and the Russian Federation on Future Reduction and Limitation of Strategic Offensive Arms, modified as of May 21, 1996, <<http://www.fas.org/nuke/control/start2/docs/start-95.htm>> (last visit Aug. 20, 2001).

<sup>2040</sup> START II, *supra* note (2011) art. V.

<sup>2041</sup> See, Press Conference by President Clinton and Russian President Boris Yeltsin, Federal News Service, Mar. 22, 1997, available in LEXIS, News Library, Curnws Files.

<sup>2042</sup> Rosen, *supra* note (1021) at 30.

<sup>2043</sup> Federation of American Scientists: *Strategic Arms Reduction Treaty (START III)*, available at <<http://www.fas.org/nuke/control/start3/index.html>>, (last visit Aug. 20, 2001).

the rules and regulations provided in START I and START II, and will include measures relating to the transparency of strategic nuclear warhead inventories and the destruction of strategic nuclear warheads.<sup>2044</sup> Similar to START II, START III will consist of a bilateral convention between Russia and the United States.

Once a degree of stability is secured between the U.S. and Russia by the compliance with STARTs I, II, and III, other nuclear powers, such as China, France and the United Kingdom, would become more directly involved. Thus, a future START IV is intended as a multilateral convention, involving all the nuclear powers.<sup>2045</sup> START IV will derive the experiences of STARTs I, II, and III. However, it may cause new difficulties and conflicts of interests, because it will involve more than two nations.

Despite the fact that the START treaties do not explicitly address environmental protection, they do have an environmental dimension. This issue can be examined, according to the nature and goals of these treaties, from two positive and negative visions: The positive vision is that the elimination and reduction of strategic arms would necessarily reduce the environmental risk of any future armed conflict. The negative vision is that the disarmament of nuclear weapons presents its own environmental hazards in terms of safe long-term disposal. To avoid the negative risk, the U.S. agreed to purchase Russia's uranium from dismantled weapons,<sup>2046</sup> which would eliminate the hazardous discharge of such substances. Furthermore, the U.S. offered 175 million dollars in Nunn-Lugar funds to aid Ukraine in dismantling their nuclear weapons,<sup>2047</sup> since they lack sophisticated disposal technology.

In sum any arms dismantling would assure the environmental protection from possible future threat. However, poor disarmament technology would cause side environmental effect, unless developed States would contribute and assist to assure safe environmental disarmament.

Except for ENMOD, none of the EHR instruments were specifically intended as means of environmental protection. These agreements are focused on the protection of civilian populations; environmental concerns are only accidental to that goal. Moreover,

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<sup>2044</sup> *Id.*

<sup>2045</sup> Federation of American Scientists: Weapons of Mass Destruction, *Strategic Arms Reduction Treaty (START IV)*, available at <<http://www.fas.org/nuke/control/start4/index.html>>, (last visit Aug. 20, 2001).

<sup>2046</sup> Sohn, *supra* note (2020) at 555.



most of the EHRs were codified and adopted by military authorities since they are relevant to disarmament and arms control. And each nation seeks to protect and secure its national defense and security without any consideration to arms race environmental consequences.

In addition, EHRs do not address the newly invented weapons of mass destruction such as Depleted Uranium (DU), which is similar to chemical weapons since it has indiscriminate effects, is uncontrollable, and has long-lasting environmental impacts. Therefore, a new Enviro-Humanitarian Convention should be adopted to include the prohibition of such newly invented weapons.

Nevertheless, the enviro-humanitarian rules can play a great role in promoting the environmental protection, both in peacetime and in times of armed conflicts. However, this role cannot be maintained unless military personnel learn to consider the environment as much as national security. This goal can be achieved by introducing environmental education in military schools. A stronger relationship can be established between military establishments and national environmental organizations. Moreover, environmentalists can be included in the planning of military operations in order to indicate the protective areas where military operations should be avoided, provide the best way to rehabilitate any militarized areas, inspect any military accidents, report environmental damages and recommend means of rehabilitation, and participate in codifying national and international military rules to better serve both the national security and the environment.

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<sup>2047</sup> *Id.*, at 555.

Part V:  
Responsibility for  
Environmental Damage Caused by Warfare

As examined in Part I of this thesis, responsibility for environmental destruction can be described in two categories: international responsibility and national responsibility. If the environmental damage triggers one of the International Humanitarian Law Rules (IHL), International Environmental Law Rules (IEL), or the Enviro-Humanitarian Rules (EHR), the responsibility that might be raised is “international” responsibility. However, if the environmental harm triggers the national environmental law rules, then it becomes a “national” responsibility.

Like all other rules of the law, environmental law rules need an enforcement authority to implement them. Since the examined rules are relevant to armed conflicts, the belligerents are considered the enforcing authority. However, once the armed conflict is over, they might neglect such enforcement.<sup>2048</sup> Therefore, it would be useful if an international entity, such as the United Nations,<sup>2049</sup> plays the role of the enforcing power.

According to the forecited classification, the international responsibility will be examined in Section I, and national responsibility will be examined in Section II.

### ***A- International Responsibility***

The evolution of the system of international relation has generated substantive changes in international responsibility for environmental damage. Historically, the State was considered to be the only international actor in international law. Accordingly, international responsibility was originally conceived of as a set of international rules governing States’ international obligations in their relations with other States.<sup>2050</sup> However, another definition of international responsibility was adopted by the International Law Commission (ILC), providing that “[e]very internationally wrongful act of a State entails the international responsibility of the State.”<sup>2051</sup> International

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<sup>2048</sup> Harry Almond, *Weapons, War and the Environment*, 3 GEO. INT’L ENV’T L. REV. 117, 129-30 (1990) [hereinafter Almond, *Weapons*].

<sup>2049</sup> According to Chapter VII of the United Nations Charter, the Security Council has an enforcing power, but its ability to act is restricted by the member States’ approval, especially the five permanent members.

<sup>2050</sup> Sompong Sucharitkul, *State Responsibility and International Liability under International Law*, 18 LOY. L.A. INT’L & COMP. L.J. 821, 823 (1996) [hereinafter Sucharitkul].

<sup>2051</sup> International Law Commission (ILC), Draft Articles on State Responsibility, July 12, 1996, U.N.Doc. A/51/10, Part I, art. 1 [hereinafter Draft Articles on State Responsibility].

responsibility is also defined as “accountability for a violation of international law, as the legal relationship originating automatically between the State that violates its international obligations and the State whose rights are injured.”<sup>2052</sup>

More recently, actors other than State- e.g., international organizations, NGOs, and private parties- have been recognized as actors subject to international responsibility. “[States] can no longer claim to be the sole holders of the right to participate in the international legal order and its processes, having been joined by a new range of actors.”<sup>2053</sup> Thus, the scope of law of international responsibility has expanded to include these non-State actors.

Moreover, the international responsibility system is governed by International Humanitarian Law, International Environmental Law Rules, and Enviro-Humanitarian Rules. Therefore, there exist two types of international responsibility: the responsibility of international persons, and international criminal responsibility. Each type of responsibility has its own subjects and rules.

## **1. The Responsibility of International Persons**

In international law, “international persons” are defined to include States and international organizations. When a State or an international organization violate an obligation undertaken or imposed on them by international law, claims may be brought before the ICJ or other international tribunals. In environmental cases, responsibility arises either because of the breach of one or more international customary obligations recognized among nations, or because of the violation of a treaty.<sup>2054</sup> A breach of international environmental law rules results when activities within a State cause damage to other States’ environment or areas beyond the limits of their national jurisdiction.<sup>2055</sup>

Practically, the State and the international organization cannot cause environmental damage during peacetime or during times of armed conflicts by

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<sup>2052</sup> Bernhard Graefrath, *Responsibility and Damages Caused: Relationship between Responsibility and Damages*, 185 RECUEIL DES COURS 9, 20 (1984).

<sup>2053</sup> Philippe J. Sand, *Introduction*, in GREENING INTERNATIONAL LAW XXV (PHILIPPE J. SAND ED., 1993) cited in Robert McLaughlin, *Improving Compliance: Making Non-State International Actors Responsible for Environmental Crimes*, 11 COLO. J. INT’L ENV’T L. & POL’Y 377, 385 fn. 50 (2000) [hereinafter McLaughlin].

<sup>2054</sup> International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law, U.N. GAOR, 42<sup>nd</sup> Sess. U.N. Doc. A/CN.4/428 (Mar. 15, 1990).

themselves. However, certain actors that represent a State or an international organization could commit such acts, and accordingly, those acts may be considered acts of the State or the international organization and can raise question of the State's or the international organization's responsibility for the environmental damages that may result from them. For example, the armed forces of a State are clearly a governmental body, where their wrongful activities are attributable to their States.<sup>2056</sup>

Far too often, States become involved in armed conflict, and when they do, their acts are often responsible for damage to the environment. It has also become familiar to find international organizations involved in armed conflicts. Since States and international organizations could be involved in armed conflict, their agents may cause warfare environmental damage, and may result in international responsibility for that damage. For instance, the 1999 Nis airfield attack by NATO in Kosovo affected civilians, civilian objects, a market, and a clinic, when a CBU-87 cluster bomb container mistakenly missed its target and hit unintended civilian areas.<sup>2057</sup> Therefore, on May 8, 1999, the former Secretary General of the NATO, Javier Solana, confirmed the responsibility of NATO for the attack.<sup>2058</sup> Similarly, the United Nations Security Council has the right to form subsidiary organs to enforce its decisions relevant to the international peace and security.<sup>2059</sup> Some of those organs may be involved in military activities, such as the armed forces organized under the umbrella of the U.N.,<sup>2060</sup> the United Nations Special Commission (UNSCOM) and the United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC),<sup>2061</sup> which have been charged with the disarmament of the Iraqi armament program. The work of those organs may cause severe environmental consequences. Once "[t]he United Nations forces engage as combatants in an armed conflict, they are subject to the laws of armed conflict."<sup>2062</sup> Thus,

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<sup>2055</sup> Stockholm Declaration, *supra* note (822) Principle 21; Rio Declaration, *supra* note (683) Principle 2.

<sup>2056</sup> Christopher Greenwood, *State Responsibility and Civil Liability for Environmental Damage Caused by Military Operations*, in PROTECTION OF THE ENVIRONMENT DURING ARMED CONFLICTS at 409 (R. GRUNAWALT ET AL. EDS., 1996) [hereinafter Greenwood, *State Responsibility*].

<sup>2057</sup> Human Rights Watch Report, *Civilian Death in the NATO Air Campaign*, *supra* note (143).

<sup>2058</sup> *Id.*

<sup>2059</sup> U.N. CHARTER, *supra* note (71) art. 29.

<sup>2060</sup> *Id.*, arts. 43 (1), 45.

<sup>2061</sup> S.C. Res. 1284, U.N. SCOR, 54th Sess., S/RES/1284 (1999).

<sup>2062</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 410.

severe environmental consequences may raise the international responsibility of the United Nations if such activities violated mandatory international rules.

On the other hand, responsibility is involved under the U.N. Charter only when a U.N. organ determines that there is a threat to peace and security, so no such responsibility arise from a small environmental harm. Thus, responsibility would arise if, for instance, when the Soviet Union broke up, some terrorists were able to get smallpox virus from former Soviet facilities, hide it in Western Europe, Canada and the United States, and then threatened to spread the smallpox in Europe and North America. In that situation, the Security Council would have the right to allow the World Health Organization (WHO) to eliminate smallpox, and to require all States to cooperate. Because of the threat to international peace, international responsibility rests on all States and on the U.N. itself. The U.N. can constitute the U.N. Sanitary Inspection as a new U.N. subsidiary organ to visit every country, and assist in the elimination of smallpox by giving every one vaccination to prevent it. It could thus create an army of medics who would go around the world and carry out this task, and indeed would have the responsibility to do so. Another example would arise if any group or individual threatened to blow up a nuclear facility and cause radiation to spread around the world. In these examples, the U.N. would have the responsibility to act, and any action by the Security Council would be justified under the environmental security concept.

In addition to these hypothetical examples, the U.N. has in fact recognized its responsibility under international law to safeguard the environment. Thus, in 1993, the United Nations, in its military operations in Rwanda, undertook to conduct operations “with full respect for the principles and spirit of the general conventions applicable to the conduct of military personnel,”<sup>2063</sup> including the environmental protection provisions. Similar provisions were introduced in the United Nations Status of Force agreements signed after 1993, such as in Haiti,<sup>2064</sup> Angola,<sup>2065</sup> Croatia,<sup>2066</sup> Lebanon,<sup>2067</sup> and in West Sahara in 1999.<sup>2068</sup>

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<sup>2063</sup> Agreement on the Status of the United Nations Assistance Mission for Rwanda, Nov. 5, 1993, UN-Rwanda, art. 7, 1748 U.N.T.S., cited in Daphna Shrager, *UN Peacekeeping Operations: Applicability of International Humanitarian Law and Responsibility for Operations-Related Damage*, 94 AM. J. INT'L L. 406, 407 fn. 5 (2000) [hereinafter Shrager].

<sup>2064</sup> Agreement on the Status of the United Nations Assistance Mission in Haiti, Mar. 15, 1995, UN-Haiti, art. 7, 1861 U.N.T.S. 249.

In recent years, the responsibility of “international persons” for environmental damage has become an important concept. Previously, environment damage was regarded as merely incidental to armed conflict, but now it has become a fundamental part of military strategies in armed conflicts.<sup>2069</sup> Accordingly, international responsibility is triggered when there is an act imputable to an international person, whether a legal act, or an act in violation of an international obligation, which causes damage to the environment.

#### **a. An act imputable to an international person**

Acts can constitute a legal basis for international responsibility, whether they are legal or illegal, based on the fact that any nation is responsible for acts, whether legal or illegal, committed within its jurisdiction.

#### **1) Fault Responsibility for Environmental Harm in Times of Armed Conflicts**

Under the traditional view, the international responsibility that results from an illegal act imputable to an international person is “fault responsibility.” To establish such responsibility the plaintiff State has to show that the defendant State has committed an act in breach of an international obligation. The plaintiff State also has to prove the link between the alleged conduct and the damage that was suffered (causation). Fault responsibility is based on a State failure to use due diligence to avoid causing damage.<sup>2070</sup>

Fault responsibility was confirmed by the ILC when it provided that “[t]here is an internationally wrongful act of a State when: (a) conduct consisting of an act or omission is attributable to the State under international law; and (b) that conduct constitutes a breach of an international obligation of the State.”<sup>2071</sup> Under that definition, fault is a

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<sup>2065</sup> Agreement on the Status of the United Nations Peacekeeping Operation in Angola, May 3, 1995, UN-Angola, 1864 U.N.T.S., cited in Shrager, *supra* note (2063) at 407 fn. 5.

<sup>2066</sup> Agreement between the United Nations and the Government of the Republic of Croatia, May 15, 1995, UN-Croatia, 1864 U.N.T.S., *Id.*, at 407 fn. 5.

<sup>2067</sup> Agreement on the Status of the United Nations Interim Force in Lebanon, Dec. 15, 1993, UN-Leb., 1901 U.N.T.S., Shrager, *supra* note (2063) at 407 fn. 5.

<sup>2068</sup> Agreement on the Status of the United Nations Mission in Western Sahara, Feb. 11, 1999, UN-Morocco.

<sup>2069</sup> Lacayo, *supra* note (63) at 28.

<sup>2070</sup> Lisa M. Kaplan, *International Responsibility of an Occupying Power for Environmental Harm: The Case of Estonia*, 12 TRANSNAT'L L. 153, 183 (1999) [hereinafter Kaplan].

<sup>2071</sup> Draft Articles on State Responsibility, *supra* note (2051) art. 3.

violation of any international rule. Many of those rules relevant to environmental protection in times of armed conflicts have been examined in Parts Two, Three, and Four of this thesis.

The violation of an international obligation, whether derived from customary or conventional source,<sup>2072</sup> is a wrongful act and can result in the imposition of responsibility on an international person for damage caused by such act. This obligation could be very general, such as good neighborliness, or very specific, such as reduction of hazardous substances in certain areas, or the monitoring or reporting of ozone levels.<sup>2073</sup> For example, France was held responsible for the action of its special forces in destroying the vessel *Rainbow Warrior* in New Zealand in July 1985.<sup>2074</sup> Another example is the case of *Cosmos 954*, when a Soviet nuclear powered satellite fell on January 24, 1978, in Canadian territory, depositing radioactive substances. It was interpreted as a violation of Canadian sovereignty, and raised the international responsibility of the former Soviet Union.<sup>2075</sup>

The Secretary General of the United Nations, as a “Commander in Chief” of the United Nations armed forces, issued a binding<sup>2076</sup> Bulletin that prohibits his forces from “using methods of warfare intended to cause widespread, long lasting, and severe damage to the natural environment.”<sup>2077</sup> This provision clearly held the United Nations armed forces, or any U.N. operations conducted under U.N. command or control,<sup>2078</sup> responsible for any environmental damage that qualified as “widespread, long-lasting, and severe damage.” Here, it would be useful to mention that only the U.N. operations during armed conflicts are subject to that prohibition.<sup>2079</sup> The exclusion of peacetime operations from this provision is another threat to the environment. Moreover, the Bulletin would offer

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<sup>2072</sup> Cervi, *supra* note (347) at 383.

<sup>2073</sup> GURUSWAMY ET AL. EDS., *supra* note (1097) at 338.

<sup>2074</sup> “On July 10, 1985, a civilian vessel, the ‘Rainbow Warrior’, not flying the New Zealand flag, was sunk at its moorings in Auckland Harbor, New Zealand, as a result of extensive damage caused by two high explosive devices.” Ruling Pertaining to the Difference Between France and New Zealand Arising from the *Rainbow Warrior* Affair, 26 I.L.M. 1349, 1349 (1987) [hereinafter *Rainbow Warrior* Affair].

<sup>2075</sup> Cervi, *supra* note (347) at 393; Riccardo-Pisillo-Mazzeschi, *Forms of International Responsibility for Environmental Harm*, in INTERNATIONAL RESPONSIBILITY FOR ENVIRONMENTAL HARM 31 (FRANCESCO FRANCIONI & TULLIO SCOVAZZI EDS., 1991) [hereinafter Mazzeschi].

<sup>2076</sup> Shraga, *supra* note (2063) at 409.

<sup>2077</sup> Bulletin on the Observance by United Nations Force of International Humanitarian Law, U.N. Doc. ST/SGB/1999/13 (1999) § 6.3 [hereinafter S.G. Bulletin].

<sup>2078</sup> Shraga, *supra* note (2063) at 408.



more effective environmental protection if it responded to damage that is widespread, long-lasting or severe, rather than requiring all three elements.

Since the United Nations armed forces are provided, according to Article 43 of the U.N. Charter, by State members,<sup>2080</sup> one may question whether the responsibility for environmental damage should be attributed to the international organization or the State that provides the soldiers. The answer to this question depends on the nature and inducement of the act. If it has been committed according to the international organization's orders, objectives, and rules then the responsibility will be on the international organization. However, if the act was committed in accordance with or in violation of national orders, objectives, and rules then the State will be held responsible. The individual State would thus be responsible for ensuring the lawful behavior of the soldiers it provides to the U.N.

In contrast, if uniformed personnel of the United Nations is victimized by a certain State's armed forces, would the United Nations or his State raise the international responsibility of this State. Since the attack is against United Nations personnel, then both the United Nations, which has been affected by the violated of its immunity and reputation, and the State the victim's own State, which has been substantively harmed by losing its citizen, could do so. Accordingly, in 1948, both Sweden and the United Nations made claims against Israel concerning the killing of Count Bernadotte, the United Nations missionary to Israel, which was held responsible for his death, and paid compensation.<sup>2081</sup>

Practically, it is difficult for the United Nations to make claims for environmental damage, because most of its employees and services belong to member States, and most of its buildings are located in host States such as the United States and Switzerland. However, when environmental damage occurs in a United Nations building located in a host country, the claims filed by the host nation against the United Nations for causing environmental damage can present a legal standard for the United Nations to file similar

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<sup>2079</sup> *Id.*, at 409.

<sup>2080</sup> Article 43 of the U.N. Charter provides that "[a]ll Members of the United Nations, in order to contribute to the maintenance of international peace and security, undertake to make available to the Security Council, on its call and in accordance with a special agreement or agreements, armed forces, assistance, and facilities, including rights of passage, necessary for the purpose of maintaining international peace and security." U.N. CHARTER, *supra* note (71) art. 43 (1).

claims against the perpetrator State. For example, in 1994, when Hizbollah Guerrillas in South Lebanon targeted Israeli cities, and hid in the civilian population, Israeli armed forces threatened to target the perpetrators, even if they were hidden among civilians. Under that threat, many civilians sought shelter in United Nations building, in South Lebanon. However, the Israeli Air Force targeted the building, causing the death of about 100 civilians, and polluting the surrounding environment.<sup>2082</sup> A fact finding commission, formed by the former Secretary General of the U.N. Dr. Boutros Boutros-Ghali, held Israel responsible for the massacre.<sup>2083</sup>

A State or other international actor can be held responsible, even if the individual who committed the violation does not represent it. However, here the responsibility will stand on a different legal basis, i.e., the violation of “a duty to exercise due diligence vis-à-vis private actors.”<sup>2084</sup> That duty imposes on States the duty to examine in each circumstance whether the environment is in danger from the acts of the private actors, and therefore, requires protection from the State.

The State will then be subject to the control of the international community, to verify whether the protection procedures that have been taken are suitable to the actual threat. For instance, the Solomon Islands claimed the United States was responsible for environmental damage, resulting from oil leakage of the sunken warships, based on the failure to fulfill its duty of due diligence,<sup>2085</sup> when it failed to prevent the foreseeable discharge of oil into the fragile island ecosystem.<sup>2086</sup> The Prime Minister of the Islands asserted that the Solomon Islands were never a party to World War II, and were therefore not responsible for cleaning up wartime debris.<sup>2087</sup>

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<sup>2081</sup> Reparations for Injuries Suffered in the Service of the United Nations, 1949 I.C.J. 182.

<sup>2082</sup> Letter addressed to the former Secretary General of the United Nations, Boutros Boutros-Ghali, dated May 7, 1996, U.N. Doc. S/1996/337.

<sup>2083</sup> *Id.*

<sup>2084</sup> Suarez, *supra* note (121) at 103.

<sup>2085</sup> The due diligence is the reasonable efforts of a State to “inform itself of factual and legal components that relate foreseeability to a contemplated procedure and to take appropriate measures in timely fashion to address them.” U.N. GAOR, 51<sup>st</sup> Sess, Supp. No. 10, at 17, U. N. Doc. A/51/10/Corr. 1 (1996), available at <<http://www.un.org/law/ilc/reports/1996/chap05.htm>> (last visit Nov. 12, 2001) [hereinafter The 1996 ILC Report on International Liability].

<sup>2086</sup> Cervi, *supra* note (347) at 376.

<sup>2087</sup> George Atkins, *Solomon Islands Pressures Japan, West To Clean Up WWII Debris*, Agence France Press, Oct. 27, 1997, available at 1997 WL 13421887, cited in *Id.*, at 357 fn. 32.

Armed conflict often causes transboundary pollution in neutral States, which will hold the source States responsible whether the armed conflict took place according to the rules of law or not. For example, when Iraqi military operations caused pollution that contaminated Iran, Pakistan, and India, those countries held Iraq responsible, even if it raised the legal issue of self-defense.

The State obligation to protect other States from transboundary pollution, including those resulting from armed conflicts, was first elaborated in the Trail Smelter Case.<sup>2088</sup> The Trail Smelter rule, as “a framework for the analysis of interstate dispute with environmental dimensions,”<sup>2089</sup> has been widely accepted as a statement of customary international law generally applicable to cases of pollution, including media other than air.<sup>2090</sup> The Court stated that under the principles of international law “no State has the right to use or permit the use of territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein.”<sup>2091</sup> Thus, as a result of the emission of sulphur dioxide by the smelters of the Consolidated Mining and Smelting Company activities, Canada was held liable for the damages produced in the State of Washington by pollution, engendered by the discharge of sulphur dioxide into the atmosphere.<sup>2092</sup>

The ICJ reaffirmed the same obligation in the Corfu Channel Case, which was concerned with the right of passage of British warships through the Corfu Channel.<sup>2093</sup> In 1946, Albania tried to prevent the British warships from passing through the Channel by military forces, including laying anti-vessels mines, to prevent their passage.<sup>2094</sup> In this case, the Court concluded that it is “every State’s obligation not to knowingly allow its territory to be used for acts contrary to the rights of other States.”<sup>2095</sup> In 1972, the Stockholm Declaration incorporated the Corfu Channel standard in Principle 21, which

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<sup>2088</sup> Trail Smelter, (U.S. v. Canada), 3 R.I.A.A. 1911, 1965 (Apr. 16, 1938 & Mar. 11, 1941) [hereinafter Trail Smelter].

<sup>2089</sup> Mickelson, *Rereading Trail Smelter*, 31 CAN. Y.B. INT’L L. 219, 232 (1993).

<sup>2090</sup> See, e.g., RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS OF LAW OF THE UNITED STATES § 601 reph. Note 1 (1987).

<sup>2091</sup> Trail Smelter, *supra* note (2088) at 1965.

<sup>2092</sup> Green, *State Responsibility*, *supra* note (1642) at 421.

<sup>2093</sup> Corfu Channel Case, *supra* note (1794).

<sup>2094</sup> D.G. Stephens, *The Impact of the 1982 Law of the Sea Convention on the Conduct of Peacetime Naval/Military operations*, 29 CAL. W. INT’L L. J. 283, 293-94 (1999).

<sup>2095</sup> Corfu Channel Case, *supra* note (1794) at 22.

prohibited States from allowing their territory to be used for acts contrary to the rights of other nations.<sup>2096</sup> Principle 2 of the Rio Declaration, relevant to transboundary environmental damage, is almost identical to Principle 21 of the Stockholm Declaration: “States have [...] the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States.” These legal provisions hold any source State responsible for environmental damage crossing its borders and harming any neighboring State.<sup>2097</sup> They are also reflected in the principle newly set forth by the American President George W. Bush that, since terrorist groups are based in certain States’ territories and harm other nations’ environment, not only terrorists are responsible for their crimes, but also those “who harbor them,”<sup>2098</sup> since States have to use their territories so as not to harm others. There are four situations in which a State may be held responsible when acts committed in its territory causes harm to other States:

First, if a private actor uses the territory to harm others without the State’s permission or against its will. For example, if pirates in Indonesia seize a ship in the Strait of Malacca, Indonesia will consider these people to be acting in violation of international law. Another example occurred when the U.S. unwittingly allowed Al-Qaeda to act inside its territory. In this situation, the State cannot be responsible, under international law unless it defeats the international efforts to combat such international crimes, whether piracy or terror, and does not cooperate on an international scale to arrest the perpetrators and punish them. For instance, in the Indonesian example the State will not be internationally responsible if it cooperates and opens its territory to other nations for the purpose of arresting the pirates.

Second, if the State knows that there are terrorists groups in its territory, but is passive, and looks the other way. For example, Kuwait and some other Islamic countries provide money to certain charitable organizations in their territory, knowing that some of the charity money is going to help terrorists. Here, the State can be held responsible for its passivity, since it turns the other way in order to avoid internal problems on its

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<sup>2096</sup> Stockholm Declaration, *supra* note (822) Principle 21.

<sup>2097</sup> Francisco Orrego Vicuna, *Final Report Prepared for the Eight Committee of the Institute of International Law by the Rapporteur on the Subject of Environmental Responsibility and Liability*, 10 GEO. INT’L ENV’T L. REV. 279, 279 (1998).

<sup>2098</sup> This concept was frequently used by the American President and his Cabinet during the period of time that followed the Sept. 11, 2001, attacks on the United States.

territory. The State provides, indirectly, a good soil for the terrorists to operate. However, the State could avoid being internationally responsible by cooperating with other States to arrest the perpetrators and bring them to justice.

Third, the case of negligence, when the country knows that there are terrorists on its land and it could arrest them, but it does not do so because it does not take the threat seriously. For instance, prior to September 11<sup>th</sup> attacks, the U.S. failed to act against terrorists operations in its territory, because it did not regard the threat seriously enough to act. As with the previous scenario, the State can be held responsible for its negligence, since it could have arrested the terrorists but it did not before the terrorists committed their crimes. Here also the State could avoid international responsibility by cooperating with other countries to fight terrorism.

And finally, when the State is harboring terrorists, and is actively helping terrorists and hiding them. An obvious example of this situation involves the Taliban Government, in Afghanistan. In this situation, the State is internationally responsible, since without Afghanistan's help, the Al-Qaeda terrorist group would have had no place to train their personnel or to plan their crimes.

Significantly, some national systems, besides establishing different kinds of responsibility, reinforce the international responsibility system. For example, the Restatement Third of the Foreign Relations Law of the United States provides that

(1) A State is obligated to take [...] measures as may be necessary, to the extent practicable under the circumstances, to ensure that activities within its jurisdiction or control (a) conform to generally accepted international rules and standards for the prevention, reduction, and control of injury to the environment of another State or of areas beyond the limits of national jurisdiction; (b) are conducted so as not to cause significant injury to the environment of another State or of areas beyond the limits of national jurisdiction. (2) A State is responsible to all other States (a) for any violation of its obligations under Subsection (1)(a), and (b) for any significant injury, resulting from such violation, to the environment of areas beyond the limits of national jurisdiction. (3) A State is responsible for any significant injury, resulting from a violation of its obligations under Subsection (1), to the environment of another State or to its

property, or to persons or property within that State's territory or under its jurisdiction or control.<sup>2099</sup>

Often, States try to escape international responsibility by raising the argument that an environmental violation was committed under the law of war, which under certain circumstances allows violations under the umbrella of military necessity.<sup>2100</sup> Nevertheless, under more desirable environmental rules, and the restrictions imposed on the military necessity principle, there would be no difference if the violation is of a peacetime international rules or a wartime international one,<sup>2101</sup> since both kinds of violation will be interpreted as wrongful acts committed against international rules and will hold the concerned actor responsible before the international community.

## **2) Responsibility Without Fault**

An international person can be held responsible in international law not only for violations of international obligations, but also for acts which conform to international law rules but harm another nation's environment. Thus, this responsibility is considered absolute because it directly attaches to the defendant international person without regard to fault.<sup>2102</sup> This sort of responsibility has been adopted by the ILC in the "International Liability for Injurious Consequences Arising out of Acts Not Prohibited by International Law" topic.<sup>2103</sup>

Absolute responsibility has proved to be a controversial issue,<sup>2104</sup> since the environmental harm is caused by a lawful activity of the international person, without any failure of due diligence.

Absolute responsibility may be imposed if "a State invades its neighbor in circumstances which could not possibly justify a plea of self-defense, so that there is a clear violation of Article 2 (4) of the [U.N.] Charter. [If] in the course of the fighting [...] the invader[']s armed forces[...] destroy a [military] installation, [despite its legality in a

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<sup>2099</sup> Restatement Third, *supra* note (1101) § 601 (1).

<sup>2100</sup> Low & Hodgkinson, *supra* note (1857) at 449.

<sup>2101</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 399.

<sup>2102</sup> UNEP, *Responsibility Pour Les Dommages Dus A La Pollution ou Autre Dommage Ecologiques Et Leur Indemnisation*, U.N. Doc. UNEP/WG. 8/2 (1977).

<sup>2103</sup> The 1996 ILC Report on International Liability, *supra* note (2085) at 125-51

regular combat, the environmental effects of such lawful act, even if it does not respond to the needs of] Article 35 (3) and 55 of the Additional Protocol I, [will] hold the [invader State] responsible for the damage because it was a direct consequence of the illegal invasion.”<sup>2105</sup>

Another example of absolute responsibility involves UNSCOM and UNMOVIC, which work according to the rules of international law. However, their work caused environmental damage in Iraq, without violation of any international rules. Nevertheless, the U.N. was held to be internationally responsible for all environmental damage resulting from destruction of the Iraqi armament program. Iraq does not have to prove anything except a causal link between UNSCOM or UNMOVIC activity and the environmental harm suffered.<sup>2106</sup> Therefore, responsibility without fault is used to deter activities by any international person that might result in environmental damage, even without evidence of negligence or fault. A clear example of absolute responsibility is found in Article 11 of the 1972 Convention on International Liability for Damage Caused by Space Objects,<sup>2107</sup> which provides that “a State which launches a space object is liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight.” Accordingly, compensation was sought by Canada for damage resulting from the Soviet nuclear power satellite, Cosmos 954, when it fell onto Canadian territory.<sup>2108</sup>

Absolute liability has been adopted in a number of international instruments. For example, Article III (1) of the International Convention on Civil Liability for Oil Pollution Damage<sup>2109</sup> provides that “the owner of a ship at the time of an incident or, where the incident consists of a series of occurrences, at the time of the first such occurrence, shall be liable for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of the incident.” However, this Article excludes

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<sup>2104</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 399.

<sup>2105</sup> *Id.*, at 403.

<sup>2106</sup> Max Valverde Soto, Note & Comment, *General Principles of International Environmental Law*, 3 ILSA J. INT'L & COMP. L. 194, 203 (1996).

<sup>2107</sup> Convention on International Liability for Damage Caused by Space Objects (Sept. 1, 1972), available at <<http://www.tufts.edu/fletcher/multi/texts/BH595.txt>> (last visit Nov. 16, 2001).

<sup>2108</sup> Cervi, *supra* note (347) at 393.

<sup>2109</sup> Protocol to the International Convention on the Civil Liability for Oil Pollution Damage, Jan. 15, 1993, reprinted in BENEDICT ON ADMIRALTY 6-86.2 (1993) [hereinafter Civil Liability for Oil Pollution Damage Protocol].

the owner from liability if he can prove that such pollution “resulted from an act of war, hostilities, civil war, insurrection or a natural phenomenon of an exceptional, inevitable and irresistible character.” Another example is found in the Vienna Convention on Civil Liability for Nuclear Damage, adopted absolute responsibility to hold an operator of a nuclear installation, including a military installation, “liable for nuclear damage upon proof that such damage has been caused by a nuclear incident [...]”<sup>2110</sup> Similarly, the Convention on Third Party Liability in the Field of Nuclear Energy imposes strict liability on an operator of a nuclear installation when any incident at the facility causes damages or loss of life or property.<sup>2111</sup>

### **b. Causation**

Causation is a link between the wrongful act attributed to an international person and the environmental damage that results from such act. The cause must not be too remote or speculative,<sup>2112</sup> and must be established by clear and convincing evidence.<sup>2113</sup>

Some international instruments that address international responsibility explicitly require a link between the State’s acts and the damage. For example, Article II (1) (3.4) of the Vienna Convention on Civil Liability for Nuclear Damage provides that “[t]he operator of a nuclear installation shall be liable for nuclear damage upon proof that such damage has been caused by a nuclear incident in his nuclear installation.”<sup>2114</sup>

A much older instrument that required proof of causation is the Treaty of Versailles of 1919, which required, in Part VII Section 1 of Annex I paragraph 9, that Germany compensate “damage directly in consequence of hostilities or of any operations of war.”<sup>2115</sup> A State may be found to have caused damage when any of its representatives

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<sup>2110</sup> Vienna Convention on Civil Liability for Nuclear Damage, May 21, 1963, art. II, IV, 1063 U.N.T.S. 265 [hereinafter Vienna Convention on Civil Liability]. See also, Kathy J.S. Fritz, *Civil and State Liability For Nuclear Accidents: A Proposal for Eastern Europe* 6 FALL INT’L LEGAL PERSP. 37 (1994) [hereinafter Fritz].

<sup>2111</sup> Convention on Third Party Liability in the Field of Nuclear Energy, July 29, 1960, art. 3, 956 U.N.T.S. 251 [hereinafter Convention on Third Party Liability].

<sup>2112</sup> Summary Records of the 2179<sup>th</sup> Mtg., (1990) 1 Y.B INT’L L. COMM’N 226, U.N. Doc. A/CN.4/SER.A/1990.

<sup>2113</sup> Trail Smelter, 3 R.I.A.A., at 1965. See also, Sanford E. Gaines, *International Principles for transnational Environmental Liability: Can Developments in Municipal Law Help Break the Impasses?*, 30 HARVARD INT’L L. J. 311, 337 (1989) [hereinafter Gaines].

<sup>2114</sup> Vienna Convention on Civil Liability for Nuclear Damage, *supra* note (2110) art. II (1)(3.4).

<sup>2115</sup> Treaty of Versailles, *supra* note (589) Part VII, Sec. 1, Annex I, para. 9.



cause it, even if the representative act without authority. For example, the United States-Mexican Mixed Claims Commission provides that:

Soldiers inflicting personal injuries or committing wanton [or environmental] destruction or looting always act in disobedience to some rules laid down by superior authority. There could be no liability whatever for such misdeeds if the view were taken that any acts committed by soldiers in contravention of instructions must always be considered as personal acts.<sup>2116</sup>

States can be held responsible, in such cases, for failing to prevent such harm.<sup>2117</sup> If military personnel use available arms, such as nuclear, biological or chemical weapons, to harm human health and the environment, the State's failure to prevent that behavior can result in the State's liability.

On the other hand, a State will not be held responsible for environmental damage caused by persons who do not represent the State, e.g., when damage is caused by persons operating without authority in a State's territory.<sup>2118</sup>

A State or an international organization will not be held to have caused damage in another State when the other State's actions itself triggered the damaging conduct. For instance, in the Gulf War II, the United Nations Compensation Commission (UNCC) declared that "[t]he two essential elements of admissible losses are (a) that such losses must be the result of Iraq's unlawful invasion and occupation of Kuwait and (b) that the causal link must be direct. Since the U.N. trade embargo was imposed in response to Iraq's invasion and occupation of Kuwait, losses suffered solely as a result of that embargo are not considered eligible for compensation because the causal link between the invasion and the loss is not sufficiently direct."<sup>2119</sup>

Proof of causation is often particularly difficult in environmental cases,<sup>2120</sup> since the environmental effects of military activities may be difficult to trace, particularly when more than one international actor is involved. For example, the oil discharge from sunken warships from World War II in the marine environment of the Solomon Islands cannot

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<sup>2116</sup> The United States-Mexican Mixed Claims Commission, available at 4 REPS. INT'L ARB. AWARDS 110, 116 (1926).

<sup>2117</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 401.

<sup>2118</sup> Suarez, *supra* note (121) at 106.

<sup>2119</sup> Decision No. 15 of the Governing Council of the UNCC, UNCC Dec. 18, 1992, No. 15, para. 3.

yet be linked to ships of any particular country.<sup>2121</sup> Modern technology and science can be very useful in identifying the multiple sources of the environmental effects. For example,

in the case of the pollution of the Rhine by chloride the District Court of Rotterdam has clearly stated that the author of 37,5 per cent of the pollution, the French Potassium Mines sited in the proximity of Mulhouse, was liable for the damage caused in the Netherlands, but asked for expertise as far as the amount of the damage was concerned. At the end the two parties agreed on the payment of a lump sum.<sup>2122</sup>

Another difficulty in the proof of causation results from the fact that activities occurring in one place may have harmful effects in another far away place.<sup>2123</sup> Moreover, many environmental effects do not appear immediately after the alleged act, and may take years or decades to appear. For instance, over fifty years after the cease-fire of World War II, environmental problems started to appear in the marine environment of Solomon Islands, as a result of the sunken warships' oil leakage.<sup>2124</sup>

### **c. Damage**

International persons can be held responsible for damages caused to another belligerent or a neutral State resulting from its wrongful acts. Damage may result during peacetime military operations or during armed conflict. One example of peacetime damage is the destruction caused by the United States Navy in Vieques.<sup>2125</sup> Another example was on October 4, 2001, when a Ukrainian missile was mistakenly launched during military exercises and killed all the seventy-eight passengers and crew-members on board civilian airliner. The airplane crashed into the Black Sea en route from Tel

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<sup>2120</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 398 & 408.

<sup>2121</sup> Cervi, *supra* note (347) at 359.

<sup>2122</sup> KISS, DROIT INTERNATIONAL DE L'ENVIRONNEMENT 77-80 (1989), cited in Alexander Kiss, *Present Limits to the Enforcement of State Responsibility for Environmental Damage*, in INTERNATIONAL RESPONSIBILITY FOR ENVIRONMENTAL HARM 6 fn. 2 (FRANCESCO FRANCIONI & TULLIO SCOVAZZI EDS., 1991).

<sup>2123</sup> *Id.*, at 5.

<sup>2124</sup> Cervi, *supra* note (347) at 352.

Aviv, Israel, to Siberia.<sup>2126</sup> Another example of peacetime damage was the death of five U.S. citizens and one New Zealander who were observing an U.S.-Kuwaiti military maneuver on March 12, 2001, and were accidentally targeted by an U.S. jet.<sup>2127</sup>

Most military-related environmental damage results from armed conflicts. For instance, during the Gulf War II, Iraq was responsible for exploiting the resources of Kuwait and the Gulf States and inflicted serious, if not irreversible environmental damage.<sup>2128</sup> Since environmental effects can cross borders, military activities can damage the environment of a neutral State, and can trigger the same rules of international responsibility as would apply to harming other belligerent States. For example, during the Gulf War II, it appears that Iraq caused extraterritorial environmental damage, and harmed the environment of neutral nations.<sup>2129</sup>

An important question is whether a State can be held internationally responsible for damage caused by its own armed forces to its own environment. Based on the fact that the environment is not only owned by the present generation, but also future generations as well, a State should be held responsible for all acts interpreted as a violation of international law rules and which damage the environment, even acts committed against its own environment. Thus, the Iraqi government should be held responsible for acts committed against its own environment, such as the exploitation of Iraqi natural resources, and harming the environment with chemical weapons during the attack against the Kurds of Northern Iraq.

Another question involves the damage caused to the environment of areas that do not belong to any State, and which may qualify as the common heritage of humanity, “res communis,”<sup>2130</sup> such as damage caused to the high seas, outer space, or Antarctica.<sup>2131</sup> Here, no State can represent all those who may be affected by such acts. However, that does not mean that acts committed in these areas will escape international responsibility. In such cases, Article 145 of the United Nations Convention on the Law of the Sea provides that

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<sup>2125</sup> See Part One of this thesis for environmental damage caused to Vieques.

<sup>2126</sup> *Missile Crash Airline Seek Damage*, *supra* note (276).

<sup>2127</sup> *U.S. Jet Drop Bomb*, *supra* note (277).

<sup>2128</sup> Ross, *Environmental Warfare*, *supra* note (1072) art. 528.

<sup>2129</sup> *Id.*

<sup>2130</sup> Green, *State Responsibility*, *supra* note (1642) at 419.

[n]ecessary measures shall be taken in accordance with this Convention with respect to activities in the Area<sup>2132</sup> to ensure effective protection for the marine environment from harmful effects which may arise from such activities. To this end the Authority shall adopt appropriate rules, regulations and procedures for inter alia: (a) the prevention, reduction and control of pollution and other hazards to the marine environment, including the coastline, and of interference with the ecological balance of the marine environment, particular attention being paid to the need for protection from harmful effects of such activities as drilling, dredging, excavation, disposal of waste, construction and operation or maintenance of installations, pipelines and other devices related to such activities; (b) the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment.

Article 145 created a legal basis to impose responsibility on all States with regard to these areas. Any environmental damage caused to these areas as a result of the violation of the contractual obligations will constitute, according to the general rules of international law, a legal basis for all other contracted States to raise the responsibility of the concerned State.<sup>2133</sup> This right to action is confirmed in Article 139 of the United Nations Convention on the Law of the Sea, which states that

States Parties shall have the responsibility to ensure that activities in the Area, whether carried out by States Parties, or State enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, shall be carried out in conformity with this Part. The same responsibility applies to international organizations for activities in the Area carried out by such organizations.

It is notable that Article 139 does not distinguish between damage committed by a State or by an international organization; either can be held responsible.

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<sup>2131</sup> *Id.*,

<sup>2132</sup> According to Article 1 of the Convention of the Law of the Sea, Area means “sea-bed and ocean floor and subsoil thereof beyond the limits of national jurisdiction.” Convention on the Law of the Sea, *supra* note (1019) art. 1(1)(1).

<sup>2133</sup> Green, *State Responsibility*, *supra* note (1642) at 419.

Based on the right of any contracting party to defend the marine environment, both Australia and New Zealand filed a suit against France for nuclear tests committed under the sea in the Pacific.<sup>2134</sup> They claimed that France's tests violated, not only their rights, but the rights of all members of the international community, by causing radioactive fall-out and thus violating the rights of the international community to be protected against radioactive contamination of the environment.<sup>2135</sup>

In this case, where the claimant States defended the interests of all nations, they could not claim damage for themselves unless they had suffered damage themselves. Nevertheless, they did draw international attention to the harm committed against common interests, and to protest against France's non-compliance with international law rules.<sup>2136</sup> Nevertheless, in order to provide a greater environmental protection, some international persons, such as the U.N. Security Council, may have the right to represent the international community<sup>2137</sup> even without requiring a direct environmental harm.

In 1998, the United Nations General Assembly adopted a set of rules seeking to limit the amount of liability that can be imposed on the United Nations, in order to avoid any future unlimited financial claims of damage.<sup>2138</sup> Nevertheless, this limitation does not give the United Nations' armed forces unlimited freedom to cause any kind of damage. Therefore, gross negligence and misconduct are excluded from such limits, and the United Nations will bear liability for compensation in full in these cases.<sup>2139</sup>

#### **d. International Responsibility's Consequences**

If a State's international responsibility is proven, one or more of four consequences can be resulted: (1) stopping the violation, (2) satisfaction, (3) restitution or (4) compensation.<sup>2140</sup>

##### **1) Stopping the Violation**

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<sup>2134</sup> Nuclear Tests Case, Preliminary Objection, (Aust. & N.Z. v. Fr.) 1973 I.C.J. 99, 102, 135, 139.

<sup>2135</sup> Green, *State Responsibility*, *supra* note (1642) at 422.

<sup>2136</sup> *Id.*, at 419.

<sup>2137</sup> U.N. CHARTER, *supra* note (71) art. 24 (1).

<sup>2138</sup> Third Party Liability: Temporal and Financial Limitations, G.A. Res. 52/247 (June 22, 1998).

<sup>2139</sup> Shrager, *supra* note (2063) at 410.

<sup>2140</sup> U.N. Doc. A/51/10/Corr. 1 (1996), available at <<http://www.un.org/law/ilc/reports/1996/96repfra.htm>>, (last visit Nov. 12, 2001), *supra* note (2085) arts. 41-46.

A State whose conduct constitutes an internationally wrongful act having a continuing character is under the obligation to cease that conduct, without prejudice to the responsibility it has already incurred.<sup>2141</sup> The injured State is entitled, where appropriate, to obtain from the State which has committed an internationally wrongful act assurances or guarantees of non-repetition of the wrongful act.<sup>2142</sup>

One response to a violation of international environmental rules is to stop the violation. For example, if belligerents are spilling oil into the water bodies of the enemy, such as the Iraqi military did in 1991 in the Gulf, they can be required to stop such act immediately. However, this approach is useless in most environmental disasters that result from armed conflicts, because when harmful techniques are used on the environment, they are typically used only once rather than repeated. For example, the atomic bombs were used against Japan once,<sup>2143</sup> and Iraq used chemical weapons against the Northern Iraqi Kurds once.<sup>2144</sup> Thus, requiring the cessation of such acts is useless since they will not be repeated, and have already produced their environmental effects. However, it is still a positive sign when a nation agrees to stop causing unlawful damage to the environment. For example, after the dropping of the atomic bombs on Japan, in 1945, the United States undertook not to use these weapons against any other nation in the future. Other nations could act similarly; for instance, Iraq could undertake not to use any more chemical weapons, against the Kurds or any other nation, and thereby help to protect the environment.

## 2) Satisfaction

Satisfaction for all international environmental violation entails an acknowledgment of the violation and some action to offset the damage. As provided in the ILC Report of 1996,

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<sup>2141</sup> *Id.*, art. 41.

<sup>2142</sup> *Id.*, art. 43.

<sup>2143</sup> See, Itsuzo Shigematsu & Suminori Akiba, *Sampling of Atomic Bomb Survivors And Method of Cancer Detection in Hiroshima and Nagasaki*, in *CANCER IN ATOMIC BOMB SURVIVORS I* (ITSUZO SHIGEMATSU & ABRAHAM KAGEN EDS., 1986); Woodcock, *supra* note (161) at 69.

<sup>2144</sup> UEKERT, *supra* note (656) at 71.

1. The injured State is entitled to obtain from the State which has committed an internationally wrongful act satisfaction for the damage, in particular moral damage, caused by that act, if and to the extent necessary to provide full reparation.
2. Satisfaction may take the form of one or more of the following:
  - a. an apology;
  - b. nominal damages;
  - c. in cases of gross infringement of the rights of the injured State, damages reflecting the gravity of the infringement;
  - d. in cases where the internationally wrongful act arose from the serious misconduct of officials or from criminal conduct of officials or private parties, disciplinary action against, or punishment of, those responsible.
3. The right of the injured State to obtain satisfaction does not justify demands which would impair the dignity of the State which has committed the internationally wrongful act.<sup>2145</sup>

Satisfaction is an act undertaken by a State that violated the international rules, to satisfy another State that was affected by such violation. The nature of the satisfaction varies with the nature of the violation. Satisfaction may taken the form of an apology, the replacement of diplomatic or consular personnel, or an increase in the level of diplomatic relations.

Any of these actions may amount to satisfaction of an environmental violation or other violation of international law. For example, the Japanese government apologized for damage caused during World War II, during diplomatic dealings with specific countries, and during the U.N. human rights sessions in Geneva.<sup>2146</sup> The former Japanese Prime Minister, Morihiro Hosokawa, presented his country's apology, during talks with Korean President Kim Young-Sam.<sup>2147</sup> Similarly, another former Japanese Prime Minister, Kiichi Miyazawa, apologized for the same reason, to the former President of the Philippines, Fidel Ramos, in 1993.<sup>2148</sup> A more recent example occurred in 2001, when an American air plane violated the air space of China, Beijing refused to

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<sup>2145</sup> The 1996 ILC Report on State Responsibility, *supra* note (2085) art. 45.

<sup>2146</sup> Karen Parker & Jennifer F. Chew, *Compensation for Japan's World War-Rape Victims*, 17 HASTINGS INT'L. & COMP. L. REV. 497, 535 (1994) [hereinafter Parker & Chew].

<sup>2147</sup> See, S. Koreans Say Japanese Apology Falls Short, Reuter Library Report, Nov. 7, 1993, available in LEXIS, Nexis Library, Lbyrpt File.

hand over the crew or the air plane unless the United States apologized for its violation of China's air space.<sup>2149</sup>

Nevertheless, in environmental matters, satisfaction does not rehabilitate the environmental effects caused by wrongful military actions. Since future generations will be affected by environmental damage, the present generation has no right to accept apology for the sake of future generations. That view does not mean that nations should retaliate for environmental violations, but it does mean that environmental damage can be ameliorated only by restitution and compensation.

On the other hand, some environmental harms involve both dignitary or symbolic harm and ecological harm. One example could be the destruction of historic sites, or the destruction of a holy shrine or a national monument. Here, the damage is not just ecological, but also damage to the pride of the nation.

A blatant example of such harm occurred in November 1993, when the Bosnian Croats destroyed the four-century-old Neretva Bridge in Mostar, in former Yugoslavia.<sup>2150</sup> Although the bridge did not appear on the UNESCO list of protected sites, it linked Bosnia and Herzegovina, and was a symbolic because both the Muslims and the Orthodox population used it and cooperate in maintaining it.<sup>2151</sup> Thus, by destroying it, the Serbs also symbolically attacked that tradition of cooperation. With that kind of environmental harm, an apology in addition to restoration and/or compensation is preferable in order to rebuild the nation's pride and dignity.

As mentioned earlier, liability may be imposed as a result of acts that are not prohibited in international law. In such cases, the defendant State may refuse to apologize because it behaved in accordance with international law. For example, in 2001, when China claimed that the United States violated its sovereignty, by allowing an espionage plane to fly over its air space, the United States refused to apologize because it believed that its airplane was flying in international airspace. However, the U.S.

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<sup>2148</sup> Parker & Chew, *supra* note (2146) at 535.

<sup>2149</sup> Cnn.com, *Jiang Demands U.S. Apology for Plane Collision*, April 4, 2001, available at <<http://www.cnn.com/2001/WORLD/asiapcf/east/04/04/china.aircollision.08/index.html>>, (last visit Sept. 10, 2001) [hereinafter *Jiang Demand U.S. Apology*].

<sup>2150</sup> Peter Maass, *Cultural Property and Historical Monuments*, in CRIMES OF WAR "WHAT THE PUBLIC SHOULD KNOW," 111 (Roy Gutman & David Rieff Eds., 1999) [hereinafter Maass].

<sup>2151</sup> M. Cherif Bassiouni & James A.R. Nafziger, *Protection of Cultural Property*, in INTERNATIONAL CRIMINAL LAW 961 (M. CHERIF BASSIOUNI, 1999) [hereinafter Bassiouni & Nafziger].



administration presented its apology to China when it appeared that the U.S. airplane violated the Chinese airspace.<sup>2152</sup>

### 3) Restitution

Article 43 of the ILC Report provides that

The injured State is entitled to obtain from the State which has committed an internationally wrongful act restitution in kind, that is, the re-establishment of the situation which existed before the wrongful act was committed, provided and to the extent that restitution in kind:

- a. is not materially impossible;
- b. would not involve a breach of an obligation arising from a peremptory norm of general international law;
- c. would not involve a burden out of all proportion to the benefit which the injured State would gain from obtaining restitution in kind instead of compensation; or
- d. would not seriously jeopardize the political independence or economic stability of the State which has committed the internationally wrongful act, whereas the injured State would not be similarly affected if it did not obtain restitution in kind.

Restitution is not always an available choice. When restitution is possible it could be very expensive. For example, a survey of the looting and destruction in Kuwait City estimated the repair costs at over US \$ 100 billion.<sup>2153</sup> Restitution is considered the best way to rehabilitate the environment, so that the environmental status can be returned to its condition before the harmful activities. However, in some cases of environmental damage, such as the extinction of fauna or flora species, or the destruction of a historical site or a cultural monument, where damage is irreparable, restitution is not feasible solution.

In a non-environmental case, the International Court of Justice (ICJ) highlighted the fundamental uncertainties as to the availability of restitution in international law.<sup>2154</sup> In Paraguay v. USA, Paraguay argued that the U.S. violated its obligations under the 1963 Vienna Convention on Consular Relations, in not informing Breard, a Paraguayan

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<sup>2152</sup> *Jiang Demands U.S. Apology*, *supra* note (2149).

<sup>2153</sup> Curtis, *supra* note (1949) at 7.

national convicted of murder in the U.S. and due to be executed, of his rights of access to the Paraguayan Consul and in not notifying the consulate of his detention. Paraguay sought restitution for being prevented from exercising its consular rights and ensuring the protection of its interests and those of its nationals.<sup>2155</sup> Paraguay also submitted an urgent request for immediate measures to prevent the execution, in order to protect the life of Breard and the ability of the ICJ to order restitution to Paraguay.<sup>2156</sup> Paraguay argued that if the U.S. executed Breard before the Court could consider the merits of the case, Paraguay would be deprived of the opportunity to restore the status quo ante.<sup>2157</sup> The U.S. admitted the breach of Vienna Convention, but argued that an apology was a sufficient response.<sup>2158</sup> The U.S. also claimed that the invalidation of the proceedings and a return to the status quo ante as penalties for the failure to notify was without legal support and was unworkable.<sup>2159</sup> The U.S. argued that restitution could not be ordered by the Court. The ICJ left open the question of the availability of restitution, and found that the dispute as to whether restitution was available under the Vienna Convention could be determined only as part of a ruling on the merits of Paraguay's claim.<sup>2160</sup>

In environmental cases, the availability of restitution as a remedy should be given particular attention for several reasons: the environment is not owned by the present generation only, but by future generations also; the risk that environmental harm might traverse State borders and harm neighboring nations; and the fact that, unlike Breard, the environment cannot defend itself. This point of view was implicitly adopted by the U.S. in Paraguay v. U.S., when it accepted that “whether restitution is necessary or appropriate may depend on the rule broken.”<sup>2161</sup>

Restitution in an environmental disaster requires clean up and rehabilitation efforts. The Permanent Court of International Justice (PCIJ), in the Chorzow Factory case, provided that “[r]eparation must, as far as possible, wipe out all the consequences

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<sup>2154</sup> Case Concerning the Vienna Convention on Consular Relations (Paraguay v. U.S.), Apr. 9, 1989, Provisional Measures, at 1-16, 37 I.L.M. 810 (1998) [hereinafter Paraguay v. U.S.].

<sup>2155</sup> *Id.*, at 4.

<sup>2156</sup> *Id.*, at 8.

<sup>2157</sup> The status ante quo means the original status before the occurrence of the violation.

<sup>2158</sup> Paraguay v. U.S., *supra* note (2154) at Declaration of President Schwebel .

<sup>2159</sup> *Id.*, at 18.

<sup>2160</sup> See, Christine Gray, *The Choice between Restitution and Compensation*, 10 EUROPEAN J. INT’L L. 413, 413-414 (1998) [hereinafter Gray]; *Id.*, at 31.

<sup>2161</sup> Gray, *supra* note (2160) at 417.

of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed.”<sup>2162</sup> Wiping out all the consequences of an illegal act against the environment requires cleanup and rehabilitation. Rehabilitation without cleanup may threaten the environment more than help it, since rehabilitation by normal construction work on an affected area can actually create additional unacceptable health hazards.<sup>2163</sup>

The cleanup process requires both funds and expertise. Funds can be provided as a result of the compensation process; in addition, wealthy States may be able to provide funds to clean up environmental disasters in poor States.

Cleanup costs were considered by the Criteria of Claims of the UNCC, which provided that environmental damage includes losses or expenses resulting from “(a) [a]batement and prevention of environmental damage, including expenses directly relating to fighting oil fires and stemming the flow of oil and coastal and international waters; and (b) [r]easonable measures already taken to clean and restore the environment or future measures which can be documented as reasonably necessary to clean and restore the environment [...]”<sup>2164</sup> Obtaining the necessary funds may be a lengthy process, especially when the liable State tries to avoid, escape, or minimize due compensation, such as Iraq has done with regard to Kuwait. When that kind of situation occurs, other nations can perform a valuable service by providing funds quickly to promote the cleanup process.

In the case of the Gulf War II, one of the major problems was that the Gulf States ignored the priority of environmental cleanup, and concentrated instead on the economy.<sup>2165</sup> The Gulf States, most of which are wealthy, did not provide the money to fund the expensive environmental cleanup,<sup>2166</sup> hoping instead that Iraq would shoulder that responsibility. Moreover, the United States, which led the coalition against Iraq and

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<sup>2162</sup> *Chorzow Factory*, 1928 P.C.I.J. at 29, 47.

<sup>2163</sup> Curtis, *supra* note (1949) at 7.

<sup>2164</sup> Decision of the Governing Council of the United Nations Compensation Commission, 3<sup>rd</sup> Sees., 18 mtg., Nov. 28, 1991, Revised at the 24<sup>th</sup> mtg., Mar. 16, 1992: Criteria for Additional Categories of Claims, U.N. Doc. S/23765 (1992), reprinted in 31 I.L.M. 1045, 1046 [hereinafter Criteria for Claims].

<sup>2165</sup> Ross, *Environmental Warfare*, *supra* note (1072) art. 583.

<sup>2166</sup> Parrish, *Gulf's Postwar Cleanup Never Took Off*, L. A. TIMES, Jan. 12, 1992, at D10, col. 4 [hereinafter Parrish].

participated in destroying the environment of the region, did not contribute any kind of assistance to the cleanup process, whether monetary or by equipment.<sup>2167</sup>

Another major obstacle to environmental restoration is the availability of expertise, since cleanup requires a sophisticated level of environmental talent that is available only in some developed countries, such as the United States and the United Kingdom, and some specialized international organizations, such as UNEP and IUCN. For instance, after the defeat of the Iraqi Army in Kuwait in 1991, UNEP created a task force, which included experts from UNEP, the World Health Organization (WHO), and various regional governments, to conduct a detailed 90-day study of the environmental destruction,<sup>2168</sup> in order to determine the level of the environmental cleanup needed.

The shortage of both money and highly trained specialists would necessarily affect the cleanup process.<sup>2169</sup> To avoid such shortages, an international fund could be created to promote, along with the cooperation of the specialized international organizations, a source of money and expertise. States could participate in the fund to preserve the environment. One model for such a plan is the European Community Commission's formation of a \$20 million plan to combat oil well fires and protect wildlife on April 10, 1991.<sup>2170</sup> \$12 million of the money was directed to support fire-fighting operations.<sup>2171</sup> This plan includes the creation of a model sanctuary, which involves cleaning a heavily polluted zone, then creating a buffer zone around it.<sup>2172</sup>

Another fund to support the environmental cleanup in the aftermath of the Gulf War II was created by the International Maritime Organization (IMO), and received pledges totaling \$5 million from three undisclosed nations.<sup>2173</sup>

Other problems can arise in the cleanup of damaged sites. For example, Kuwait faced difficulties in cleaning up the unexpected burning of its oil wells by Iraq. Although military hostilities were anticipated, the environmental disaster was not; thus, the

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<sup>2167</sup> Ross, *Environmental Warfare*, *supra* note (1072) art. 583.

<sup>2168</sup> The Spoils of War, 28 U.N. CHRON. 17 (June, 1991).

<sup>2169</sup> Curtis, *supra* note (1949) at 6.

<sup>2170</sup> See, *Commission Announce \$20 Million Plan to Help Fight Pollution in Persian Gulf*, 14 INT'L ENV'T'L REP. 222 (1991).

<sup>2171</sup> *Id.*, at 223.

<sup>2172</sup> *Id.*, at 223.

<sup>2173</sup> *International Maritime Organization Launches Gulf Oil Pollution Disaster Fund*, 14 INT'L ENV'T'L REP. 127 (1991) [hereinafter *IMO Gulf Oil Disaster Fund*].

<sup>2174</sup> Moreover, the lack of transportation and facilities in Kuwait was another serious problem that delayed the cleanup operations.<sup>2175</sup>

As military forces are the major pollutants of the environment during armed conflicts, they also participate, intentionally or unintentionally, in the cleanup process. Intentionally, they assist civil authorities in fulfilling their tasks to protect the environment. Unintentionally, armed forces may clear certain areas of harmful substances, such as landmines, because they have to pass through these areas.<sup>2176</sup> For example, during the Gulf War II, coalition troops cleared landmines on their way into Kuwait. Later on, in order to rebuild Kuwait without any fear of unexploded landmines, the country was classified into eight geographical areas. Each area was assigned to a foreign military team, in addition to a Kuwaiti team, to clear landmines.<sup>2177</sup> The efforts of clearing these areas can only be interpreted as an environmental cleanup.<sup>2178</sup>

However, cleaning military debris may present practical problems. For example, the sunken ships that threaten the marine environment in the Solomon Islands cannot be cleaned up for two reasons: (1) liability is divided between the United States and Japan; and (2) the United States claims ownership of the sunken warships, which are protected by the U.S. historic preservation laws.<sup>2179</sup> The United States' attitude in this case is environmentally unfriendly, because it has delayed any action to restore the site.

Cleanup is not the only means of restitution. The rehabilitation of the environment is also required.

In order to get back to normal, the damaged environment should be rehabilitated. The rehabilitation process should include the restoration of human health by medically treating affected persons, and fight the diseases that result from environmental disasters. In compliance with this requirement, the Criteria for Claims of the UNCC provides that environmental damage includes losses or expenses resulting from "(b) Reasonable measures already taken to [...] restore the environment or future measures which can be documented as reasonably necessary to [...] restore the

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<sup>2174</sup> Curtis, *supra* note (1949) at 7.

<sup>2175</sup> *Id.*

<sup>2176</sup> *Id.*

<sup>2177</sup> KCSR, Landmines, *supra* note (540) at 25-26.

<sup>2178</sup> This effort was helped by the way the Kuwaitis rewarded their supporters in the Coalition by giving them clearance contracts in proportion of their efforts. *See*, Curtis, *supra* note (1949) at 7.

environment; (c) Reasonable monitoring and assessment of the environmental damage for the purpose of evaluating and abating the harm and restoring the environment [...].”<sup>2180</sup> Similarly, in the U.S., residents of areas surrounding the Feeds Material Production Center (FMPC) in Fernald, Ohio, have been collectively awarded millions of dollars, placed in a trust fund to cover the costs of related medical problems.<sup>2181</sup>

Nevertheless, despite the cleanup process, environmental damage often persist for a long time. For example, the effects of the Kuwaiti oil fire during the Iraqi invasion could take centuries to rehabilitate.<sup>2182</sup> It has also been predicted that in Saudi Arabia the pollution will last for years.<sup>2183</sup> And the marine life in the Gulf will take decades to recover from pollution.<sup>2184</sup>

#### 4) Compensation

Article 44 of the 1996 ILC Report provides that

1. The injured State is entitled to obtain from the State which has committed an internationally wrongful act compensation for the damage caused by that act, if and to the extent that the damage is not made good by restitution in kind.
2. For the purposes of the present article, compensation covers any economically assessable damage sustained by the injured State, and may include interest and, where appropriate, loss of profits.

In general, “[s]ecuring compensation for an injured party is an undisputed objective of liability principles. Indeed, compensation defines the essence of the classic tort case, in which the injured party sues the allegedly responsible party for monetary damage to recover direct expenses or losses such as medical expenses, lost wages,

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<sup>2179</sup> Cervi, *supra* note (347) at 358.

<sup>2180</sup> Criteria for Claims, *supra* note (2164).

<sup>2181</sup> LANIER-GRAHAM, *supra* note (2) at 111.

<sup>2182</sup> McIlroy, *Oil is Everywhere in Kuwait*, THE MONTREAL GAZETTE, Dec. 7, 1991, at K6.

<sup>2183</sup> Stephan L. Kass & Michael B. Gerrard, *The Gulf War*, July N.Y. L. J. 1, 13 (1991) [hereinafter Kass & Gerrard].

<sup>2184</sup> Parmelee, *Environmentalists Survey the Blackened Wasteland That was Kuwait*, THE WASH. POST, Dec. 20, 1991, at A4, col. 1.

diminished property values, or non-monetary reparation such as oil spill cleanup or a revegetation areas.”<sup>2185</sup>

Whenever there is environmental damage, because nature is a living thing, restoration should always come before compensation. Payment of compensation does not eliminate the harm to the environment, just as paying compensation for the death of a human being does not restore that person to life. However, compensatory payment can, for example, fund the planting of trees in a damaged forest; and international law does provide for compensation as a remedy. If a State is held responsible according to the international rules, it is obliged to pay compensation for environmental damage caused by its agents or representatives. But compensation is always secondary to restoration.

Article 3 of the Hague Convention IV provides that “[a] belligerent party which violates the provisions of the said regulations shall [...] be liable to pay compensation.” Similarly, Article 91 of the Additional Protocol I to the Geneva Conventions provides that “[a] Party to the conflict which violates the provisions of the Conventions or of this Protocol shall, if the case demands, be liable to pay compensation.”

Compensation can be required regardless of whether the environmental effect occurred in times of armed conflict or in peacetime. The Kuwaiti environmental requests presented to the UNCC against Iraq as a sort of compensation for environmental damage occurred during times of armed conflict. However, the compensation requested by the Sibir Airlines for damages resulting from the October 4, 2001, accidental missile attack during an Ukrainian military exercise is an example of compensation for damage during peacetime military activities. Another example of peacetime military activities that is subject to compensation is the Canadian request of the former Soviet Union for over six million dollars for damage from the Cosmos 954 Soviet nuclear power satellite that fell over Canada’s territory.<sup>2186</sup>

Some scholars distinguish between the violation of international obligations that afford direct protection and those that afford indirect protection to the environment in times of armed conflicts, and argue that only the direct ones are compensable.<sup>2187</sup> This argument, however, would eliminate the possibility of compensation for much of the

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<sup>2185</sup> Gaines, *supra* note (2113) at 324 fn. 65.

<sup>2186</sup> Cervi, *supra* note (347) at 393.

<sup>2187</sup> Low & Hodgkinson, *supra* note (1857) at 449.

environmental destruction that accompanies war. There is no way to separate the direct and indirect environmental effects of armed conflict. According to Arbitrator Parker, the distinction between direct and indirect damages is “frequently illusory and fanciful and should have no place in international law.”<sup>2188</sup> Moreover, in environmental matters there should be always someone responsible for the environmental damages, whether directly or indirectly, and even when multiple parties are involved. For example, some scholars believe Iraq should not be held liable for the environmental destruction committed by the Iraqi troops during the Gulf War II,<sup>2189</sup> under the pretext that the Persian Gulf is already subjected to substantial pollution from peacetime activities.<sup>2190</sup>

The U.S. has asserted that compensation is more practical than restitution, and is therefore preferable as a means of reparation.<sup>2191</sup> This practice can be accepted in non-environmental cases; however, the best and most just environmental relief is restitution. But if such restitution is impossible, then, in environmental damage cases, compensation can be accepted.

Some scholars have argued that, whenever damage is irreparable, no compensation should be required, “since nothing can reasonably be done to reinstate the affected area.”<sup>2192</sup> This point of view is illogical and completely incompatible with established rules and principles of law. Waiving compensation only because the damage caused is irreparable is a kind of reward for the perpetrators. It would also encourage military forces to avoid paying compensation, to cause only irreparable damage by targeting irreparable environmental elements such as endangered species and unique monuments. According to the rules of law, acts causing irreparable damage should not be forgiven. Instead, they should be subject to extraordinary compensation, equivalent to the extraordinary value of the damaged elements. Such compensation would be useful to fund projects seeking the replacement of the irreparable elements, commercially or

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<sup>2188</sup> *War Risk Insurance Premium Claims*, (Nov. 1, 1923), 7 UNRIAA 44, 62, quoted in Lady Hazel M. Fox, QC, *Reparations and State Responsibility: Claims Against Iraq Arising out of the Invasion and Occupation of Kuwait*, in *THE GULF WAR 1990-91 IN INTERNATIONAL AND ENGLISH LAW* 276 (PETER ROWE ED., 1993).

<sup>2189</sup> Low & Hodgkinson, *supra* note (1857) at 451.

<sup>2190</sup> WILLIAM M. ARKIN ET AL., *supra* note (465) at 18.

<sup>2191</sup> *Paraguay v. U.S.*, 37 I.L.M. (1998) 468.

<sup>2192</sup> David Wilkinson, *Moving the Boundaries of Compensable Environmental Damage Caused by Marine Oil Sills: The Effect of Two New International Protocols*, 5 J. ENVT'L L. 71, 88 (1993) [hereinafter Wilkinson, *Moving the Boundaries*].



scientifically, and to fund efforts to protect similar environmental elements, to assure their safety in other portions of the world.

Compensation has been required under international law in many situations involving irreparable harm. For example, Germany paid billions of dollars in direct compensation to its World War II victims.<sup>2193</sup> As a direct result of the Luxembourg Treaty, signed in 1952 between West Germany and Israel, the latter still receives compensation for the victimizing of Jewish people by the Third Reich.<sup>2194</sup> Similarly, Iran received compensation from the United States for the damage caused, when the U.S.S. *Vincente* shot down a civil airliner in 1988.<sup>2195</sup> The United States also paid \$2 million to Japan in *ex gratia* compensation for disruption of its fishing industry, and \$950,000 to the Marshall Islands, for damages resulting from nuclear tests of 1954 on Eniwetok Atoll and Bikini Island.<sup>2196</sup>

Belligerent States have often compensated neutral States as well for damage caused by their armed forces. The United States received compensation from Israel for damage caused to the USS *Liberty* in 1967, and from Iraq for the damage caused to USS *Stark* in 1987.<sup>2197</sup> Non-belligerent States may also be affected by environmental pollution from armed conflict. Here, the source State should be held responsible for damage that occurs in another nation's environment. A legal basis for this liability can be found in *Trail Smelter* case, which affirms that if the environment of one State is adversely affected by activities of another, the former will be liable for any damage caused thereby and will be required to pay compensation and to take steps to ensure that

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<sup>2193</sup> Parker & Chew, *supra* note (2146) at 528.

<sup>2194</sup> *Id.*, at 529.

<sup>2195</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 403.

<sup>2196</sup> Cervi, *supra* note (347) at 389-90.

<sup>2197</sup> According to the U.S. Note to Iraq on Liability "The U.S.S. *Stark* was attacked by an Iraqi aircraft [...] while [it] was engaged in peaceful activities in international waters. At the time of the attack, the U.S.S. *Stark* was flying the American flag and its identification was clearly indicated in large white numeral on its hull. The U.S.S. *Stark* twice notified the Iraqi aircraft that it was approaching U.S. warship. The Government of Iraq [wa]s aware that U.S. vessels navigate in the area. In the circumstances, Iraqi personnel knew or should have known that the U.S.S. *Stark* was an American vessel. Moreover, they should have taken the steps necessary to identify it and determine whether was a legitimate military target. The attack by the Iraqi aircraft resulted in a tragic and needless loss of life, personnel injury, and property damage." The Iraqi Government admitted its international responsibility and its result to offer "[c]ompensation [...] for the loss of life, personal injuries and material damage." U.S. Note to Iraq on Liability and Iraqi Note to U.S. on Compensation, May 20, 1987, XXVI I.L.M. 1427, 1427, 1428 (1987); Greenwood, *State Responsibility*, *supra* note (2056) at 403.

the cause of such damage is dealt with so as to remove the possibility of further damage in the future.<sup>2198</sup>

The United Nations Security Council, using different terms, has also imposed liability in the form of compensation. For instance, the Security Council Resolution 387/1976 of March 31, 1976, “call[ed] upon the government of South Africa to meet the just claims of the People’s Republic of Angola for a full compensation for the damage and destruction inflicted on its State.”<sup>2199</sup> Much stronger language was used by the Security Council Resolution 290/1970 of December 8, 1970, which “[d]emand[ed] that full compensation by the Government of Portugal be paid to the Republic of Guinea for the extensive damage to life and property caused by the armed attack and invasion.” Both resolutions, apparently, include compensation for environmental damage. In 1990, the Security Council Resolution 674/1990 used similar language when

[reminded] Iraq that under international law it is liable for any loss, damage or injury arising in regard to Kuwait and third States, and their nationals and corporations, as a result of the invasion and illegal occupation of Kuwait by Iraq; [invited] States to collect relevant information regarding their claims, and those of their nationals and corporations, for restitution or financial compensation by Iraq with a view to such arrangements as may be established in accordance with international law[...]

Some member States, such as Iraq and Cuba, argued against the Security Council’s right to impose on Iraq responsibility for damage caused during its invasion of Kuwait, on the grounds that it is a political body and imposing liability is a judicial function. The Iraqi representative argued that “the [Security] Council exceeded its mandate [...] it is not a judicial body consist[ing] of independent judges competent to rule on compensation for those entitled to it in any conflict.”<sup>2200</sup> Similarly, Cuba contested the Security Council’s right to make decisions as to liability as a court might

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<sup>2198</sup> *Trail Smeleter Case*, *supra* note (2088) at 1940; Jullian Barron, Note, *After Chernobyl: Liability for Nuclear Accidents Under International Law*, 25 COLUM. J. TRANSNAT’L L. 674, 661 (1987) [hereinafter Barron].

<sup>2199</sup> Resolutions and Statements of the United Nations Security Council (1946-1989) 173, at 4 (Karel C. Wellens ed., 1990).

<sup>2200</sup> U.N. SCOR, 45<sup>th</sup> Sess., 2951<sup>st</sup> mtg. Speech given by Mr. Al-Anbari (Iraq) prior to the vote on Resolution 674, at 32, U.N. Doc. S/PV.2951 [hereinafter S.C. Res. 674/1990].

do,<sup>2201</sup> and argued that the ICJ is the judicial body competent to impose responsibility on States.<sup>2202</sup>

The examination by the Security Council of the Lockerbie disaster raised the question of separation of powers between the Security Council and the ICJ. The Security Council demanded that Libya hand over two of its nationals<sup>2203</sup> accused of the 1988 bombing of Pan American Flight 103 over Lockerbie,<sup>2204</sup> typically a judicial matter. The former President of the ICJ, Justice Bedjaoui examined the interaction between the Security Council and the ICJ and stated that

the difficulty [...is that] the Security Council not only has decided to take a number of political measures against Libya, but has also demanded from it the extradition of two nationals. It is this specific demand of the Council that creates an overlap with respect to the substance of the legal dispute with which the Court must deal, in a legal manner, on the basis of the 1971 Montreal Convention and international law in general.<sup>2205</sup>

Judge Ni voiced a similar concern:

The Security Council, as a political organ, is more concerned with the elimination of international terrorism and the maintenance of international peace and security, while the [ICJ], as the principal judicial organ of the [U.N.], is more concerned with legal procedures such as questions of extradition and proceedings in connection with prosecution of offenders and assessment of compensation [...]<sup>2206</sup>

When member States accept the jurisdiction of the ICJ, they usually raise to question concerning the separation of powers. However, the issue can be quiet troublesome when a dispute involves States that do not accept ICJ jurisdiction. Therefore, the Security Council should act to clarify the legal authority to order

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<sup>2201</sup> *Id.*, Speech given by Mr. Alarcon de Quesada (Cuba) in relation to Resolution 674, at 58.

<sup>2202</sup> *Id.*, Speech given by Mr. Alarcon de Quesada (Cuba) in relation to Resolution 674, at 58.

<sup>2203</sup> Johnston, Anti-Terror Weapon, *supra* note (931) at A12.

<sup>2204</sup> Wedgwood, *Responding to Terrorism*, *supra* note (636) at 574.

<sup>2205</sup> Request for the Indication of Provisional Measures in the Case Concerning Questions of Interpretation and Application of the 1971 Montreal Convention Arising From the Aerial Incident at Lockerbie (Libya v. U.S.), 1992 I.C.J. 114 (Apr. 41, 1992) Dissenting Opinion of Judge Bedjaoui, at 680, available at 31 I.L.M. 662 (1992) [hereinafter Questions Arising from the Application of Montreal Convention].

<sup>2206</sup> *Id.*, Declaration of Judge Ni at 675.

compensation, request extradition, or take other judicial actions. One basis for such action, particularly in environmental cases might be the 1972 Stockholm Declaration. Principle 22 of the Stockholm Declaration provides that “States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction and control of such States to areas beyond their jurisdiction.”<sup>2207</sup>

In at least one instance, the Security Council used very strong language in imposing responsibility for environmental damage and depletion of natural resources, and held Iraq responsible for such damages. There, the Security Council:

[r]eaffirms that Iraq, without prejudice to the debts and obligations of Iraq arising prior to 2 August 1990, which will be addressed through the normal mechanisms, is liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources, or injury to foreign governments, national and corporations, as a result of Iraq’s unlawful invasion and occupation of Kuwait.<sup>2208</sup>

This unprecedented Resolution imposed responsibility for environmental damages on Iraq for warfare damage caused in Kuwait, including environmental damage. It was the first time that international law recognized that environmental damage caused by armed conflict is compensable.<sup>2209</sup> The Security Council “reaffirm[ed] that Iraq must pay for environmental damage and the loss of natural resources caused by its role in the Persian Gulf War,”<sup>2210</sup> whether in Kuwait or other countries.<sup>2211</sup>

The United Nations Security Council, under Article 29 of the Charter,<sup>2212</sup> created the United Nations Compensation Committee (UNCC). The UNCC functions as a subsidiary organ of the United Nations’ European headquarters in Geneva,<sup>2213</sup> to process

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<sup>2207</sup> Stockholm Declaration, *supra* note (822) Principle 22.

<sup>2208</sup> S.C. Res. 687 (1991), *supra* note (559) para. 16.

<sup>2209</sup> Low & Hodgkinson, *supra* note (1857) at 406, 408.

<sup>2210</sup> S.C. Res. 687 (1991), *supra* note (559) para. 7.

<sup>2211</sup> The Security Council established the Iraqi’s responsibility for the losses caused from its conducts in 1990-1991 in its resolution 687/1991.

<sup>2212</sup> Article 29 of the U.N. Charter provides that “[t]he Security Council may establish such subsidiary organs as it deems necessary for the performance of its functions.” U.N. CHARTER, *supra* note (71) art. 29.

<sup>2213</sup> S.C. Res. 692 (1991), *supra* note (562) para. 3.

claims, including the environmental claims, and pay compensation for losses resulting from the Iraqi invasion of Kuwait.<sup>2214</sup> The Security Council decided to create fund to pay compensation for claims and to establish a Commission to administer the fund.<sup>2215</sup>

To evaluate damages caused by the Iraqi invasion, the UNCC classified claims into three categories: (1) claims of individuals, categories A through D, (2) claims of corporations and other private entities, category E, and (3) claims of governments and other international organizations, category F<sup>2216</sup> which includes the environmental claims.<sup>2217</sup> The last category is expected to include the largest claims,<sup>2218</sup> because it consists of forty-two claims from twelve countries,<sup>2219</sup> aggregating nearly \$40 billion.<sup>2220</sup>

Compensation for environmental damage should include the amount of direct ecological damage, cleanup costs, and the value of the depletion and damage to the natural resources. According to the UNCC, in the Iraqi case,

[The] environmental damage [should include] losses or expenses resulting from: (a) Abatement and prevention of environmental damage, including expenses directly relating to fighting oil fires and stemming the flow of oil and coastal and international waters; (b) Reasonable measures already taken to clean and restore the environment or future measures which can be documented as reasonably necessary to clean and restore the environment; (c) Reasonable monitoring and assessment of the environmental damage for the purpose of evaluating and abating the harm and restoring the environment; (d) Reasonable monitoring of public health and performing medical screenings for the purposes of investigation and combating increased health

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<sup>2214</sup> In paragraph 3 of the Security Council decision No.692/1991, the council “Decides to establish the Fund and Commission referred to in paragraph 18 of resolution 687 (1991) in accordance with Part I of the Secretary-General's report, and that the Governing Council will be located at the Offices of the United Nations at Geneva and that the Governing Council may decide whether some of the activities of the Commission should be carried out elsewhere”.

<sup>2215</sup> S.C. Res. 692 (1991), *supra* note (562).

<sup>2216</sup> Category “F” has four levels, the environmental claims are classified under “F4”. Available at <<http://www.unog.ch/uncc/commiss.htm>>, (last visit Oct. 10, 2000).

<sup>2217</sup> The Governing Council has identifies six categories of claims, Category “A” claims, “B”, “C”, “D”, “E” and “F”. *Id.*

<sup>2218</sup> Briscoe, *supra* note (466) at 114.

<sup>2219</sup> The nations most affected by the Iraqi environmental devastation were Iran, Jordan, Saudi Arabia, and Syria. These States have pending substantial claims for environmental damage and natural resources depletion before the UNCC. Briscoe, *supra* note (466) at 116.

<sup>2220</sup> Presentation of Dr. Mojtaba Kazazi of the UNCC Secretariat during regional meeting of claimant states, Kuwait City, May 18, 1998. Cited in Briscoe, *supra* note (466) at 130 fn. 27.

risks as a result of the environmental damage; and (e) Depletion of or damage to natural resources.<sup>2221</sup>

It makes sense that compensation for loss of properties be paid to the affected governments. However, payment for losses of the natural environment and depletion of natural resources should not be made to individual governments, without any international supervision as to whether compensation will be directed to the environmental rehabilitation process or not. Thus international control or even participation in the environmental rehabilitation is very important, because the environment is not owned by the present generation only, but also future generations. In addition, the rehabilitation process necessarily affects neighboring States through the transboundary pollution. Therefore, it would be important for an international environmental organization such as UNEP to have the authority to monitor such funds. As of September 2001, little had been done in the way of environmental rehabilitation and cleanup in Kuwait. Instead, the government is concentrating on building its economy and restarting the exportation of oil rather than rehabilitating and cleaning up the environment.<sup>2222</sup>

However, deadlines were established for the filing of the various categories of claims. The deadline of January 1<sup>st</sup>, 1995 was set for category “A”, “B”, “C” and “D” claims, and January 1<sup>st</sup>, 1996, for category “E” and “F” claims; and February 1, 1997, for the environmental claims, in category “F.” All of the deadlines have now expired with the exception of claims of missing persons and claims for damage and losses resulting from landmine or ordnance explosions since they cannot be easily found or detected. The UNCC extended the deadline for presenting such claims.<sup>2223</sup>

According to Security Council Resolution 687/1991,<sup>2224</sup> the Secretary General created a fund to pay the compensation to victims approved by the UNCC.<sup>2225</sup> This fund

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<sup>2221</sup> Decision of the Governing Council of the United Nations Compensation Commission, 3<sup>rd</sup> Sees., 18 mtg., Nov. 28, 1991, Revised at the 24<sup>th</sup> mtg., Mar. 16, 1992: Criteria for Additional Categories of Claims, U.N. Doc. S/23765 (1992), reprinted in 31 I.L.M. 1045, 1046 [hereinafter Criteria for Claims].

<sup>2222</sup> Parrish, *supra* note (2166) at D10, col. 4.

<sup>2223</sup> <<http://www.unog.ch/uncc/theclaims.htm>> (last visit Oct. 10, 2000).

<sup>2224</sup> S.C. Res. 687 (1991), *supra* note (559) paras. 18 & 19.

<sup>2225</sup> U.N. Secretary General Report concerning the “Creation of the United Nations Compensation Fund and the United Nations Compensation Commission” according to the provisions of S.C. Res. 687/1991, U.N. Doc. S/22559 (1991) May 2, 1991.

is financed by no more than thirty percent of Iraqi oil sale revenues.<sup>2226</sup> To assure these revenues, the oil buyers must deal with the United Nations, not with Iraqi oil companies.<sup>2227</sup>

The “amounts recommended by the panels of Commissioners<sup>2228</sup> will be subject to the approval by the Governing Council,”<sup>2229</sup> whose membership reflects the composition of the Security Council at any given time. The Governing Council’s decisions are final and not subject to any appeal or review.<sup>2230</sup> The guidelines that the Commissioners must consider in their examination of claims are set forth in “Security Council Resolution 687/1991 and other relevant Security Council Resolutions, the criteria established by the Governing Council for particular categories of claims, and any pertinent decisions of the Governing Council. In addition, where necessary, Commissioners shall apply other relevant rules of international law.”<sup>2231</sup> The invocation of “international law” as a general expression allows the application of IHL, EHRs, and IEL that were examined earlier. Therefore, Commissioners’ expertise in the fields of the law or environmental damage assessment<sup>2232</sup> should assist in applying international law rules and requirements.

Despite the fact that the Security Council Resolution 687/1991 considers the environmental damage resulting from the Iraqi invasion of Kuwait, “[R]esolution 687 did not define environmental damage or the depletion of natural resources, and did not provide any guidance to the UNCC as to how the environmental claims should be assessed for purposes of reparation or compensation.”<sup>2233</sup>

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<sup>2226</sup> S.C. Res. 705/1991, Aug. 15, 1991.

<sup>2227</sup> *Id.*, para. 1 (b).

<sup>2228</sup> The Commissioners have the primary responsibility for determining the outcome of the claims pending before the Commission. Each panel of Commissioners must “report in writing [...] to the Governing Council on the claims received and the amount recommended to be awarded for each claimant.” Provisional Rules for Claims Procedures, U.N. Compensation Comm’n Governing Council, 6<sup>th</sup> Sess., 27<sup>th</sup> mtg., art. 38 (c), U.N. Doc. S/AC.26/1992/INF.1 (1992), reprinted in 31 I.L.M. 1053 (1992).

<sup>2229</sup> *Id.*, art. 40 (1).

<sup>2230</sup> *Id.*, art. 40 (4).

<sup>2231</sup> *Id.*, art. 31.

<sup>2232</sup> “Commissioners are chosen for their integrity, experience and expertise in such areas as law...assessments of environmental damages...”, available at <<http://www.unog.ch/uncc/commiss.htm>>, (last visit Oct. 20, 2000).

<sup>2233</sup> United Nations Environmental Programme, *Report of the Working Group of Experts on Liability and Compensation for Environmental Damage Arising from Military Activities*, Oct. 15, 1996, UNEP/ENV.Law/3/Inf.1, at 1.

In general, compensation should cover the value of the harmed objects, and should be sufficient to establish the situation as it was before the harmful act. With regard to environmental damage, compensation should seek to cover the costs of containment incurred by any nation, the clean-up costs by any nation, the costs of restoration of the natural resources, and any other costs associated with these environmental catastrophes.<sup>2234</sup> It is estimated that Iraq may face as much as \$100 million in war reparation.<sup>2235</sup>

Two kinds of problems may arise in calculating the amount of compensation: those related to assessment, and those related to evaluation. Assessment can be a problem because modern technology still lacks the methods and techniques necessary to precisely assess environmental damage. Moreover, a nation facing liability may be very reluctant to allow an assessment team to enter the area to be assessed.<sup>2236</sup>

Even if the environmental damage can be assessed, evaluation of the damage may be difficult. First, evaluation of wartime environmental damage may be difficult to determine, because war often imposes severe and simultaneous damages. In addition, the damage amount is affected by the length of time over which the disaster occurs, with longer exposures creating more severe damage.<sup>2237</sup> Furthermore, some experts consider that reliance on future income, e.g. future oil revenues is an unreliable source for meeting necessary expenses, even when they are evaluated. Finally, if the responsible country is poor, it may be simply unable to pay regardless of their intentions.<sup>2238</sup>

After an armed conflict the victorious States may pressure the defeated belligerents to abandon any request for compensation resulting from the armed conflict. For example, despite the substantial human and environmental effects caused by World War II, including the disasters of Hiroshima and Nagasaki, when Japan signed the peace

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<sup>2234</sup> 137 CONG.REC. H.715 (daily ed. Jan. 29, 1991) (statement by Rep. Lagomarsino).

<sup>2235</sup> Youssef M. Ibrahim, *Another War Begins As Kuwait Oil Well Fires Threaten Region's Ecology*, N.Y. TIMES, March 16, 1991, at D2 [hereinafter Ibrahim, *Another War*].

<sup>2236</sup> Green, *State Responsibility*, *supra* note (1642) at 418.

<sup>2237</sup> "Background paper", "First International Conference on Addressing Environmental Consequences of War", prepared by the Environmental Law Institute, June 10-12, 1998, at 14, available at <<http://www.eli.org/ecw.htm>>, (last visit Oct. 20, 2000).

<sup>2238</sup> Kelly, *supra* note (1817) at 950.



treaty,<sup>2239</sup> it abandoned the right to claim compensation against the United States.<sup>2240</sup>  
Article 19 of the Treaty of Peace with Japan provides that

[Japan] waives all claims of Japan and its nationals against the Allied Powers and their nationals arising out of the war or out of actions taken because of the existence of a state of war, and waives all claims arising from the presence, operations or actions of forces or authorities of any of the Allied Powers in Japanese territory prior to the coming into force of the present Treaty.

The political circumstances surrounding the signing of the treaty, including pressure from the U.S., and Japan's fear of continuing the combat, explain the large part why Japan agreed to it. Nevertheless, despite the Japanese apparent waiver of any claims, Japan still has the right to request compensation from the United States, because the waiver is incompatible with the general rules of international law. Abandoning a substantial right already established by the rules of international law, *erga omnes* and *jus cogens* rules, is beyond the authority of any State.<sup>2241</sup> Specifically as to environmental claims, the waiver is ineffective because the harmed environment is not owned by only one Japanese generation, but by future generations also, whose right cannot be waived. Despite the waiver, the Japanese government was still responsible to its population and to the environment.<sup>2242</sup>

Once compensation is due, the responsible nation must pay it to the injured international person. Refusing to pay due compensation may form a legal basis for a new kind of international responsibility,<sup>2243</sup> and may result in further charges. For example, despite the fact that the domestic investigation of the 1986 Chernobyl accident concluded that "the prime cause of the accident was an extremely improbable combination of violation of instructions and operating rules committed by the staff of

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<sup>2239</sup> Treaty of Peace with Japan, Sept. 8, 1951, 136 U.N.T.S. 45 [hereinafter Allied Treaty with Japan].

<sup>2240</sup> Takeshi Itoh, *State Compensation for Atomic Bomb Victims*, Dec. 12, 1994, <<http://www.warewulf.com/nuke/News/News/State>> (last visit Mar. 15, 2000) [hereinafter Itoh].

<sup>2241</sup> Parker & Chew, *supra* note (2146) at 538.

<sup>2242</sup> A Medical Assistance Legislation was implemented in Japan in 1957. Itoh, *supra* note (2240).

<sup>2243</sup> Cervi, *supra* note (347) at 382.

the unit,”<sup>2244</sup> the former Soviet Union did not compensate any of the affected nations.<sup>2245</sup> This refusal should result in additional charges against the former Soviet Union, nevertheless, the international community did nothing regarding this situation.

Finally, even if a State is found to be liable, individuals may still be responsible for serious international law violations<sup>2246</sup> under international criminal law.

## 2. International Criminal Responsibility

A State cannot be hanged, whipped or imprisoned, and thus cannot be subject to those forms of criminal responsibility.<sup>2247</sup> However, some jurists argue that a State can still be subjected to criminal responsibility.<sup>2248</sup> This argument based on the analogy between the State and the corporation, since both, the State and the corporation, have moral personality and are represented through individuals. Many domestic legal systems do recognize the criminal responsibility of the corporation, and therefore they recognize the criminal responsibility of the State.<sup>2249</sup> They also consider the international sanctions that may be imposed on the State as analogous to the criminal punishment that may imposed in the national system.<sup>2250</sup> Therefore, according to this opinion there is no legal basis for excluding the State from the international criminal responsibility. Nevertheless, punishing a State presents a number of unique difficulties. In domestic criminal law, an individual can be subjected to the power of the State directly, and society is bound to respect the execution of the punishment. However, in international law, sanctions are a method of exerting international pressure to assure respect for international law rules. Moreover, the State, unlike criminal individuals, can in many circumstances waive

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<sup>2244</sup> PHILIPPE SANDS ED., *CHERNOBYL LAW AND COMMUNICATION: TRANSBOUNDARY NUCLEAR AIR POLLUTION-THE LEGAL MATERIALS 4* (Cambridge Univ. , 1988) [hereinafter SANDS, *CHERNOBYL*].

<sup>2245</sup> Justin Mellor, *The Negative Effects of Chernobyl: On International Environmental Law: The Creation of the Polluter Gets Paid Principle*, 17 WIS. INT’L L.J. 65, 70 (1999) [hereinafter Mellor, *The Negative Effects of Chernobyl*].

<sup>2246</sup> Green, *State Responsibility*, *supra* note (1642) at 432.

<sup>2247</sup> K. Marek, *Criminalising State Responsibility*, 14 REVUE BELGE DE DROIT INTERNATIONAL 460, 464-79 (1978-9), cited in John Dugard, *Criminal Responsibility of States*, in INTERNATIONAL CRIMINAL RESPONSIBILITY 247 (M. CHERIF BASSIOUNI, 1999) [hereinafter Dugard]; *see also*, Luis F. Molina, *Can States Commit Crimes? The Limits of Formal International Law*, in CONTROLLING STATE CRIME 349-70 (JEFFREY IAN ROSS ED., 2000) [hereinafter Molina].

<sup>2248</sup> Dugard, *supra* note (2247) at 247.

<sup>2249</sup> *Id.*,

<sup>2250</sup> *Id.*,

sanctions under international law. Furthermore, in international law, criminal sanctions are effective only when other States agree to impose that punishment. If a particular State refuses to participate, there is no legal basis for compelling it to do so. For example, despite the sanctions imposed on Iraq by U.N. Security Council resolutions, some nations have maintained diplomatic and economic relations with Iraq. To that extent criminal sanctions under international law are much less effective than domestic criminal punishment.<sup>2251</sup>

International criminal responsibility is not a new principle of law. It has developed and evolved over time. Following World War II, one of the first trials under international criminal law was held in the city of Nuremberg. The main trial was on November 20, 1945 against former Reichsmarschall Hermann Göring and other members of German military command.<sup>2252</sup> The Nuremberg trials sentenced thirty-six persons to death and twenty-three to life imprisonment in the thirteen trials.<sup>2253</sup>

The ILC defines international criminal conduct as “a serious breach of an international law obligation of essential importance for the safeguarding and preservation of the human environment.”<sup>2254</sup> A combatant may be held criminally responsible for the serious violation of the law of war in times of armed conflicts, and other international law rules in peacetime. Criminal responsibility may be assigned even if a combatant’s act is in compliance with the orders of a superior official. If a combatant “acted pursuant to an order of his Government or of a superior, the order shall not free him from responsibility, but may be considered mitigation of punishment [...]”<sup>2255</sup>

Specific courts have been established to examine international crimes. Currently, there are two ad hoc criminal courts, one for crimes committed in the former Yugoslavia and the other for crimes committed in Rwanda. Moreover, there is a permanent International Criminal Court scheduled to convene in the near future. In view of these historical developments, the next section will address the obstacles that face the system.

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<sup>2251</sup> Trial of the major war criminals before the International Military Tribunal, Proceeding (Vol.1), Nuremberg, 1947, at 34, cited in Molina, *supra* note (2247) at 352 fn. 15.

<sup>2252</sup> Hans-Heinrich Jescheck, *Nuremberg Trials*, in 4 *ENCYCLOPEDIA OF PUB. INT’L L.*, 50, 50 (RUDOLF DOLZER ET AL. EDS., 1982) [hereinafter Jescheck].

<sup>2253</sup> *Id.*, at 51.

<sup>2254</sup> Draft Articles on State Responsibility, *supra* note (2051) art. 19.

<sup>2255</sup> Agreement for the Prosecution and Punishment of the Major War Criminals of the European Axis, art. 8, Aug. 8, and Oct. 6, 1945, 59 Stat. 1544 [hereinafter London Charter].

### **a. A Historical View of the International Criminal Responsibility**

The roots of international criminal responsibility are deep in the history of the law. The first international criminal tribunal was held in 1474 when Peter von Hagenbach, governor of a German territory that included the Upper Rhine, was tried and convicted by a court composed of Swiss, German, and Alsatian judges for crimes committed against God and man, and atrocities against the citizens of Breisach during its occupation.<sup>2256</sup> Although it is 500 years old, this reasoning could be applied today, so that “crimes against God” could include crimes against God’s creatures, such as the natural environment.

In more modern times, international criminal responsibility has been inspired by other international law rules. For instance, the second sentence of Article 3 of The Hague Convention IV suggests a form of international criminal responsibility,<sup>2257</sup> by providing that “[a] belligerent party [...] shall be responsible for all acts committed by persons forming part of its armed forces.” Similarly, Article 91 of the Additional Protocol I of the Geneva Conventions provides that “[a] Party to the conflict which violates the provisions of the Conventions or of this Protocol shall, if the case demands, be liable to pay compensation. It shall be responsible for all acts committed by persons forming part of its armed forces.”

Historically, individuals accused of war crimes have been prosecuted in national courts. For example, the “atrocities committed by the United States troops in the Philippines during the insurrection of 1899-1902 [...] led to the court-martial of a number of American soldiers.”<sup>2258</sup> However, the national jurisdiction does not always respond and completely satisfy the needs of international community. For example after World War II, “a few of the more than eight hundred accused German war criminals were tried by the Supreme Court of the Reich at Leipzig. Although several of these Germans were convicted, they received particularly light sentences [...] and some even escaped from

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<sup>2256</sup> Giulio M. Gallarotti & Arik Y. Preis, *Politics, International Justice, And the United States: Towards A Permanent International Criminal Court*, 4 U. CAL. J. INT’L L. & FOR. AFF. 1, 3 (1999) [hereinafter Gallarotti & Preis]; Trooboff, *supra* note (2258) at 19-20.

<sup>2257</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 401.

prison.”<sup>2259</sup> The dissatisfaction of Germany’s handling of nationals turned over to it for prosecution following World War I,<sup>2260</sup> led to the abandonment of that method of dealing with criminal responsibility.<sup>2261</sup> However, the ICRC has proposed a model law for the punishment of war crimes that would serve as an example for national legislation.<sup>2262</sup> This model would eliminate differences among national legal systems, assure neutral judicial procedures, and reduce the number of cases examined before the international criminal tribunals regarding environmental crimes.

Between October 1943 and January 1944, efforts of the United States and the United Kingdom resulted in the creation of the United Nations War Crimes Commission (UNWCC).<sup>2263</sup> Since then, other judicial agencies have been created, including the International Military Tribunal at Nuremberg,<sup>2264</sup> and International Military Tribunal at Tokyo.<sup>2265</sup> Proceeding before these tribunals were the first in which individuals were held internationally responsible for the violation of international law. The major powers, France, the United Kingdom, the former Soviet Union and the United States, were represented in the Nuremberg military tribunal.<sup>2266</sup> The Tokyo military tribunal was composed of judges from eleven nations, including the four major powers.<sup>2267</sup>

Article 6 of the London Charter, which established the rules of Nuremberg and Tokyo trials, defines “War Crimes” as violations of the laws of customs of war and specifically the “plunder of public or private property, wanton destruction of cities, towns, or villages, or devastation not justified by military necessity.” The Nuremberg

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<sup>2258</sup> William Greider, *The Point Where War Becomes Murder*, WASH. POST, Oct. 11, 1970, at D-1, cited in Petter D. Trooboff, *Introduction*, in LAW AND RESPONSIBILITY IN WARFARE 243 fn. 40 (PETTER D. TROOBOFF ED., 1975) [hereinafter Trooboff].

<sup>2259</sup> FRIEDMAN ED., *THE LAW OF WAR: A DOCUMENTARY HISTORY* 776-77 (Greenwood Publishing Goup, 1972) [hereinafter FRIEDMAN], cited in *Id.*, at 243 fn. 41.

<sup>2260</sup> The dissatisfaction of the Germans dealing with the criminals of war of World War I based on number of cases. For example, Kaiser Wilhelm II himself escaped prosecution by taking refuge in the Netherlands. Gallarotti & Preis, *supra* note (2256) at 4.

<sup>2261</sup> Committee on Environmental and Public Pollution Task Force, *supra* note (541) at 52.

<sup>2262</sup> Hans-Heinrich Jescheck, *War Crimes*, in 4 ENCYCLOPEDIA PUB. INT’L L., 294, 296 (RUDOLF DOLZER ET AL. EDS., 1982).

<sup>2263</sup> Louis René Beres, *Towards Prosecution of Iraqi Crimes Under International Law: Jurisprudential Foundations and Jurisdictional Choices*, 22 CAL. W. INT’L L. J. 127, 127 (1991) [hereinafter Beres, *Towards Prosecution*].

<sup>2264</sup> London Charter, *supra* note (2255).

<sup>2265</sup> Charter of the International Military Tribunal for the Far East, Tokyo, Jan 19, 1946, T.I.A.S No. 1589, [hereinafter Tokyo Charter].

<sup>2266</sup> London Charter, *supra* note (2255) art. 2.

<sup>2267</sup> Trooboff, *supra* note (2258) at 20-1.

trials included the first recognition of a “purely environmental war crime”<sup>2268</sup> when it charged nine Germans with “ruthless exploitation of Polish forestry [including] the wholesale cutting of Polish timber to an extent far in excess of what was necessary to preserve the timber resources of the country.”<sup>2269</sup> Most warfare environmental damages falls under the jurisdiction of Article 6. Additionally, Article 6 introduced a remarkable development in the field of international responsibility of individuals, in that “the requirement of diversity of citizenship was eliminated, extending the reach of international criminal law to violations irrespective of the dictates of national law. National sovereignty no longer served as a shield against individual criminal responsibility.”<sup>2270</sup> Despite the absence of explicit environmental protection in the London and Tokyo Charters, this development will substantially served the environment by subjecting individuals to international criminal justice for crimes committed at home, especially when committed during armed conflicts. Moreover, the Japanese, after being defeated in World War II, accepted the principle of international criminal responsibility. Article 11 of the Treaty of Peace with Japan provides that “Japan accepts the judgments of the International Military Tribunals for the Far East and of other Allied War Crimes Courts [...]”<sup>2271</sup>

Practically, environmental crimes were not recognized as explicitly as they are now, and the international military tribunals were not specifically focused on such crimes. For example, in U.S.A. v. Wilhelm List, et al., “the destruction of communication and transport facilities and houses in Norway (province of Finnmark) was not considered a war crime.”<sup>2272</sup> However, nine German civilian officials were charged, in occupied Poland, with “ruthless exploitation of Polish forestry [including the] wholesale cutting of

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<sup>2268</sup> Schwabach, *supra* note (477) at 125.

<sup>2269</sup> United Nations War Crimes Commission, Case No. 7150 496 (1948); discussed in Caggiano, *supra* note (7) at 486-87; Leibler, *supra* note (1220) at 106; Okordudu-Fubara, *supra* note (331) at 201-02.

<sup>2270</sup> M. Cherif Bassiouni, “Crimes Against Humanity”: *The Need for A Specialized Convention*, 31 COLUM. J. TRANSNAT’L L. 457, 464-65 (1994) [hereinafter Bassiouni, *Crimes Against Humanity*].

<sup>2271</sup> Allied Treaty with Japan, *supra* note (2239) art. 11.

<sup>2272</sup> Gerard J. Tanja, *Individual Accountability for Environmental Damage in Times of Armed Conflict: International and National Penal Enforcement Possibilities*, in PROTECTION OF THE ENVIRONMENT DURING ARMED CONFLICTS at 489 fn. 22 (R. GRUNAWALT ET AL. EDS., 1996) [hereinafter Tanja].

Polish timber.”<sup>2273</sup> That action violated Germany’s duty as occupier to protect Poland’s land.<sup>2274</sup>

Under the Nuremberg Principles, which provides that political leaders could no longer hide behind national sovereignty,<sup>2275</sup> Saddam Hussein and others who are alleged to have caused “grave breaches” of the 1949 Geneva Conventions, the 1907 Hague Convention, and International Environmental Laws, can be tried for war crimes and crimes against humanity.<sup>2276</sup> In Strasbourg, the Council of Europe’s 183-member Parliamentary Assembly condemned the Iraqi attack on the environment, describing it as a “disgraceful attack,” and called for a war crime tribunal analogous to those of Nuremberg and Tokyo.<sup>2277</sup> A similar attitude was taken by some United States senators, who urged that the Iraqi President be put on trial for crimes against the environment. Senator Lieberman said, “there was substantial sentiment in Congress to create some kind of treaty or convention that would make clear that vindictive assaults on the environment [...] would be punished- and punished severely.”<sup>2278</sup>

The trials of Nuremberg and Tokyo resulted in 3,686 convictions and 924 acquittals. By the end of 1958, the Western Allies had convicted 5,025 Germans of war crimes, 806 being sentenced to death, and the Soviet Union had convicted around 10,000.<sup>2279</sup>

## **b. The Ad Hoc Criminal Courts**

After the trials of Tokyo and Nuremberg, it seems that the international community turned away from the concept of individual criminal responsibility. During the 1970s, the Khmer Rouge caused the death of an estimated 2 million people in

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<sup>2273</sup> Caggiano, *supra* note (7) at 486-87.

<sup>2274</sup> Schwabach, *supra* note (477) at 125.

<sup>2275</sup> Gallarotti & Preis, *supra* note (2256) at 4.

<sup>2276</sup> Nicholas A. Robinson, *International Law and the Destruction of Nature in the Gulf War*, 21/2/6 ENV’T’L POL’Y & L. 216, 220 (1991) [hereinafter Robinson, *International Law and the Destruction of Nature*]; See in general: Louis R. Beres, *After the Gulf War: Prosecuting Iraqi Crimes Under the Rule of Law*, 24 VAND. J. TRANSNAT’L L. 487 (1991); Luis Kutner & Ved P. Nanda, *Draft Indictment of Saddam Hussein*, 20 DENV. J. INT’L L. POL’Y 91 (1991).

<sup>2277</sup> Robert Rice, *Gulf Oil Spill Another Crime Against Humanity*, FIN. REV., Jan. 31, 1991, at 3.

<sup>2278</sup> Hussein Called Environmental Terrorist, CHI. TRIB., Mar. 7, 1991, at C8.

<sup>2279</sup> G. VON GLAHN, LAWS AMONG NATIONS 784 (1986).

Cambodia, yet the international community did nothing about it.<sup>2280</sup> However, in 1993, this concept was reestablished when the U.N. Security Council established the International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law in Yugoslavia (ICTY).<sup>2281</sup> Two years after its establishment, the ICTY's "judges [...] were elected, Rules of Procedure and Evidence were promulgated, a Headquarters Agreement was entered into, [...] Prosecutor and Register were appointed, courtrooms, offices, and a jail were constructed at the Hague, a staff of over 500 persons were hired, seventy persons were indicted, and trials were commenced."<sup>2282</sup> The expenses of the ICTY are covered by contribution from United Nations member States, and voluntary contributions from some States, international organizations, and private entities.<sup>2283</sup>

The ICTY is charged with prosecuting crimes committed on the territory of the former Yugoslavia since 1991. The 1993 Statute of the ICTY includes provisions for punishing wanton destruction,<sup>2284</sup> including destruction of the environment. On May 24, 1999, the ICTY indicted the former Yugoslavian President Milosevic with four other former government officials,<sup>2285</sup> Milan Milutinovic, President of Serbia until January 25, 2001, Nikol Sainovic, former Deputy Prime Minister, Dragoljub Odjanic, former Yugoslav Army Chief of Staff, and Vlatko Stojilkovic, former Serbian Minister of Internal Affairs.<sup>2286</sup>

This development was not universally appreciated. Some commentators feared that similar indictments could be issued against representatives of nations that intervened to stop the civil war there. For example, the former Secretary of State, Henry Kissinger,

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<sup>2280</sup> Peter Sharp, *Prospects for Environmental Liability in the International Criminal Court*, 18 VA. ENV'T'L L. J. 217, 222 (1999) [hereinafter Sharp, *Prospects for Environmental Liability*].

<sup>2281</sup> ICTY Statutes, *supra* note (190).

<sup>2282</sup> See, VIRGINIA MORRIS & MICHAEL P. SCHARF, AN INSIDER'S GUIDE TO THE INTERNATIONAL CRIMINAL TRIBUNAL FOR THE FORMER YUGOSLAVIA (1995), cited in Scharf, *supra* note (1692) at 501 fn. 118.

<sup>2283</sup> Third Annual Report of the International Tribunal for the Prosecution of Persons Responsible for Serious Violations of International Humanitarian Law Committed in the Territory of the Former Yugoslavia since 1991, at 43-4, U.N. Doc. A/51/292-S/1996/665 (1996), cited in Scharf, *supra* note (1692) at 501 fn. 119.

<sup>2284</sup> ICTY Statute, *supra* note (190) arts. 2 (d), 3 (b).

<sup>2285</sup> Amnesty International Organization, *Yugoslavia: Milosevic Must Be Transferred to The Hague*, Mar. 2, 2001, AI Index EUR 70/005/2001- News Service Nr. 39, available at <<http://www.amnesty.org>> (last visit Mar. 14, 2001).

<sup>2286</sup> *Id.*



expressed his worry that such a broad mandate could provide a basis for indicting U.S. officials involved in the NATO air campaign in Kosovo.<sup>2287</sup> However, this fear should not be allowed to hinder prosecutions of any person who is justifiably charged with war crimes.

One year later, the Security Council created a similar body,<sup>2288</sup> the International Criminal Tribunal for the Prosecution of Persons Responsible for Genocide and Other Serious Violation of International Humanitarian Law Committed in the Territory of the Rwanda (ICTR). It is authorized to prosecute violations of IHL rules,<sup>2289</sup> especially the genocide murder of 800,000 members of the Tutsi Tribe in Rwanda.<sup>2290</sup> The only environmental jurisdiction of the ICTR is for crimes that can be interpreted as “pillage”.<sup>2291</sup>

Unlike the Tokyo and Nuremberg tribunals, which tried individuals for war crimes committed in international armed conflict, the ICTY and ICTR have the authority to try individuals for war crimes committed in internal armed conflicts.<sup>2292</sup> Despite the similar internal characters of the Yugoslavian and the Rwandan conflicts, the international community deemed the Yugoslavian conflict, unlike the Rwandan conflict, to be international, because it involved different ethnic groups fighting for the right of self-determination. Under the applicable law of the ad hoc courts, that factor made Yugoslavia the scene of an “international” conflict. The ICTY applies the law of international armed conflicts, while the ICTR applies the law of internal armed conflicts.<sup>2293</sup> Another difference between the two courts is that the ICTR statute does not limit “crimes against humanity” to those occurring during armed conflict, while the ICTY statute does.<sup>2294</sup>

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<sup>2287</sup> Mary-Lea Cox, *Milosovic in The Hague: Trial or Error?*, A Companion Newsletter for Canegie Council on Ethics & Int’l Aff., Nov./Dec. 2001, at 1 [hereinafter Mary-Lea Cox].

<sup>2288</sup> S.C. Res. 955, U.N. SCOR, 49<sup>th</sup> Sess., 3453<sup>rd</sup> mtg. at 2, U.N. Doc. S/RES/955 (1994) [hereinafter ICTR Statute].

<sup>2289</sup> *Id.*, art. 1.

<sup>2290</sup> Scharf, *supra* note (1692) at 501.

<sup>2291</sup> ICTR Statute, *supra* note (2288) art. 4 (f).

<sup>2292</sup> Carl E. Bruch, *All’s not Fair in Civil War: Criminal Liability for Environmental Damage in Internal Armed Conflict*, 25 VT. L. REV. 695, 717 (2001).

<sup>2293</sup> *Id.*

<sup>2294</sup> ICTY Statute, *supra* note (190) art. 5; ICTR Statute, *supra* note (2288) art. 3.

### c. The International Criminal Court

The ad hoc and temporary international criminal tribunals of ICTY and ICTR, do not cover all kinds of crimes, and not all countries are subject to their jurisdiction. The continuing violations of international law rules, including those relevant to the environmental protection, encouraged States to create a permanent International Criminal Court of Justice (ICC). The ICC follows, in many senses, from the world's experience with the ICTY and ICTR.<sup>2295</sup>

The statute of the ICC was adopted as a Final Act of the United Nations Diplomatic Conference of Plenipotentiaries on the Establishment of the International Criminal Court held in Rome in 1998.<sup>2296</sup> It will come into force after ratification by the sixtieth State,<sup>2297</sup> which has not yet occurred.<sup>2298</sup> The creation of the ICC was described by the former Secretary General of the U.N., Boutros Boutros-Ghali, as result of a “renaissance of international law.”<sup>2299</sup>

The Rome Statute is not a pure environmental document. However, it focuses on assuring the protection of the IHL rules.<sup>2300</sup> Article 5 of the Statute provides that the ICC shall have jurisdiction over “the most serious crimes of concern to the international community as a whole.” This Article grants jurisdiction to the ICC to hear cases involving charges of genocide, crimes against humanity, war crimes, and crimes of aggression. The ICC also has jurisdiction over crimes of environmental destruction committed during armed conflicts. However, only crimes committed after the date of entry into force of the Rome Statute may be adjudicated by the ICC, even if they were committed during armed conflicts.<sup>2301</sup> The Rome Statute defines any “intentional launching of an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, long-term, and severe

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<sup>2295</sup> David Stoelting, Introduction, *International Criminal Law*, 35 INT'L LAW. 613, 613 (Summer 2001) [hereinafter Stoelting].

<sup>2296</sup> Rome Statute, *supra* note (191).

<sup>2297</sup> *Id.*, art. 126 (1).

<sup>2298</sup> The Rome Statute was passed by a vote of 120 in favor, seven against, and twenty-one abstentions. It was reported that the China, Iraq, Israel, Libya, Qatar, United States, and Yemen voted against the Statute. Gallarotti & Preis, *supra* note (2256) at 2.

<sup>2299</sup> The former Secretary General of the United Nation, Boutros Boutros-Ghali address at Carleton University, in 1995. Cited in Gallarotti & Preis, *supra* note (2256) at 1.

<sup>2300</sup> Rome Statute, *supra* note (191) art. 8.

<sup>2301</sup> *Id.*, art. 11.

damage to the natural environment [...]” as a war crime.<sup>2302</sup> This text can be described as less stringent than the ENMOD’s text, because it requires the presence of the three elements together, whereas ENMOD requires the presence of only one element out of the three, whether long-lasting, severe, or widespread.

It appears that the attacks on the United States, on September 11<sup>th</sup>, 2001, can fall under the jurisdiction of the ICC, since such attacks can be interpreted as “intentional[...] attack[s which] cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, long-term, and severe damage to the natural environment [...]”.<sup>2303</sup> Thus, the ICC could provide a forum for the prosecution of those crimes. However, the United States has not only refused to ratify the Rome Statute, but has asserted its exclusive right to judge such criminals. Significantly, on November 13, 2001, the American President, George W. Bush, signed, an executive order giving domestic military commissions the right to try suspected terrorists.<sup>2304</sup> This controversial order could be said to undercut international support for the ICC as a forum for crimes of international terrorism.<sup>2305</sup>

The ICC is not a substitute for national legal systems,<sup>2306</sup> but instead is intended to provide a means of prosecuting crimes that national systems are ill-equipped to handle. The ICC would function, only in exceptional situations, where the national legal system is either unable or unwilling to respond, and to avoid proceedings which may be “politically expedient, but manifestly unsatisfactory.”<sup>2307</sup> The ICC cannot be involved in cases where a national legal system would be adequate.<sup>2308</sup>

The ICC is comprised of four organs: (1) the Presidency; (2) the Chambers: Appeals, Trial and Pre-Trial Divisions; (3) the Office of the Prosecutor; and (4) the Registry.<sup>2309</sup> Eighteen judges are required to compose the different Chambers.<sup>2310</sup> The

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<sup>2302</sup> *Id.*, art. 8 (2)(b)(iv).

<sup>2303</sup> *Id.*

<sup>2304</sup> Cnn.com, *Military Order: Detention, Treatment, and Trial of Certain Non-Citizen in the War Against Terrorism*, Nov. 13, 2001, § 4 (a), available at <<http://www.cnn.com/2001/LAW/11/14/inv.military.court.doc>> (last visit Nov. 18, 2001).

<sup>2305</sup> See, International Legal Responses to Terrorism, materials recorded from the Annual meeting of the Association of the American Law Schools, tapes 209-10, Jan. 3-6, 2002, New Orleans, Louisiana.

<sup>2306</sup> McLaughlin, *supra* note (2053) at 391.

<sup>2307</sup> *Id.*

<sup>2308</sup> Gallarotti & Preis, *supra* note (2256) at 6.

<sup>2309</sup> Rome Statute, *supra* note (191) art. 34.

<sup>2310</sup> *Id.*, art. 36 (1).

Assembly of States Parties elects the eighteen judges, according to their qualifications,<sup>2311</sup> by a secret ballot.<sup>2312</sup> Once the judges are elected, they elect, by absolute majority, the President and, his first and second Vice Presidents.<sup>2313</sup> The judges divide themselves into an Appeals Division, composed of the President and four other judges, a Trial Division, composed of no less than six judges,<sup>2314</sup> and a Pre-Trial Division which can function with three or fewer judges.<sup>2315</sup>

Three authorities have the power to transmit cases before the ICC: member States can refer the matter to the Prosecutor,<sup>2316</sup> the U.N. Security Council can do so according to the power of Chapter VII of the U.N. Charter,<sup>2317</sup> and the Prosecutor can initiate an investigation on his own.<sup>2318</sup> The jurisdiction of the ICC can be contested by the accused, by a State that would otherwise have jurisdiction over the case, or by a State whose acceptance of jurisdiction is required according to Article 12 of the Statute.<sup>2319</sup>

Based on the fact that the ICC has jurisdiction over environmental crimes,<sup>2320</sup> United Nations Environmental Program “[UNEP] could act as the environmental equivalent of the [United Nations Security Council] with respect to the Rome Statute.”<sup>2321</sup>

Some international law jurists have contended that genocide against the environment (ecocide) should be regarded as a serious breach of international environmental law rules, and treated as a crime of war.<sup>2322</sup> Ecocide means the “denial of life to areas of plants and vegetation, or total destruction of other features of the natural

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<sup>2311</sup> “(a) The judges shall be chosen from among persons of high moral character, impartiality and integrity who possess the qualifications required in their respective States for appointment to the highest judicial offices. (b) Every candidate for election to the Court shall: (i) Have established competence in criminal law and procedure, and the necessary relevant experience, whether as judge, prosecutor, advocate or in other similar capacity, in criminal proceedings; or (ii) Have established competence in relevant areas of international law such as international humanitarian law and the law of human rights, and extensive experience in a professional legal capacity which is of relevance to the judicial work of the Court; (c) Every candidate for election to the Court shall have an excellent knowledge of and be fluent in at least one of the working languages of the Court.” *Id.*, art. 36 (3).

<sup>2312</sup> *Id.*, art. 36 (6).

<sup>2313</sup> *Id.*, art. 38 (1).

<sup>2314</sup> *Id.*, art. 39.

<sup>2315</sup> *Id.*, arts. 39, 64.

<sup>2316</sup> *Id.*, arts. 13 (a), 14.

<sup>2317</sup> *Id.*, art. 13 (b).

<sup>2318</sup> *Id.*, arts. 13 (c), 15.

<sup>2319</sup> *Id.*, art. 19.

<sup>2320</sup> *Id.*, art. 8 (2)(b)(iv).

<sup>2321</sup> McLaughlin, *supra* note (2053) at 406.

<sup>2322</sup> Trooboff, *supra* note (2258) at 23.

environment.”<sup>2323</sup> Including this crime as a war crime could serve deter nations and individuals from committing this kind of wholesale destruction, although it must be said that defining genocide as a crime has not prevented it from happening.

#### **d. Difficulties with the Current System of International Criminal Responsibility**

There exist some legal obstacles that prevent international criminal responsibility from being as effective as it might be. The major obstacle is sovereign immunity, which exempts each State and its high officials from the judicial jurisdiction of another State, or even from the jurisdiction of international tribunals.<sup>2324</sup> According to this principle no obligations can be enforced on a State unless it agrees to be bound by it. Therefore, most of the examined instruments do not bind non-member States to accept the jurisdiction of either the ad hoc or the permanent criminal courts. The ad hoc criminal courts, ICTY, and ICTR have no jurisdiction over crimes committed beyond the former Yugoslavia or Rwanda.<sup>2325</sup> Similarly, the ICC has no jurisdiction over non-member States, unless they express their acceptance.<sup>2326</sup>

However, international law recognizes a “duty to prosecute or extradite” in certain circumstances.<sup>2327</sup> This duty is set forth in number of international instruments including the four Geneva Conventions<sup>2328</sup> and the Additional Protocol I.<sup>2329</sup> Where that duty applies, prosecution presents no threat to States’ sovereignty and eliminates any international tension that may result therefrom. Practically, not all the States are subject to this duty unless they are signatories to these instruments. “The extradite-or-prosecute requirement is intended to ensure that States make some effort to bring [criminals] to

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<sup>2323</sup> *Id.*

<sup>2324</sup> Gallarotti & Preis, *supra* note (2256) at 2.

<sup>2325</sup> For the ICTR *see*, James Bucyana, *The International Penal Tribunal for Rwanda and National Reconciliation*, 8 INT’L J. REFUGEE L. 622, 624 (1996) [hereinafter Bucyana].

<sup>2326</sup> Rome Statute, *supra* note (191) art. 12.

<sup>2327</sup> This duty is codified in most of the international conventions, such as the International Convention Against the Taking of Hostage, Dec. 17, 1997, 1316 U.N.T.S. 205; Convention on the Prevention and Punishment of Crimes Against Internationally Protected Persons, including Diplomatic Agents, Dec. 14, 1973, 1035 U.N.T.S. 167.

<sup>2328</sup> Geneva Convention (I), *supra* note (56) art. 49; Geneva Convention (II), *supra* note (56) art. 50; Geneva Convention (III), *supra* note (56) art. 129; and Geneva Convention (IV), *supra* note (56) art. 146.

<sup>2329</sup> Additional Protocol (I), *supra* note (79) arts. 85, 88.

justice, either through prosecution or extradition.”<sup>2330</sup> Under that requirement, a State has the right to choose between the two procedures, but if prosecution does not respond to the needs of justice, then affected States may intervene. For example, in the case of U.S.A. v. Omar Mohammed Ali Rezaq, et al., Mr. Rezaq

hijacked an Air Egypt flight shortly after takeoff from Athens, and order[ed] it to fly to Malta. On arrival, [he] shot a number of passengers, killing two of them, before he was apprehended. Rezaq pleaded guilty to murder charges in Malta, served seven years in prison, and was released in February 1993. Shortly afterwards, he was taken into custody in Nigeria by the United States authorities and brought to the United States for trial. [He was convicted on one count of aircraft piracy under 49 U.S.C. app. § 1472 (n) (1994)].<sup>2331</sup>

Arguably, the sentence there did not adequately serve justice since seven years in prison does not respond to the harm caused by hijacking, shooting, killing and terrifying innocent civilians. Therefore, despite the prosecution and punishment that took place in Malta, the United States believed that justice had not been achieved, and U.S. agents captured the hijacker and prosecuted him in the U.S.

If, for any reason, the State cannot properly prosecute a criminal suspect, it should extradite him. Extradition is based on a State’s international duty to cooperate. This duty was set forth in the 1973 General Assembly Resolution of the Principles of International Co-operation in the Detention, Arrest, Extradition and Punishment of Persons Guilty of War Crimes Against Humanity.<sup>2332</sup> Specific importance was attributed in that resolution to crimes of war and crimes against humanity based on the fact that “such offenses are international crimes over which there exists universal jurisdiction.”<sup>2333</sup> It would be internationally and environmentally useful to include environmental crimes under this duty, especially where environmental crimes have extraterritorial effects, over which the

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<sup>2330</sup> U.S.A. v. Omar Mohammed Ali Rezaq et al., 134 F. 3d 1121 at 1129, available at <<http://www.kentlaw.edu/perritt/conflicts/airpir.htm>>, (last visit Oct. 25, 2001).

<sup>2331</sup> *Id.*, at 1125.

<sup>2332</sup> Principles of International Co-operation in the Detention, Arrest, Extradition and Punishment of Persons Guilty of War Crimes Against Humanity, G.A.Res. 3074 (XXVIII), U.N. GAOR, 28<sup>th</sup> Sess., Supp. No. 30, at 78, U.N. Doc. A/9030 (1973) [hereinafter Principles of International Co-operation in the Detention, Arrest, Extradition and Punishment].

<sup>2333</sup> Bassiouni, *Crimes Against Humanity*, *supra* note (2270) at 481.

international community should have jurisdiction. Unfortunately, the “extradition of war criminals in general has already been the exception rather than the rule [...] the possibility of extraditing war criminals for the destruction of the environment seems, therefore, hardly a serious option.”<sup>2334</sup>

The violation of the principle of co-operation in the field of detention, arrest, extradition and punishment in war crimes and crimes against humanity is considered “contrary to the United Nations Charter and to generally recognized norms of international law.”<sup>2335</sup> The same view should apply to those environmental crimes that may qualify as crimes of war, especially when they cause “widespread, long-term and severe damage to the natural environment [...]”<sup>2336</sup> Unfortunately, crimes committed against the environment but which do not cause long-term, widespread, and severe damage to the natural environment are not subject to international criminal jurisdiction.

Sometimes the choice between prosecution and extradition is not available, even if the State is a signatory of an international instrument that imposes that duty. A State may be reluctant to prosecute or extradite for a political, ideological, religious, or ethnic reason. For example, Libya, as a result of its political differences with the United States, refused to adhere to the “duty to prosecute or to extradite” provided in the Montreal Convention on Safety of Civil Aviation. Similarly, the Taliban, because of their alleged religious differences with the United States, refused to extradite the suspected terrorist Osama Bin Laden. Some States may offer to prosecute criminals on their own territory, but in a situation where this offer would be internationally unacceptable, because of the State’s role in the crime and, therefore, the international violation. For example, the Libyan offer to prosecute the two national Libyans in the Lockerbie case was unacceptable, because it was believed that the accident was planned by the Libyan Government and executed by its agents. Similarly, prosecuting Bin Laden according to the Afghani legal system was also unacceptable, because there was considerable evidence that Taliban Government was under the influence of Bin Laden.

On the other hand, sovereign immunity excludes some persons from being subject to international criminal responsibility, especially when crimes are committed by heads

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<sup>2334</sup> Tanja, *supra* note (2272) at 487.

<sup>2335</sup> G.A.Res. 2840 (XXVI), U.N. GAOR 26<sup>th</sup> Sess., Supp. No. 29, at 79, U.N. Doc. A/8429 (1971).

<sup>2336</sup> Rome Statute, *supra* note (191) art. 8 (2)(b)(iv).

of State or other influential persons.<sup>2337</sup> For example, the immunity of Saddam Hussein and his official army commanders exempt them from prosecution before the International Criminal Tribunal. Similarly, the immunity of the former Yugoslavian President, Slobodan Milosevic, during his presidential mandate, prevented his prosecution before the ICTY for his responsibility in the killing and expulsions of thousands of ethnic Albanians in the Serbian province of Kosovo.<sup>2338</sup> Once this mandate expired, the Yugoslavian authority handed over Milosevic to The Hague, where the ICTY is located, to be the first former head of State to be prosecuted in that forum.<sup>2339</sup> Saddam Hussein and his army leaders will not be prosecuted for the war crimes that they committed as long as they remain in power, unless another State can obtain physical custody over them,<sup>2340</sup> such as when the United States successfully arrested General Manuel Noreiga<sup>2341</sup> in Panama to try him in the U.S.<sup>2342</sup>

The U.S., in similar circumstances, could prosecute the persons suspected of hijacking the cruise ship, Achille Lauro, and killing an American,<sup>2343</sup> only by gaining physical custody over the suspects. The U.S. got physical custody by using a military aircraft to force an Egyptian airplane, which was transporting the suspects from Italy to Egypt, to land.<sup>2344</sup> Similarly, Israel abducted suspected Nazi war criminal, Adolf Eichmann, from Argentina, in order to prosecute him in Israel for war crimes and genocide.<sup>2345</sup> Israel, faced with repeated refusals to extradite Eichmann, claimed that it had no alternative but to kidnap him and, thus, proceeded to try, convict, and execute him.<sup>2346</sup> Such tasks are not always easy. For instance, the United States failed to capture the Somali warlord Mohammed Farah Aidid,<sup>2347</sup> who was responsible for the murder of

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<sup>2337</sup> Gallarotti & Preis, *supra* note (2256) at 19.

<sup>2338</sup> *Milosevic Jailed*, *supra* note (2338).

<sup>2339</sup> Mary-Lea Cox, *supra* note (2287) at 1.

<sup>2340</sup> Gupta, *supra* note (62) at 267.

<sup>2341</sup> Patrick M. Hagan, *Government Sponsored Extraterritorial Abductions in the New World Order: The Uuclear Role of International Law in United States Courts and Foreign Policy*, 17 SUFFOLK TRANSNAT'L L. REV. 438, 449 (1994) [hereinafter Hagan].

<sup>2342</sup> Gallarotti & Preis, *supra* note (2256) at 46 (1999); *Id.*, at 343.

<sup>2343</sup> *Id.*, at 48.

<sup>2344</sup> *Id.*

<sup>2345</sup> Matthew Lippman, *Towards an International Criminal Court*, 3 SAN DIEGO JUST. J. 1, 89-90 (1995).

<sup>2346</sup> *Id.*, at 89-90.

<sup>2347</sup> Michael Ross, *Nunn Criticizes U.N. Hunt for Somali Warlord Aidid*, L.A. TIMES, Sept. 27, 1993, at A12 [hereinafter Ross, *Nunn Criticizes U.N.*].



24 U.N. Peacekeeping troops in 1993.<sup>2348</sup> The difficulty in this case was attributed to local loyalty and the knowledge by Aidid of his homeland.<sup>2349</sup>

It can be argued that the U.S. action in Panama was a breach of Panama's national sovereignty, because General Noreiga was subject to arrest by the Panamanian authorities and not by the United States, unless Panama asked the U.S. for help. The entry of the U.S. forces into Panama to arrest Noreiga would be lawful only if made pursuant to such a request. Similarly, the U.S. action to arrest the suspected Achille Laura hijackers could be seen as a violation of the sovereignty of both the State of the airplane's registry, as well as a violation of the airspace of the country over which the airplane was flying. Likewise, the Israeli action of kidnapping Eichmann was also a violation of Argentina sovereignty, since Argentina granted Eichmann the right of asylum. Therefore, his abduction by Israel inside Argentina's territory without their permission could be considered a breach of Argentina's national sovereignty.

The legality of such unilateral actions must be viewed in light of two elements: a physical element and a moral element. The physical element is the action itself. The moral element involves the question of whether the action should be internationally accepted. In the forecited examples, the moral element was absent since the actions were not internationally accepted and violated other States' sovereignty. Thus, these unilateral actions tended to undermine the effectiveness of international criminal law.

The Rome Statute of the ICC creates a State duty to cooperate and hand over criminals. Article 90 (7)(a), (b) of the Rome Statute provides that

7. Where a State Party which receives a request from the Court for the surrender of a person also receives a request from any State for the extradition of the same person for conduct other than that which constitutes the crime for which the Court seeks the person's surrender:

- (a) The requested State shall, if it is not under an existing international obligation to extradite the person to the requesting State, give priority to the request from the Court;
- (b) The requested State shall, if it is under an existing international obligation to extradite the person to the requesting State, determine whether to surrender the person to the Court or

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<sup>2348</sup> S.C. Res. 837, U.N. SCOR, 48<sup>th</sup> Sess., 3229<sup>th</sup> mtg. at 83, U.N. Doc. S/RES/837 (1993).

<sup>2349</sup> Gupta, *supra* note (62) at 267.

to extradite the person to the requesting State. In making its decision, the requested State shall consider all the relevant factors, including but not limited to those set out in paragraph 6, but shall give special consideration to the relative nature and gravity of the conduct in question.

Under this statute, States must adhere to the international law rules and obligations, and do not act unilaterally to arrest or abduct terrorists and criminals. Otherwise, these disputes will be settled simply by power, not by law.

Significantly, some States do not grant any protection to criminal perpetrators even under the coverage of immunity, at least for particularly serious crimes. For example, when an international warrant was issued by a Spanish judge, the United Kingdom rejected the immunity claimed by Augusto Pinochet, and he was arrested during his hospitalization in London for crimes against humanity committed while he was the Chilean head of State.<sup>2350</sup> The United Kingdom thus created a precedent for other States to dismiss immunity claims for such serious crimes.

Another kind of shield that can protect criminal suspects is international amnesty. The amnesty accorded to alleged World War I Turkish criminals of war is a unique example of the international protection of war criminals.<sup>2351</sup> “In 1923, after the failure of ratification of the 1919 Treaty of Sèvres,<sup>2352</sup> which required that the Turkish government turn over to the allies those responsible for [killing of Americans, however,] the Treaty of Lausanne<sup>2353</sup> excluded such provision and a protocol was attached, giving amnesty to the Turks who had committed the crime irrespective of whether they acted as State actors or non-State actors.”<sup>2354</sup> This amnesty can itself be viewed as an international crime committed by those who signed and negotiated it.

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<sup>2350</sup> Bruno Simma & Andreas L. Paulus, *The Responsibility of Individuals for Human Rights Abused in Internal Conflicts: A Positive View*, 93 AM. J. INT’L L. 302, 314-15 (1999)[hereinafter Simma & Paulus].

<sup>2351</sup> M. Chreif Bassiouni, *The Normative Framework of International Humanitarian Law: Overlap, Gaps and Ambiguities*, in INTERNATIONAL CRIMINAL RESPONSIBILITY 247(M. CHERIF BASSIOUNI, 1999) [hereinafter Bassiouni, *The Normative Framework of International Humanitarian Law*].

<sup>2352</sup> Treaty of Peace Between the Allied Powers and Turkey, Aug. 10, 1920, available at 15 AM. J. INT’L L. 179 (Supp. 1921).

<sup>2353</sup> Treaty with Turkey and Other Instruments, Lausanne, Jul. 24, 1923, available at 18 AM. J. INT’L L. 1 (Supp. 1925).

<sup>2354</sup> JAMES F. WILLIS, PROLOGUE TO NUREMBERG: THE POLITICS AND DIPLOMACY OF PUNISHING WAR CRIMINALS OF THE FIRST WORLD WAR (1982), cited in Bassiouni, *The Normative Framework of International Humanitarian Law*, *supra* note (2351) at 620-1.

A different kind of problem is illustrated by the ad hoc tribunals, Nuremberg, Tokyo, ICTY, and ICTR, all of which were criticized for establishing “justice after the fact. Since [they] have been created in response to transgression, critiques have questioned whether justice was carried out according to the generally accepted principles of *nulun crimen and peona sine lege* [no crime or punishment without prior law].”<sup>2355</sup> Some scholars noted that, during the actual trials, ICTY and ICTR Judges were creating laws and procedures.<sup>2356</sup> The ICC is excluded from such critique because it was created and its laws were codified before any trial took place, and even before any violation occurred. However, even as to the ad hoc tribunals, its laws were not created after the violation occurred, but before, and indeed even before the creation of these tribunals. The instruments that established the ad hoc tribunals did not create criminal law, but only reaffirmed the laws of IHL, IEL, and EHRs that previously existed.

Despite these difficulties in assigning international criminal responsibility, efforts must be made in order to vindicate the rights of victims. The Criminal responsibility of individuals does not, in any way, exclude State responsibility, but makes “individual responsibility [...] additional to, and not exclusive of, the responsibility of the government concerned.”<sup>2357</sup> Both the State and individual are subject to criminal sanctions. In The Prosecutor v. Tadic, while recognizing the criminal responsibility of the accused, the ICTY considered that “[t]he continued indirect involvement of the Government of the [former] Yugoslavia in the armed conflict in the Republic of Bosnia and Herzegovina [...] gives rise to issues of State responsibility [...].”<sup>2358</sup> The same position was taken by the United States Congress when it declared, after the damage caused by Iraq to the Kuwaiti environment in 1991, that “Saddam Hussein and Iraq”

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<sup>2355</sup> Gallarotti & Preis, *supra* note (2256) at 21; Bassiouni, *Crimes Against Humanity*, *supra* note (2270) at 468.

<sup>2356</sup> Sandra L. Jamison, *A Permanent International Criminal Court: A Proposal That Overcomes Past Objections*, 23 DENV. J. INT’L L. & POL’Y 417, 437-38 (1995) [hereinafter Jamison]; A. Rohan Perera, *Toward the Establishment of An International Criminal Court*, 20 COMMONWEALTH L. BULL. 298, 300 (1994) [hereinafter Perera].

<sup>2357</sup> United Kingdom Manual of Military Law, Part III, 173 (1958); U.S. Department of the Navy, Annotated Supplement to the Commanders’ Handbook on the Law of Naval Operations, NWP 9 (Rev. A)/FMFM 1-10 (1989), Chapter 6, n. 19; Germany Humanitarian Law in Armed Conflicts Manual, para. 12M (1992).

<sup>2358</sup> The Prosecutor v. Dusko Tadic, Judgment of May 7, 1997, Trial Chamber II, IT-94-IT, para. 606.

should be held legally, morally, and financially accountable for its crimes against the environment.<sup>2359</sup>

The politicization of the international crimes, including those committed against the environment, is another difficulty facing the achievement of international criminal responsibility. For example, according to the national, regional or ethnic beliefs, certain acts can be interpreted as heroic acts, even while they can also be interpreted as crimes of war in other parts of the world. This issue has been raised repeatedly during terrorist attacks against Israel or its interests, where terrorists have been described by some anti-Israeli movements as heroes and martyrs.

Political considerations can influence a State's decision as to whether to prosecute crimes of war. Some crimes may be prosecuted vigorously, while others may be ignored despite their severity. Since the aftermath of World War II, "many crime have been committed but very few have been prosecuted."<sup>2360</sup> Many of these crimes have been committed during wars waged by national leaders. Should these leaders be held "responsible [for] simply adopt[ing] or knowingly permitt[ing] the adoption of policies and objectives the realization of which was likely to lead to the commission of [environmental] crimes[?]"<sup>2361</sup> Under international practice, the response to this question is not clear. Some national leaders have been held responsible for their policies in waging wars, while some others have not. For instance, "it is well-known that Truman, the [former] President of the United States, personally made the decision to use the [atomic bombs in Japan in World War II],"<sup>2362</sup> and "[the former] President Nixon and [his Secretary of State] Dr. Kissinger [designed the policy of American military intervention in Vietnam]."<sup>2363</sup> Their potential criminal responsibility for the violation of the laws of war has never been litigated. Another example involves the Khmer Rouge, who were responsible for what are probably the worst mass killings since World War II. However, they "were dignifie[d] in October 1991 as party to an agreement to end the civil war, [and

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<sup>2359</sup> H.R.REP. No. 57, 102d Cong., 1<sup>st</sup> Sess., 137 CONG.REC. 1824 (1991).

<sup>2360</sup> See, Andries, *Report to the Committee on Military Criminology, International Society for Military Criminal Law and the Law of War*, 29 REV. DE DROIT MILITAIRE ET DE DROIT DE LA GUERRE 422 (1990).

<sup>2361</sup> Richard A. Wasserstrom, *Individual Responsibility in Warfare*, in LAW AND RESPONSIBILITY IN WARFARE, 209 (PETER D. TROOBOFF, 1975) [hereinafter Wasserstrom].

<sup>2362</sup> Green, *State Responsibility*, *supra* note (1642) at 424.

were] grant[ed] legitimacy and freedom from punishment as part of the new government.”<sup>2364</sup>

A different example involves the United States and the Allies troops, who after liberating Kuwait in February 1991, entered South Iraq to assure the complete defeat of the Iraqi invaders at home, but withdrew without any attempt to arrest the Iraqi criminals of war, including Saddam Hussein. The U.S. made the political decision that the arrest and prosecution of Saddam Hussein was undesirable, since the Iraqi President is Sunni and the United States does not want the region to be governed by extremists Shiaa, particularly since Iran, on the other side of the Gulf, is governed by Shiaa. So political considerations resulted in no prosecution. In fact, after the cease-fire nothing was heard from the U.S. or its allies about any war crimes or the criminal responsibility of Saddam Hussein. This attitude was also transmitted to the Security Council since its resolutions were silent on this issue.<sup>2365</sup> The result is that, almost eleven years after the signature of cease-fire, Saddam Hussein and other Iraqi criminals of war are still ruling the country rather than being prosecuted in international criminal tribunals.

In contrast, Slobodan Milosevic, after negotiating and signing the peace treaty with Bosnia-Herzegovina, was captured in April 2001,<sup>2366</sup> and is being tried by the ICTY for his crimes of war.

The forecited examples reflect the double standards of the international community as a direct result of politicizing the rules of international law. They leave the impression that international criminal justice is imposed by victorious States, or the great powers,<sup>2367</sup> as they wish. As a result, the credibility of international criminal institutions is undermined.

To maintain the effectiveness and credibility of international criminal justice, it would be necessary to be substantive and objective in dealing with international crimes

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<sup>2363</sup> Townsend Hoopes, *The Nuremberg Suggestion*, in CRIMES OF WAR 233-37 (FALK ET AL. EDS., 1971).

<sup>2364</sup> Bassiouni, *Crimes Against Humanity*, *supra* note (2270) at 493.

<sup>2365</sup> Adam Robert, *Environmental Issues in International armed Conflict: The Experience of the 1991 Gulf War*, in PROTECTION OF THE ENVIRONMENT DURING ARMED CONFLICT 256 (RICHARD J. GRUNAWALT ET AL. EDS., 1996) [hereinafter Robert, *Environmental Issues*].

<sup>2366</sup> CNN.Com, *Milosevic Jailed in The Hague*, available at <<http://www.cnn.com/2001/WORLD/europe/06/28/milosevic.court/index.html>>, (last visit Oct. 30, 2001)[hereinafter *Milosevic Jailed*].

<sup>2367</sup> Bassiouni, *Crimes Against Humanity*, *supra* note (2270) at 466-67.

and criminals. This is particularly so when such crimes result in sacrificing international law principles, such as State sovereignty. The ICC should have extensive jurisdiction over crimes committed within the national jurisdiction of non-member States. The ICC should also have jurisdiction over crimes committed before its formation. In conclusion, the international responsibility system is by no means perfect, and too often, States hide behind their sovereignty and allow some individuals to be protected from the system of justice.

### ***B- National Responsibility***

National responsibility arises from the laws of individual States, consistent with a State's legislative, judicial and executive powers. Persons suspected of international crimes might be prosecuted under national laws, by national judges, and punished by national enforcement authorities.

The national system has traditionally had a priority over the international system, where questions arise of violation of either national rules or international ones.<sup>2368</sup> For instance, when a national legal system is effective in prosecuting criminals and serving justice, the international legal system will be excluded from intervention. According to this rule, Germany was given the right to prosecute its citizens who were involved in crimes of war during World War I.<sup>2369</sup> However, in that case, the national legal system did not serve the ends of justice, since most of the criminals escaped punishment.<sup>2370</sup> After World War II, military tribunals were established under the national legal system of each Allied State to prosecute criminals of war,<sup>2371</sup> along with the international military tribunals of Tokyo and Nuremberg.

National legal systems differ from each other, sometimes in significant ways. For example, some countries function under the common law system, based on judicial precedents, such as the United States. Other countries have adopted the civil law system, based on codified laws according to which judges are subordinated, such as France,

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<sup>2368</sup> Gallarotti & Preis, *supra* note (2256) at 6.

<sup>2369</sup> FRIEDMAN, *supra* note (2259) at 776-77.

<sup>2370</sup> *Id.*

<sup>2371</sup> Trooboff, *supra* note (2258) at 20. See also, Matthew Lippman, *Prosecutions of Nazi War Criminals Before Post-World War II Domestic Tribunals*, 8 U.MIAMI INT'L & COMP. L. REV. 1 (1999-2000) [hereinafter Lippman, *Prosecutions of Nazi*].

Egypt, and Kuwait. Moreover, even this simple classification is very complicated, since the sources of law vary dramatically from one country to another. For example, some countries give priority to the codified rules of law, some others grant this priority to the customary laws of the nation, others consider religious rules dominant over any other laws.

These difference can have a substantial effect on the relations between nations, since an act of an individual may be considered legal in one nation, and illegal in another nation. For example, the occidental nationals who attempted to spread Christianity in Afghanistan, in August 2001, acted legally according to Western legal principles, since teaching any religion is considered a matter of liberty, that is assured by the European Convention for the Human Rights<sup>2372</sup> and is a constitutional right in many European countries. However, spreading Christianity or any other religion in Afghanistan is considered a severe crime.

Therefore, as long as international relations exist, such differences will exist too. Nevertheless, to eliminate and reduce their negative effects at least on the environment, as a global common, a standard environmental law should be formulated, examined by the representatives of all nations, and its final draft should be transmitted to the legislators in each country for comments prior to being adopted as a national law. It is in the ultimate interest of all States to adopt and encourage such a model environmental law. This idea may take a long time to be realized, but it will greatly serve our generation and future generations as well.

Until this idea turns into a fact, we should deal with the current situation and try to illustrate the mechanisms available on the national level to assure environmental protection. Most national systems extend traditional concepts of responsibility to cover environmental matters. However, each national system has its own rules of responsibility. For example, most national legal systems, directly or indirectly, enacted laws that punish environmental crimes. Nevertheless, the same environmental crime can be considered as misdemeanor in one nation and as a felony in another nation. The punishment may be

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<sup>2372</sup> Convention for the Protection of Human Rights and Fundamental Freedoms, 4 Nov. 1950, art. 9, 213 U.N.T.S. 221 (1955).

monetary only in one country, and imprisonment in another, based on many factors, including the environmental awareness in each nation.

Warfare environmental damages, theoretically, can be sought in the national courts of the victim nation. However, even when the involved nations have similar legal systems, the perpetrators “would normally be entitled to sovereign immunity” from prosecution in a State other than their own.<sup>2373</sup> Even if the perpetrators are not immune, “the act of State doctrine would bar consideration of the merits of the claim in some jurisdictions.”<sup>2374</sup>

It would be useful here to mention that in some States, particularly the Third World States, armed forces have a certain immunity for reasons of military secrecy. This immunity prevents any other national authority from imposing control or rules of enforcement over military activities and installations. Nonetheless, within the State, military activities should not be excluded from any control. Special military authorities could be created to fulfill the goal of civil authorities. For instance, military courts could be established to examine cases involving military activities, and military police could be created to replace the traditional police forces in order to enforce military laws. These military authorities are usually governed by the military, and are trained by military personnel, which would increase their credibility and their effectiveness.

On the other hand, in circumstances such as civil wars, piracy, and narco-traffic situations, where States are incapable of establishing order and responsibility, then a new legal concept of responsibility, such as the United Nations’ humanitarian intervention, must be applied. To control these situations, there should be some international force that can step into nations to capture war criminals, to stop genocide or avoid terrible environmental catastrophes. Here, the new legal concept of responsibility, which may be called “internal responsibility,”<sup>2375</sup> could be applied. One example of that kind of responsibility is the case of Panamanian President, Manuel Noreiga, who was protected by sovereign immunity although he was a drug dealer. An international force could have

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<sup>2373</sup> Greenwood, *State Responsibility*, *supra* note (2056) at 411.

<sup>2374</sup> *Id.*, at 412.

<sup>2375</sup> Internal responsibility means that type of responsibility, which is partly national and partly international. For example, when the prosecutors in The Hague ask for the arrest of war criminals, their arrest may be national or international, by NATO, government officials, or police forces of any State. The result will be that they are giving war criminals back to the international tribunal.



effected his arrest without an invasion by another country. Another example is piracy, which has been considered as “hostis humani generis,”<sup>2376</sup> i.e., a crime against all countries. Pirates continue to commit crimes in the Malacca Strait and in the waters of southeast Asia. International forces could serve an important function, because the two involved States, Indonesia and Malaysia, do not have the power to stop such crime.

In other situations, such as slavery, genocide, long-lasting irreversible environmental damage, drugs, or civil wars, there should be rules delineating when the international community can intervene to help, stabilize the condition and make the international rules work. These rules have to be defended wherever and whenever they are weakened. For instance, if genocide takes place in a certain place, such as the former Yugoslavia, a failure to prosecute will weaken the protection against genocide every place else. The international community should recognize that when these horrible events happen, they are not just the internal affairs of a certain State, but concern all nations. Thus, there should be some kind of responsibility to cover the forecited situations, and it is not the same kind of State responsibility that may arise out of formally declared war between nations.

The absence of rules creating this kind of responsibility amounts to a missing link in the international order. Until that link is created, there will be no reliable system for punishing war crimes that arise in these kinds of shadowy situations. The intervention of international forces to stabilize these situations is necessary, and may become more necessary in the coming years. Nevertheless, until these ideas are accepted among nations, the principal means of imposing responsibility for warfare environmental damage is under national law. And indeed, national laws may impose more stringent environmental constraints than international law in some cases.

Responsibility under a nation’s law may be found in three possible situations: (A) Past actions which were already crimes or acts entailing civil liability; (B) Past actions not yet crimes under the national law, but unlawful under international law and; (C) Past actions which were not crimes or civil wrongs when committed, but are so under

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<sup>2376</sup> Zou Keyuan, *Enforcing the Law of Piracy in the South China Sea*, 31 MARITIME L & COMM. 107, 107 (2000).

revisions of national law. This section will examine each of the forecited situations in two different legal systems, the United States system and the State of Kuwait system.

### **1. Past Actions which were Already Crimes or Acts Entailing Civil Liability**

In the case of the United States, since the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)<sup>2377</sup> had already gone into effect, the prosecution was for acts that had already been defined as crimes. Therefore, under CERCLA, even the “federal government has been held accountable for cleanup costs associated with government-owned hazardous substances.”<sup>2378</sup> CERCLA also created liability for private parties either to implement government cleanup programs at each site or to reimburse government cleanup expenses.<sup>2379</sup>

Liability under CERCLA is strict, joint and several, and retroactive upon past and present owners, transporters, and generators of hazardous waste, for “all costs of removal or remedial actions.”<sup>2380</sup> In another words, liability is imposed under CERCLA for the costs of removing the waste and restoring the site to acceptable environmental quality.

Strict liability holds parties accountable for waste disposal practices regardless of intent, negligence, or causal connection. Joint and several liability ensures that all liable parties at a site are responsible for the entire cleanup. Retroactive liability holds responsible parties liable for waste disposal practices that took place before CERCLA was enacted, and which may have been legal at the time of disposal.<sup>2381</sup>

Under another U.S. environmental statute, the Resource Conservation and Recovery Act (RCRA), any person who: “1) knowingly transports or causes to be transported any hazardous waste or [...] 2) knowingly treats, stores, or dispose of any hazardous waste [...] or 3) knowingly omits material information or makes any false material statement [...] in any application, label, manifest [...] or 4) knowingly generates, store, treats, transports, disposes of, exports, or [...] handles any hazardous

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<sup>2377</sup> CERCLA, *supra* note (1361).

<sup>2378</sup> Hoover, *supra* note (534) at 134; *See, FMC Corp. v. United States Dept. of Commerce*, 29 F.3d 833 (3d Cir. 1994) (holding the United States liable for cleanup costs as an operator within the meaning of CERCLA).

<sup>2379</sup> Gaines, *supra* note (2113) at 342.

<sup>2380</sup> CERCLA, § 107(a)(4)(A)-(D), 42 U.S.C. § 9607(a)(4)(A)-(D).

waste[...],”<sup>2382</sup> shall be subject to fines of up to \$50,000 for each day of violation, or up to two years imprisonment, or both.<sup>2383</sup> Under RCRA the Environmental Protection Agency (EPA) can initiate and conduct investigations, and refer the matter to the Attorney General for prosecution if necessary.<sup>2384</sup>

Another U.S. statute, the Clean Water Act (CWA),<sup>2385</sup> was enacted to “restore and maintain the chemical, physical and biological integrity of the nation’s waters.”<sup>2386</sup> Unlike CERCLA,<sup>2387</sup> it applies only to releases or threats of releases of certain substances into navigable waters.<sup>2388</sup> Section 311 (b)(1) of the CWA prohibits the discharge of oil into the navigable waters of the United States, the adjoining shoreline, contiguous zones, or certain other designated areas, or discharge which may affect natural resources belonging to or managed by the United States. Discharge of oil from a “public vessel”<sup>2389</sup> is excluded from the CWA’s civil, administrative and criminal penalties.<sup>2390</sup>

According to Section 309 (b), persons who violate the requirements of the CWA, including discharging without a permit or in violation of a permit, are subject to civil penalties by EPA, including a permanent or temporary injunction. More significant, however, is the fact that the Congress gave EPA the authority to impose administrative penalties without going to court.<sup>2391</sup> After seeking review EPA of the decision to impose administrative penalties, alleged violators may seek judicial review of EPA’s imposition of such penalties.<sup>2392</sup> The administrative penalties will not bar a citizen suit if was brought before the commencement of the administrative penalties.<sup>2393</sup> Additionally, the CWA authorizes criminal prosecution for certain negligent or knowing violations of the

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<sup>2381</sup> Brian J. Pinkowski, *Simplifying CERCLA Defenses to Liability*, 28 URB. L. 197, 201 (1996).

<sup>2382</sup> RCRA, § 3008 (d), 42 U.S.C. § 6928 (d).

<sup>2383</sup> *Id.*

<sup>2384</sup> RCRA, § 2002 (c), 42 U.S.C. § 6912 (c).

<sup>2385</sup> CWA, 33 U.S.C.A. §§ 1252-1387, (1972).

<sup>2386</sup> CWA, § 101 (a), 33 U.S.C. § 1251 (a).

<sup>2387</sup> Although CERCLA applies to water pollution within the U.S., it excludes petroleum from its definition of “hazardous substance.” *See*, CERCLA, § 101 (14), 42 U.S.C. § 9601 (14).

<sup>2388</sup> CWA, § 311, 33 U.S.C. § 1321.

<sup>2389</sup> “Public vessel” means a vessel owned or [...] operated by the United States. *See*, CWA, § 311 (a)(4), 33 U.S.C. § 1321 (a)(4).

<sup>2390</sup> CWA, § 311 (b)(5)-(7), 33 U.S.C. § 1321 (b)(5)-(7); Cervi, *supra* note (347) at 374.

<sup>2391</sup> CWA, § 309 (g), 33 U.S.C. § 1319 (g).

<sup>2392</sup> CWA, § 309 (g)(8), 33 U.S.C. § 1319 (g)(8).

<sup>2393</sup> CWA, § 309 (g)(6)(B), 33 U.S.C. § 1319 (g)(6)(B).

Act,<sup>2394</sup> and for knowing endangerment, where a person knowingly violates the CWA and thereby places another person in imminent danger of death or serious bodily injury.<sup>2395</sup>

The Oil Pollution Act of 1990 (OPA)<sup>2396</sup> imposes liability on parties responsible for vessels or facilities that discharge oil or pose the substantial threat of a discharge of oil into the navigable waters, shorelines or exclusive economic zone of the United States.<sup>2397</sup> The OPA provides damages for, inter alia, injury to natural resources, economic losses, and removal costs.<sup>2398</sup> Significantly, the OPA provides certain foreign governments and individuals a right to claim removal costs or damages resulting from discharges or substantial threats of discharges of oil from “Outer Continental Shelf” facilities or deep water ports, a vessel in navigable waters, a vessel carrying oil as cargo within the United States, or an Alaskan pipeline tanker.<sup>2399</sup> Public vessels,<sup>2400</sup> however, excluded from the statutory reach of OPA.<sup>2401</sup>

Thus, if a person is prosecuted under one of the forecited statutes after it has gone into effect, then his acts have previously been defined as crimes.

On the other hand, in the case of Kuwait, the production and exportation of the crude oil is the main source of living. This kind of activity threatens the environment if not restricted by the rules of law, especially since the technology and the experience in that field are not very advanced. Some laws regulating the production and exportation of oil do reflect concern with environmental protection. For instance, Law No. 12/1964 Concerning the Prohibition of Navigable Water Pollution by Oil,<sup>2402</sup> designed to assure the protection of the marine environment in Kuwait, and Law No. 19/1973 Concerning the Conservation of the Petroleum Fortune Resources and its Executive Rules,<sup>2403</sup> include

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<sup>2394</sup> CWA, § 309 (c)(1)-(2), 33 U.S.C. § 1319 (c)(1)-(2).

<sup>2395</sup> CWA, § 309 (c)(3), 33 U.S.C. § 1319 (c)(3).

<sup>2396</sup> Oil Pollution Act of 1990, 33 U.S.C. 2701-2761 (1994 & Supp. IV 1998).

<sup>2397</sup> OPA, § 1002 (a), 33 U.S.C. § 2702 (a).

<sup>2398</sup> OPA, § 1002, 33 U.S.C. § 2702.

<sup>2399</sup> OPA, § 1007, 33 U.S.C. § 2707.

<sup>2400</sup> “Vessel” means every description of water craft or other artificial contrivance used, or capable of being used, as a means of transportation on water, other than a public vessel. OPA, § 1001 (37), 33 U.S.C. § 2701 (37).

<sup>2401</sup> OPA, § 1002 (c)(2), 33 U.S.C. § 2702 (c)(2).

<sup>2402</sup> Kuwaiti Navigable Water Pollution Prohibition Act, *supra* note (1524).

<sup>2403</sup> Petroleum Resources Conservation Law, *supra* note (1515).

some provisions to assure the environmentally friendly exploitation of petroleum resources.

Article 4 (1) of Law No. 12/1964 provides that “any pollution [that occurs in marine areas by discharging, leakage of oil or any other liquid containing oil from any ship or land-base source, as] described in Articles 1<sup>2404</sup> and 2<sup>2405</sup> of this law is punishable by a fine of up to 40,000 Kuwaiti Dinard (“KD”).<sup>2406</sup> It is notable that a violation of this law is punishable only by a fine, not by imprisonment. However, under this provision, the High Court of Kuwait has, in a number of cases, fined the owner or the captain of the ship for polluting the marine environment with oil.<sup>2407</sup> Fines are not always an effective deterrent, since oil companies make fortunes out of their activities and paying some thousands of KDs will not stop them from continuing their harmful operations.

A historical example of marine environment pollution by oil occurred in 1990, during the Iraqi invasion of Kuwait, when marine areas were considerably polluted by Iraqi armed forces who discharged crude oil into these areas from land-base sources in Mina’a Al-Ahmady, and from oil tankers already moored in Kuwaiti seaports.<sup>2408</sup> The persons who committed such crimes escaped international justice, but if they are captured and judged according to the Kuwaiti laws, they will be maximally fined. Nevertheless, no fine will be adequate to address the harm that they caused to the marine environment. Article 4 (1) is applicable to cases of oil pollution only. Other causes of pollution, such as munitions that may explode during military maneuvers, or under-sea mine explosions, are not subject to this Article, even if they cause severe marine environment pollution.

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<sup>2404</sup> Article 1 of the Law articulated that “[p]olluting naval areas, [Kuwait internal waters and territorial sea] that defined in Paragraph 2 of this Article, is completely prohibited, whether by discharging, or leaking oil, or any other liquid containing oil, from any ship, any place on the land, or any equipment prepared to store the oil, or to transport it from one place to another, on board the ship or on the land[...].” Kuwaiti Navigable Water Pollution Prohibition Act, *supra* note (1524) art. 1.

<sup>2405</sup> Article 2 of the Kuwaiti Navigable Water Pollution Prohibition Law provides that “Any cargo registered at Kuwait and designed to load ‘150’ tons and more, and any other ship registered in Kuwait and designed to load ‘500’ tons and more, are prohibited from discharging oil or any other liquid containing no less than hundred units in each million, in any area that considered prohibitive to it, according with annex No.1 of this law.” Kuwaiti Navigable Water Pollution Prohibition Law, *supra* note (1524) art 2 (1).

<sup>2406</sup> *Id.*, art 4. One KD= 3.3 U.S. Dollars as of 2002.

<sup>2407</sup> See, THE LEGAL ASPECTS OF MARITIME POLLUTION WITH PARTICULAR REFERENCE TO THE ARABIAN GULF, Chap. 9, at 220-224, cited in Badryah Al-Awady, Commentarie, *The Judgment Concerning Polluting the Seas with Oil: the Necessity to Discard the Negligence as a Bases for Responsibility in Pollution Cases* (in Arabic), 1 L. & SHARIA J. 193, 195-96 (1979).

<sup>2408</sup> Schmitt, *supra* note (971) at 14, 18.

The Kuwaiti government gave implicit criminal immunity for foreign petroleum companies, to encourage them to exploit the Kuwaiti petroleum resources. For example, Law No. 19/1973 related to Conservation of the Petroleum Fortune Resources did not include any criminal responsibility for its violation, even in Article 3 which addresses environmental damage.<sup>2409</sup> It does, however, include civil and administrative liabilities. Article 10 of that statute provides that

[a]n administrative penalty of the amount not less than KD 10.000 and not exceeding KD 50.000 will be imposed for each violation to this law or its executive rules. If the same violation's committed within three years from the date of the precedent violation, the mentioned punishment will double. If the violation harms the petroleum patrimony, an appropriate compensation will be imposed beside the mentioned penalty. This administrative punishment or the imposed compensation will not interfere with any other punishment or penalty defined in the laws, regulations, and contractual or international agreements.

KD 10.000 is the minimum administrative penalty for the prohibited environmental harm. In addition, the responsible party has to pay appropriate compensation to cover the costs of cleanup and rehabilitation. Unfortunately, Article 10 is applicable to petroleum operations only, which means that if the same damage occurred as a result of military operations, it will not be subject to this Article.

Kuwait Municipality issued Announcement No. 130/98,<sup>2410</sup> relevant to the public use of the desert's environment. The Announcement examines and regulates the environmental effects of the spring camps. It requires campers not to kill animals or destroy plants.<sup>2411</sup> Any violation of the Announcement will be subject to the punishment provided in the law of the public cleanliness.<sup>2412</sup> Kuwait military forces use training camp in the desert of Kuwait, and therefore should be subject to the same rules addressed

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<sup>2409</sup> Article 3 of the law relevant to the Conservation of the Petroleum Fortune Resources provides that "[E]ach delegated in the work, should take all necessary precautionary measures and actions to prevent any damage or risk produced from petroleum operations, on human life, public health, property, natural resources patrimony, cemeteries, religious, antiquarian, or tourism sites. He should also take all necessary precautionary measures to prevent air, surface and underground waters pollution."

<sup>2410</sup> Kuwait Municipality Announcement, *supra* note (1543).

<sup>2411</sup> *Id.*, at 8.

<sup>2412</sup> "[A] fine not less than KD 5 and not more than KD 200 will be imposed for the violation of [the Public Cleanliness Law] provisions." Law Decree of the Cleanliness, *supra* note (1517) art. 3.

by the announcement, especially since some military campers discard ammunitions' debris and toxic materials on their sites. However, they are not.

The Environmental Public Authority (EPA) Law goes further, and imposes criminal punishment in addition to liability for cleanup procedures. Article 13 of the Kuwaiti EPA Law provides that

[w]ithout prejudice to any other severe penalty stipulated by another law, anyone who violates the norms and conditions provided for in Article 8,<sup>2413</sup> or violates the suspension order stipulated in Article 10 of this law,<sup>2414</sup> shall be punished with imprisonment for a period not exceeding three years or a fine not exceeding KD 10.000 or with both penalties if repeated. In addition, the Court may confiscate the materials that cause pollution of the environment or have harmful effects. The Court may oblige the authority causing the pollution or the harm to bear all costs required for remedying harm that may affect the environment and which is a direct result of the violation, and to remove the pollutants at their expense or close the places where work is the source of pollution for a period not exceeding three months and in case of repetition of the violation, the Court may rule, the cancellation of the licenses[...].<sup>2415</sup>

Despite the applicability of this Article to civilian activities, there is no legal obstacle that may prevent its applicability to military activities, unless explicitly excluded by another law. It is remarkable that the EPA Law emphasizes environmental protection by giving the Court the ability to confiscate any materials determined to be a source of pollution. This law also grants the Court the power to require a defendant to pay expenses for the cleanup of all damage that directly results from the violation. The Court has also the right to temporarily order the closure of the source of pollution. However, Article 13 also has its weaknesses as a vehicle for protecting the environment. First, although the

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<sup>2413</sup> Article 8 of the Kuwaiti Environmental Public Authority Law provides that “[t]he Board of Directors shall prepare the systems and criteria that might be found upon determination of the location or establish or use or remove of any establishment or production of materials or carry out operations or any other activity that may lead to environmental pollution. The Authority shall carry out and execute environmental impact studies of the development projects. The Authority, in case of violating these systems and conditions, may suspend the execution of the project and withdraw the license of the violator of the works or the establishments or the activities. The authorities and the parties concerned are obliged to respond to this request.” The Kuwaiti Environmental Public Authority Law, *supra* note (967) art. 8.

<sup>2414</sup> The Kuwaiti Environmental Public Authority Law, *supra* note (967) art. 10.

<sup>2415</sup> *Id.*, art. 13 para. 1.

Court was given the right to confiscate any materials that have actually caused pollution, it does not have power to seize materials that are likely to do so in the future. That is, although the law imposes punishment, it does nothing to prevent pollution before it occurs. Second, Article 13 states that “the Court may oblige the authority [...] to bear all costs required for the remedy,” but gives no guidance as to amounts. General criteria should be set forth in the statute to provide predictability and fairness. Finally, this Article does not deal with any future environmental damage that may be connected to the violation, even though environmental damage often has long-lasting effects.

Another Kuwaiti environmental statute is Law No. 56/1996 Concerning the Issuance of the Kuwait Industry Law, which requires the Public Authority of Industry to “assure the total application of [any] industrial project to all national and international rules related to environmental protection, and [to assure] that all the rules of production are subject to these rules.”<sup>2416</sup> Article 1 of the Industry law is applicable to every industrial establishment and craft. An industrial establishment is “any establishment that mainly seeks the transformation of the primary elements and materials into complete, partial or intermediary industrialized products, or even transforming partially industrialized and intermediary materials into complete industrialized products. These activities would includes mixture, disjunction, formalization, reformation, assemblage and packing only if the work in the establishment is based on mechanical power.”<sup>2417</sup> An industrial craft is defined by the law as “every production or maintenance activity based on the handiwork in cooperation with light use of machines and which produces untypical products.”<sup>2418</sup> Thus, those would apply to, among other areas, to the activities of the military. Kuwaiti military forces may practice some simple industrial activities such as assembling, and thus fall within Article 2. Consequently, the military would be bound to respect environmental protection according to Article 29 (17). Violations of the Kuwait Industry Law would be subject to either administrative or criminal sanctions. The Public Authority of Industry can notify, warn, revoke privileges, or suspend or cancel an

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<sup>2416</sup> Ghanoon Bisha'an Isdar Ghanoon asyna'ah 56/1996 [Law Relevant to the Adoption of the Industry Law No. 56/1996] art. 29.

<sup>2417</sup> *Id.*, art. 2.

<sup>2418</sup> *Id.*, art. 3.



industry's permit as an administrative penalty.<sup>2419</sup> In more severe violations, a criminal penalty can also be imposed. Article 43 of the law provides that "anyone establishes an industrial project, or modifies an existing industrial establishment or craft, [...] without permit, is subject to imprisonment of period not exceeding three years and fine not exceeding KD 3,000 or one of the punishment. The Public Authority of Industry can also order the closing of the unpermitted establishment."

According to Decision No. 9/1990 Regulating the Procedures of the Environmental Impact Studies for Structural and Industrial Projects, all industrial establishments, including military industrial establishments, are required to prepare an Environmental Impact Study prior to starting any activity.<sup>2420</sup> Any serious environmental effect of the industrial project would result in the denial of the permit request.

Additionally, Kuwaiti Monument Law No. 11/1960<sup>2421</sup> provides that "every one who deliberately damages a registered movable monument, even if it is under his possession, demolishes a historical building or site, or trespasses on a historical building or a monumental site shall be imprisoned for no less than a year and no more than five years and be subject to a fine of no less than [Indian Rupees] IR 1000 and no more than IR 10,000."<sup>2422</sup> Military activities may present a serious threat to the monuments and the cultural heritage of every nation, and therefore should be subject to this statute. For example, in 1990, the Iraqi military forces caused severe damage to the Kuwaiti monuments, whether the monuments were located in Kuwait National Museum or located in Kuwait Scientific Museum. Iraqi troops also damaged the historical sites located in the Failaka Island. Moreover, military maneuvers may cause damage to the historical monuments and sites as well.<sup>2423</sup> Definitely, Iraq was not punished under Kuwaiti Monument Law.

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<sup>2419</sup> *Id.*, art. 39.

<sup>2420</sup> The Environmental Impact Assessment Ministerial Decision, *supra* note (1551) art. 1.

<sup>2421</sup> The Kuwaiti Monuments Law, *supra* note (1520).

<sup>2422</sup> *Id.*, art. 42. It would be noted that this law uses the Indian Rupees which was used as method of trade in Kuwait before the issuance of the Kuwaiti Dinar, and the Kuwaiti Dinar equals more than thirteen Indian Rupees. Abdullah K Al-Ayoub, *The Legal System of Kuwait*, in MODERN LEGAL SYSTEM CYCLOPEDIA, 5.180.31 (PROFESSOR KENNETH ROBER REDDEN ED., 1990) [hereinafter *The Legal System of Kuwait*].

<sup>2423</sup> Harvey E. Oyer III, *The 1954 Hague Convention for the Protection of Cultural Property in the Event of Armed Conflict – Is it Working? A Case Study the Persian Gulf War Experience*, 23 COLUM. VLA J. L. 49 (1999).

Finally, Law No. 131/1977 Regulating Ionizing Radiation Usage and the Protection Against its Hazards should be extended to apply to military activities, since their activities occasionally involve the use of ionizing radiation. Article 17 of the Kuwait Ionizing Radiation Law provides that “any violation of Articles 2, 3, 4, and 8<sup>2424</sup> of this law is punishable with imprisonment for a period of time not exceeding three years and fine not less than KD 100 and not more than KD 225 or one of these punishments.” Regrettably, the environment in Kuwait is underestimated, and many severe environmental crimes are considered misdemeanors, leaving the country vulnerable to many serious environmental threats.

## **2. Past Actions Not Yet Crimes Under the National Law, But Unlawful Under International Law**

Responsibility may arise under a nation’s laws, even when a person commits an action not a crime in his country, if the act amounts to a violation under international law rules. For example, Iraqi armed forces used chemical weapons to combat the Kurds in Northern Iraq. Under Iraqi law, the use of weapons of mass destruction is neither prohibited nor allowed; their national law is silent on the subject. However, international law prohibits the use of weapons of mass destruction such as chemical weapons since they have significant humanitarian and environmental impacts. Various international instruments reaffirm this concept, such as the Convention on the Prohibition of the Development, Production Stockpiling and Use of Chemical Weapons and on their Destruction (CWC).<sup>2425</sup> Thus, Iraq as a member of the United Nations must adhere to this international norms, and can properly be sanctioned under international law for failing to do so.

Similarly, the former Yugoslavian President, Slobodan Milosevic, and his military commanders committed genocide against their Muslim populations. Although genocide against Muslims is not considered a crime under Serbian law, it is an international war

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<sup>2424</sup> Articles 2 and 3 require the possession of permit, from the Ministry of Health, before the importing, exporting, manufacturing, possession, rotating, transport, or discard of ionizing radiation equipments or materials. Article 4 requires the permitted entity to limited with the conditions of the permit, and to take the necessary measures to assure the safety of the citizens, the workers, and the environment. Article 8 obliges the permitted entity to inform the concerned authority in case of losing ionizing radiation materials or equipment, or in case of serious accident. Kuwaiti Ionizing Radiation Law, *supra* note (1510) arts. 2, 3, 4, and 8.

crime, and many international instruments prohibit it. Article 5 of the Rome Statute, for example, provides that “[t]he jurisdiction of the Court shall be limited to the most serious crimes of concern to the international community as a whole. The Court has jurisdiction in accordance with this Statute with respect to [...]the crime of genocide.” Article 6 of the Rome Statute states that

- [f]or the purpose of this Statute, “genocide” means any of the following acts committed with intent to destroy, in whole or in part, a national, ethnical, racial or religious group, as such:
- (a) Killing members of the group;
  - (b) Causing serious bodily or mental harm to members of the group;
  - (c) Deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part;
  - (d) Imposing measures intended to prevent births within the group;
  - (e) Forcibly transferring children of the group to another group.

Thus, even though their acts were not criminal under Serbian law, these officials could properly be prosecuted under international law. Likewise, the Iraqi President, Saddam Hussein, may in the future be prosecuted under international law for committing war crimes, even if his acts were not criminal under the Iraqi law.

The dropping of atomic bomb on Japan by the United States, although not unlawful act under U.S. law, may also be considered a crime under international law.

“[In 1963] the Tokyo District Court [...]assessed] the legality of dropping the atomic bombs by the United States on Hiroshima and Nagasaki [without examining...] any adverse effects on the environment. The Court considered that the bombs were comparable to the use of poison and poisonous gases [...].”<sup>2425</sup> In this case, the Court referred to the erga omnes, by noting that “[Atomic bombs dropping over Hiroshima and Nagasaki] may be regarded as contrary to the fundamental principle of law of war which prohibits the causing of unnecessary suffering.”<sup>2427</sup>

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<sup>2425</sup> CWC, *supra* note (1671).

<sup>2426</sup> Ryuichi Shimoda v. The State, 32 I.L.R. 626. Cited in Green, *State Responsibility*, *supra* note (1642) at 424, fn. 32.

<sup>2427</sup> *Id.*, at 634.

Yet another example involves the potential liability of the present Israeli Prime Minister, Ariel Sharon, for his role in the 1982 massacres which took place at two Palestinian refugee camps in Lebanon, Sabra and Shatila.<sup>2428</sup> An Israeli commission of inquiry concluded under the international pressure on Israel, after the massacres, to held Sharon responsible.<sup>2429</sup> Therefore, the commission found Sharon guilty of “indirect responsibility” for the killings of civilian Palestinians and forced him to leave his position as a former Army high official.<sup>2430</sup> Nevertheless, Sharon came later in a higher position, as the Israeli Prime Minister, and he is continuing his stringent and tough policy against the Palestinian people.<sup>2431</sup>

Another example is found in the Kuwait Municipality and the Ministry of Public Works, which disposes of domestic sewage directly into the Persian Gulf, causing significant harm to the fragile marine environment in the Gulf.<sup>2432</sup> There is no national law in Kuwait that criminalizes such acts.<sup>2433</sup> However, according to the international principle of the prohibition of transboundary pollution, Kuwait should be held responsible for the environmental damage effects that affected or may affected in the future the neighboring States of the Persian Gulf. Under that principle of international law, Kuwait authorities should prohibit releasing domestic sewage into the Gulf, and intensify scientific research to treat and recycle such sewage. Moreover, cleanup procedures should include both the affected areas on the Kuwaiti shores and the deep waters of the Gulf.

In sum, even if the national law does not regulate or prohibit actions that have severe impacts on human health, welfare or the environment, international law may do so. When each nation acts independently and without any respect for the international community, then there will be no world order, and the strong nation will prevail every

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<sup>2428</sup> Zev Chafets, *Dagger Aimed at Sharon Really Meant for Israel*, DAILY NEWS, June 27, 2001, at 31[hereinafter Chafets].

<sup>2429</sup> See, Kahan Report at 3, available at 31 I.L.M. 373, 373, [hereinafter Kahan Report]; Christopher Walker, *Begin Agrees to Hold Massacre Inquiry*, TIMES (London), Sept. 29, 1982 at 1.

<sup>2430</sup> Chafets, *supra* note (2428) at 31.

<sup>2431</sup> Although Sharon came to his present position by democracy, the crime that he committed in 1982 could affect his political future and prevent him from holding critical positions.

<sup>2432</sup> The marine life in Kuwait was severely affected by the Red Tide, which appeared during 1999 and 2001. See, EPA, *Fish Killing Reports*, 1999 & 2001, available at <<http://www.epa.org.kw>> (last visit Dec. 20, 2001).

<sup>2433</sup> *Id.*

time whether it acts legally or illegally. However, since no country can act independently or without interaction with other countries, then respecting the international rules is a duty, not merely a choice, for every single nation.

### **3. Past Actions which were not Crimes or Civil Wrongs when Committed, but are so Under Revisions of National Law**

As a rule, most criminal laws may not be applied retroactively. However, some national laws criminalize past actions even though they were committed at a time when such prohibition did not exist and were therefore considered to be legal acts. This retroactive application may be particularly appropriate for acts that have significant impact on human health and the environment, and that continue to cause damage. In such situations, the actors may be held responsible for paying compensation and cleanup costs.

A significant example of this category can be found in the United States environmental statutes. Under CERCLA, liability can be retroactive. Section 107 (a) of CERCLA states that

- [...] (1) the owner and operator of a vessel or a facility,
- (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
- (3) any person who [...] arranged for disposal or treatment [...] of hazardous substances [...], and
- (4) any person who accepts or accepted any hazardous substances for transport to disposal or treatment facilities, incineration vessels or sites selected by such person [...] shall be liable for
  - (A) all costs of removal or remedial action [...];
  - (B) any other necessary costs of response [...];
  - (C) damage for injury to, destruction of, or loss of natural resources [...]; and
  - (D) the costs of any health assessment or health effects study [...].

It is clear that Section 107 (a) of CERCLA applies to any present or past owner and operator of a facility of which any hazardous substance may be disposed, which shows that CERCLA could be applied retroactively.

In 1980, the United States faced a hazardous waste “crisis”, as a result of decades of casual industrial waste management.<sup>2434</sup> The Congress enacted CERCLA to generate revenue to clean up the waste. CERCLA gives the government the power to hold parties responsible for cleanup costs, even if their acts were legal when taken.<sup>2435</sup> CERCLA cleanup process can be activated by any “release of a hazardous substance”<sup>2436</sup> into the environment. It applies to federal hazardous waste sites as well as non-federal sites as provided in Section 120 (a)(1) which states that “[e]ach department, agency, and instrumentality of the United States shall be subject to, and comply with, this chapter in the same manner and to the same extent, both procedurally and substantively, as any non-governmental entity.”

Furthermore CERCLA provides for remediation. The statute authorizes the government to pursue Potentially Responsible Parties (PRP) and to demand payment to remediate. Under Section 120 of the Act, a PRP may be not only a present owner of a facility, but a past owner as well. Thus, liability may be imposed even if the previous owner violated no laws that were in existence at the time of his acts. The same can be true even for a governmental actor. In a significant case, “the federal government was held liable for cleanup costs at an [National Priority List (NPL)] site contaminated during World War II by a company that manufactured rayon for the war efforts under close government supervision.”<sup>2437</sup>

A striking example of this kind of retroactive liability involves the Hudson River in New York State. In 1984, a 200-mile stretch of the Hudson was declared a “Superfund” site<sup>2438</sup> because of contamination by polychlorinated biphenyls (PCBs).<sup>2439</sup> The PCBs can “bio-accumulate” in fish and cause significant health problems, including cancer, to people who eat fish.<sup>2440</sup> The PCBs were deposited over a 30-year period by two General Electric factories located along the river.<sup>2441</sup> Even though this act was not

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<sup>2434</sup> Gaines, *supra* note (2113) at 332.

<sup>2435</sup> *Id.*

<sup>2436</sup> CERCLA § 103 (a), 42 U.S.C. § 9603 (a).

<sup>2437</sup> *FMC Corp. v. United States Dept. of Commerce*, 786 F. Supp. 471 (E.D. Pa. 1992), *aff’d* 1994 WL 314814 (3<sup>rd</sup> Cir.) cited in Dycus, *supra* note (4) at 88.

<sup>2438</sup> CERCLA was enacted in 1980.

<sup>2439</sup> EPA Newsroom, *Factsheet: Hudson River Record of Decision*, Dec. 4, 2001, available at <[http://www.epa.gov/epahome/headline4\\_120401.htm](http://www.epa.gov/epahome/headline4_120401.htm)> (last visit Dec. 17, 2001).

<sup>2440</sup> *Id.*

<sup>2441</sup> *Id.*

illegal at the time of disposal, because the danger of PCBs was not yet recognized, CERCLA holds responsible parties liable for waste disposal that happened before CERCLA was enacted. Thus, under that statute, the EPA ordered General Electric to “dredg[e] an estimat 2.65 million cubic yards from 40-miles section of the river to remove approximately 150 thousand pounds of PCBs.”<sup>2442</sup>

Another civilian example is the Bhopal disaster. The city of Bhopal was the site of part of “India’s Green Revolution” that aimed at increasing the productivity of crops.<sup>2443</sup> In 1962, Union Carbide, an American company, established a small factory, Union Carbide India Ltd. (UCIL) in Bhopal, the capital of Madhya Pradesh, to produce pesticides.<sup>2444</sup> India owned 51% of the factory, and the American company owned the rest, 49%, but the American company was operating the facility. In 1979, the plant started to manufacture the pesticide Methyl Isocyanate (MIC).<sup>2445</sup> In 1984, a hazardous chemical reaction took place when a large amount of water got into the MIC storage tank, and then, “about 40 tons of [MIC] poured out of the tank [...] and escaped into the air, spreading eight kilometers downwind, over the city of nearly 900,000.”<sup>2446</sup> As a result, about 4,000 people were killed, about 4,000, and approximately 400,000 injured.<sup>2447</sup> The actions that led to this tragedy were not specifically prohibited by Indian law. Nevertheless, the Indian government successfully argued that the American parent company was responsible, due to its failure to employ adequate safety measures or emergency procedures. Although these failures were not specifically prohibited under Indian law, the company was in effect held retroactively liable.

Although the Bhopal disaster resulted from civilian activities, the same reasoning could be applied to activities on a military base or at a munitions factory.

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<sup>2442</sup> *Id.*

<sup>2443</sup> TED Case Studies, Bhopal Disaster, available at <<http://www.american.edu/TED/BHOPAL.htm>>, (last visit Dec. 14, 2001).

<sup>2444</sup> *Id.*

<sup>2445</sup> “MIC is one of the many ‘intermediates’ used in pesticide production and is a dangerous chemical. It is a little lighter than water but twice as heavy as air.” *See, Id.*

<sup>2446</sup> *Id.*

<sup>2447</sup> *Id.*

In Kuwait, the principle of non-retroactivity included in the Constitution of 1961<sup>2448</sup> prevents persons from being subject to any law that was codified after the pollution occurred. Practically, it is difficult to modify this constitutional provision, as the Kuwaiti Government does not favor or encourage any efforts to modify any constitutional rule, since it may create a precedent to amend other constitutional rules that may interfere with the Government's interests.

However, in some cases, the retroactivity principle should be applied to correct serious gaps in the law. Kuwait could follow the experience of other nations, such as the United States, which imposed retroactive environmental liability under CERCLA and other statutes to generate funds for expensive cleanup procedures. Similarly, Kuwait should impose retroactive environmental liability to provide a stable source for cleanup costs. For example, the Kuwaiti legal system lacks air pollution legislation, and has no jurisdiction over cases of air pollution. In the absence of regulation, the petroleum industry causes severe air pollution for the 10<sup>th</sup> district in Kuwait.<sup>2449</sup> However, the Kuwaiti Parliament could enact a law to punish any person who is polluting the air or who did so in the past. Such a statute would be likely to encourage polluters to take actions to remedy hazards, in order to avoid future sanctions.

Article 10 of the Kuwaiti Environmental Protection Authority (EPA) Law provides a legal basis for actions against polluters. That Article provides that

[t]he Higher Council shall upon the proposal of the Board of Directors and after notifying the official authority, decide to stop work in any establishment or any activity or preventing use of any instrument or material wholly or partially if the progress of the work or the action results in pollution of the environment, the cessation shall be for one week duration and might be extended to another week. The administrative authorities and concerned parties are obliged to execute the order of the suspension and the Authority may request certain measures to be fulfilled during the period of suspension [...].

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<sup>2448</sup> Article 32 of the constitution provides that "[...]no penalty may be imposed except for offenses committed after the relevant law has come into force." KUWAITI CONST., *supra* note (1490) art. 32 (para. 1).

<sup>2449</sup> Meshal Al-Mashan, *Oil Companies Play Role: The High Pollution in Fahaheel*, KUWAIT TIMES, May 10, 1999, 1999 WL 5554794 [hereinafter *The High Pollution in Fahaheel*.]



The application of this Article is limited to acts taken after the law was enacted. Again, however, Article 10 could be amended to have retroactive liability over acts committed before its enactment, in order to provide for greater environmental protection.

Similarly, the Kuwaiti law regulating the use of the Ionizing Radiation imposes liability for human casualties or environmental damage caused by activities involving ionizing radiation equipments or substances, but only when those activities occur after 1977. For earlier acts, there is no liability, even if they caused lingering damage.

Finally, Kuwaiti Civil Law No. 67/1980 states that

every action which shall cause damage to others is subject to compensation, whether this damage is direct or indirect, and whether the wrongdoer is aware of his action or not. The compensation is for the actual loss and for lost profit, and shall cover the damage even if it is only moral. The claim of liability shall be void three years after the harmed party has knowledge of the damage and the party who caused it, or after fifteen years of the occurrence of the illegal action, whichever is shorter, unless the claim of liability is a result of a crime. Any agreements releasing parties from liability prior to their occurrence are considered illegal.<sup>2450</sup>

This provision is general, and may cover any harmful activity to the environment, whether committed by national or foreign, military or civil person. However, it imposes only civil liability, which is considered the most important remedy for the environmental rehabilitation, without any reference to criminal responsibility.

On the other hand, it could be argued that the Gulf region was also victimized by the Iraqi acts. The wetland and marches are important for the ecology of the Gulf and the Gulf natural resources. Therefore, when Saddam Hussein made the canals and drained all the water out of these marshes, he destroyed the wetlands and damaged their nature. Nevertheless, these wetlands can be restored and their ecological balance can be brought back, but it takes a lot of work and money to be restored. Now if someone needs to bring responsibility against Saddam Hussein for the destruction of the ecological balance of the marshes, who might be this one, and under what mechanisms? Here, possibly the fishermen who use the fish from the Gulf and can see that their home have been

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<sup>2450</sup> The Legal System of Kuwait, *supra* note (2422) at 5.180.36.

destroyed because their nurseries, the wetlands, were destroyed, therefore, these fishermen lost their livelihood, and could bring a law suit under the Iraqi law against Iraq as a State that sponsored the destruction of the marshes. However, the Iraqi law has to authorize such kind of lawsuit. Or it could be argued that someday under a new Iraqi Parliament there might be a law that says the marshes have to be restored because the ecology of the nation needs to be brought back. Thus, everyone who does not follow this law may be responsible and have to clean it up whether he is the owner, the State, or a certain company or ministry. Moreover, any Gulf State that could be affected by what Saddam did to the marshes of the Gulf can bring responsibility against him when he is no longer in his position.

## **Part VI**

### **The Recommendations**

That the legal system regarding environmental protection both in peacetime and in times of armed conflicts needs to be re-evaluated and reinforced. It is necessary to propose new ideas to address the inadequacies of the existing national and international legal systems. This thesis proposes some new ideas, presented in the form of recommendations to reduce or eliminate negative environmental impacts that result from military operations in peacetime and in times of armed conflicts. Some of the recommendations may seem unrealistic, but the international community is faced with the choice of accepting new ideas or watching the continued degradation of our environment.

A number of key issues must be addressed by the international community in order to protect the environment more effectively during armed conflicts. Moreover, each nation has an obligation to take certain number of steps to protect its own environment and other nations' environment as well. Finally, Non-Governmental Organizations (NGOs) have a major role in reinforcing environmental protection worldwide. Therefore, the recommendations will be classified as: recommendations addressed to the international community, recommendations addressed to national societies, and recommendations addressed to the NGOs.

### ***A- Recommendations Addressed to the International Community***

The international community is the strongest and the most powerful source of environmental protection. Collectively, the nations of the world have the necessary tools to modify the international legal system, and can persuade, and even force, individual States to take action. The international community's tools can be mandatory, such as international conventions and Security Council resolutions, or they can be permissive, such as international declarations and the General Assembly's resolutions.

The next few pages propose number of recommendations that are necessary to protect the environment from harmful activity during armed conflicts. The international community should act, as soon as possible, to translate these recommendations into positive instruments. Otherwise the international community will be responsible before future generations for failing to prevent further environmental degradation.

## 1. Improving International Environmental Dispute Resolution for Armed Conflict

Despite the experience that most international jurists have in the field of resolving international conflicts, they still lack the necessary awareness in the environmental field, since this field has its own characteristics and is a relatively new area of the law.

Therefore, a specialized judiciary committee to examine environmental conflicts is highly recommended. Environmental cases require experience in both national and international environmental laws, in addition to basic scientific knowledge. Most international judicial bodies, such as the International Court of Justice (ICJ), possess no expertise in environmental issues.<sup>2451</sup> However, according to Article 26 (1) of the ICJ Statute, the Court may form a permanent chamber, composed of three or more judges, to deal only with environmental cases.<sup>2452</sup> At present, ICJ has competence over conflicts when at least one party is a State. NGO's, or groups of individuals, have no right to invoke the jurisdiction of the ICJ. International organizations have only the right to recur to the interpretative competence of the Court, but have no right to complain directly to the ICJ. Even when States are parties to a conflict, the ICJ has no compulsory jurisdiction. Thus, the ICJ has jurisdiction only when a State expressly agrees to submit a dispute to it.<sup>2453</sup>

This system can, and should be changed. The jurisdiction of the ICJ can, and should, be expanded in environmental matters. Allowing member States, international organizations, NGO's and group of individuals to bring complaints for environmental violations that cause widespread, long-lasting or severe environmental damage before the ICJ, will better advance the cause of environmental protection. Furthermore, the ICJ should have compulsory jurisdiction over environmental matters<sup>2454</sup> that have widespread, long-lasting or severe impacts, even if the concerned party does not accept the ICJ jurisdiction.

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<sup>2451</sup> Simonds, *supra* note (969) at 218.

<sup>2452</sup> "The Court may from time to time form one or more chambers, composed of three or more judges as the Court may determine, for dealing with [environmental] cases [...]." STATUTE OF THE ICJ, *supra* note (769) art. 26 (1).

<sup>2453</sup> *Id.*, art 36 (2).

<sup>2454</sup> Simonds, *supra* note (969) at 216.

The legal regime regarding environmental war crimes can also be strengthened and improved. As discussed earlier, there have been few trials for war crimes of any kind, and few of them involved crimes of environmental destruction.<sup>2455</sup>

A court was established by the Law of the Sea Convention of 1982; however, it has jurisdiction only over the marine environment<sup>2456</sup> and it excludes military operations from its jurisdiction.<sup>2457</sup> The Statute of Rome, which has jurisdiction over war crimes, does cover crimes that have widespread, long-term and severe damage to the natural environment.<sup>2458</sup> However, the Statute of Rome threshold is too high, since it requires the presence of all three elements before jurisdiction can be asserted.

Thus, it appears that it is necessary to establish an international judicial body to specialize in examining international environmental cases. This body could be an international environmental court of justice (IECJ) similar to the ICJ. Alternatively, an environmental chamber of the Permanent Court of Arbitration (PCA) could be established to settle environmental disputes resulting from armed conflict through conciliation, mediation, good offices, commission of inquiry, and arbitration, based on the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules or Conciliation Rules.<sup>2459</sup> The PCA Working Group on Environmental Dispute Resolution established a drafting committee of experts in environmental law and arbitration, under the chairmanship of Professor Philippe Sands.<sup>2460</sup> The drafting committee developed rules for arbitrating disputes relevant to the environment and/or natural resources. The rules were adopted by consensus by the PCA Administrative Council on June 19, 2001.<sup>2461</sup>

The IECJ can be established in any State to examine all the environmental matters and disputes. The idea of creating an international court that specializes in environmental

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<sup>2455</sup> Rymn James Parsons, *The Fight to Save the Planet: U.S. Armed Forces, "Greenkeeping," Enforcement of the Law Pertaining to Environmental Protection During Armed Conflict*, 10 GEO. INT'L ENV'T'L L. REV. 441, 486 (1998) [hereinafter Parsons].

<sup>2456</sup> Convention on the Law of the Sea, *supra* note (1019) art. 1 (1)(1)

<sup>2457</sup> *Id.*, art. 236.

<sup>2458</sup> Rome Statute, *supra* note (191) art. 8 (2)(b)(iv).

<sup>2459</sup> Peggy Rodgers Kalas, *International Environmental Dispute Resolution and the Need for Access by Non-State Entities*, 12 COLO. J. INT'L ENV'T'L L. & POL'Y 191, 212 (2001).

<sup>2460</sup> Permanent Court Arbitration PCA, Cour Permanente d'Arbitrage, <<http://pca-cpa.org/EDR/>> (last visit Feb. 11, 2002).

<sup>2461</sup> *Id.*

cases goes back to 1988.<sup>2462</sup> A private initiative by a committee in Rome examined the subject, and organized a conference in Rome from 21-24 April 1989, attended by experts from thirty countries.<sup>2463</sup> The conference called for the creation of a permanent international court at the U.N. level to be competent in all environmental matters.<sup>2464</sup> Moreover, in 1994, the Venice Declaration provided that “national governments should [...] officially support the project of an International Court of the Environment.”<sup>2465</sup>

Unlike the ICJ, the proposed court should have the right to decide environmental disputes even if the concerned parties, according to their sovereignty rights, do not express their acceptance of the jurisdiction of the IECJ.<sup>2466</sup> Moreover, international persons other than the State should have the right to invoke IECJ jurisdiction over severe environmental violations. For example, environmental organizations, whether NGOs or intergovernmental organizations, should be able to present their complaints to the IECJ.<sup>2467</sup> It would be also environmentally useful if groups of individuals could be given the right to recur to the IECJ.<sup>2468</sup> Nevertheless, States may oppose such a proposal, as they already rejected a resolution proposed by the planning committee of the United Nations Conference on the Environment and Development (UNCED) calling for the creation of a new international environmental dispute resolution mechanism.<sup>2469</sup>

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<sup>2462</sup> AMEDEO POSTIGLIONE, *THE GLOBAL DEMAND FOR AN INTERNATIONAL COURT OF THE ENVIRONMENT* 18 (Edizioni Scientifiche Italiane, 1999) [hereinafter POSTIGLIONE].

<sup>2463</sup> *Id.*

<sup>2464</sup> *Id.*, at 19.

<sup>2465</sup> Venice Declaration resulted from the Conference “Towards the World Governing of the Environment,” prepared by the International Court of the Environment Foundation, June 2-5, 1994, cited in POSTIGLIONE, *supra* note (2462) at 20.

<sup>2466</sup> Stephen J. Ovara, Note, *Waging the Next War: The Carryover of Arms Control Verification Procedures to International Environmental Law*, 5 GEO. INT’L ENV’T L. REV. 151, 175 (1992).

<sup>2467</sup> POSTIGLIONE, *supra* note (2462) at 19.

<sup>2468</sup> Individuals have no legal stand to bring environmental violations to the attention of the ICJ and international tribunals. See, James T. McClymonds, Note, *The Human Right to a Healthy Environment: An International Legal Perspective*, 37 N.Y.L. SCH. L. REV. 583, 633 (1992); Michelle L. Schwartz, *International Legal Protection for Victims of Environmental Abuse*, 18 YALE J. INT’L L. 355, 358-59 (1992).

<sup>2469</sup> U.N.G.A. Preparatory Committee for the UNCED, Element for a resolution on settlement of International dispute concerning the environment submitted by Pentagonal countries (Austria, Czech and Slovak Federal Republics, Hungary, Italy, Yugoslavia and Poland), U.N. Doc. A/CONF.151/PC/WG.III/L.1, Mar. 27, 1991.

States prefer to settle their differences through arbitral bodies rather than the international court of justice,<sup>2470</sup> since they can choose the arbitrators, and the arbitration procedures usually take a short time. The IECJ could take those concerns into account.

The IECJ could function as follows: member States submit their questions to a judiciary committee that is formed according to pre-established rules. States have no right to interfere in the formulation of the judiciary committee or the law of ruling.<sup>2471</sup> The IECJ could function not as a court, but as a chamber to receive applications of arbitrators competent to settle environmental conflicts. Then, whenever an environmental dispute took place, parties to the conflict could choose their judges from the list of arbitrators in the chamber, and could specify which environmental laws those judges should apply. Alternatively, the arbitrators could apply existing environmental law rules.

Finally, a new crime of “ecocide”<sup>2472</sup> should be recognized in the IHL instruments, to prosecute any individual who commits, assists, or fails to prevent crime against the environment. Even though the Statute of Rome criminalizes certain acts of environmental damage, it does not establish the kind of broad prohibition necessary to combat these serious crimes. Instruments that specifically target ecocide would do so.<sup>2473</sup>

## **2. Creation of a U.N. Trusteeship System for States that Cause Unnecessary Severe Environmental Damage**

Even though the implementation of a trusteeship system is very unlikely, a proposal for such a system could set to stage for other proposals to protect civilian population, the global ecosystem, and plant and animal species.

In international law, areas incapable of internal or external self-determination<sup>2474</sup> can be placed under the administration of another State. As a result of World War II, territories were placed under the supervision of some United Nations’ members to assist them to develop and govern themselves. After World War I, the Mandate System of the

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<sup>2470</sup> Anand, *Role of International Adjudication*, in 1 THE FUTURE OF THE ICJ 8 (L. GROSS ED., 1976) cited in Joanne K. Lelewer, Note, *International Commercial Arbitration as a Model for Resolving Treaty Disputes*, 21 N.Y. U. J. INT’L L. & POL. 379, 381 (1989).

<sup>2471</sup> *Id.*, at 382.

<sup>2472</sup> Falk, *Environmental Disruption*, *supra* note (632) at 34.

<sup>2473</sup> See, I (E) of this Part.

League of Nations appeared to control these cases, and it continued after World War II as the Trusteeship of the United Nations.<sup>2475</sup>

According to Article 77 (1) of the United Nations Charter, trusteeship is a system created to administer territories detached from the enemies in World War II, territories voluntarily placed under the system by the administration States, and territories held under the League of Nations' mandate system.<sup>2476</sup> The goals of the trusteeship system are

a. to further international peace and security; b. to promote the political, economic, social, and educational advancement of the inhabitants of the trust territories, and their progressive development towards self-government or independence as may be appropriate to the particular circumstances of each territory and its peoples and the freely expressed wishes of the people concerned, and as may be provided by the terms of each trusteeship agreement; c. to encourage respect for human rights and for fundamental freedom for all without distinction as to race, sex, language, or religion, and to encourage recognition of the independence of the peoples of the world; and d. to ensure treatment in social, economic, and commercial matters for all Members of the United Nations and their nationals, and also equal treatment for the latter in the administration of justice[...].<sup>2477</sup>

In order to achieve the above-mentioned goals, there should be a healthy environment where people can live safely and securely since they are connected to their environment. Therefore, the administration authority should, among other things, maintain a healthy environment in the trust territories. If the inhabitants of the trust territories are not capable of developing minimal environmental safeguards, the trusteeship should operate to achieve that goal. And indeed, a trusteeship could be created for that purpose in the first place, if conditions exist that may cause environmental harm

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<sup>2474</sup> Stephanie A. Paulk, *Determination of Self in a Decolonized Territory: The Dutch, The Indonesians, and The East Timorese*, 15 EMORY INT'L L. REV. 267, 282 (2001).

<sup>2475</sup> Unlike the mandates system, the trusteeship system had broader scope, where it is not only territories of defeated States can be subject to it. But also territories already place under the mandates system, or voluntarily placed under the trusteeship by the administering State. Hyun S. Lee, Note, *Post Trusteeship Environmental Accountability: Case of PCB Contamination on the Marshall Islands*, 26 DENV. J. INT'L L. & POL'Y 399, 403-04, 417 (1998) [hereinafter Lee, *Post Trusteeship*]; JAMES N. MURRAY, JR., THE UNITED NATIONS TRUSTEESHIP SYSTEM (The University of Illinois Press, 1957) [hereinafter MURRAY].

<sup>2476</sup> LEAGUE OF NATIONS COVENANT, arts. 22, 23.



to other nations' environment through transboundary pollution. The administration authority should be an environmentally friendly State, and should enhance the environmental condition and awareness of that nation.

The United Nations has an active body, the Trusteeship Council, to supervise the best application of the trusteeship system. By 1994, all the trust territories obtained their complete right of self-governing, with Palau the last to be granted independence after being administered by the United States.<sup>2478</sup> Accordingly, the United Nations' General Assembly decided to freeze the Trusteeship Council, until a new need requires its reactivation.<sup>2479</sup> However, there is no legal obstacle for reactivating the Trusteeship Council whenever needed.

Not all the environmental violations would be serious enough to invoke the application of the United Nations trusteeship system. However, where environmental violations may cause widespread, long lasting or severe environmental damage, a trusteeship could be an appropriate solution. A modification in the United Nations Charter would be required to allow a concerned State to bring the matter to the Trusteeship Council in order to examine the situation and decide whether the environmental violation is severe enough to place a country under trusteeship. Moreover, Article 78 of the U.N. Charter, which prevents any member of the United Nations from being subject to the trusteeship, would have to be abolished.<sup>2480</sup>

The U.N. trusteeship system can provide help in preventing future environmental destruction, and it could be used as a tool to threaten any nation that violates international environmental standards and requirements. There should be substantial cooperation between the Trusteeship Council and the environmental expertise organizations, such as United Nations Environmental Program (UNEP), to examine any environmental violation and decide whether it is serious enough to raise the possibility of a trusteeship. However, to assure the neutrality of such procedures, the ICJ should have the last word on whether the situation requires placing such country under the trusteeship system.

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<sup>2477</sup> U.N. CHARTER, *supra* note (71) art. 76.

<sup>2478</sup> United Nations Website, *Trusteeship Council*, available at <<http://www.un.org/documents/tc.htm>> (last visit Jan. 27, 2002).

<sup>2479</sup> *Id.*

Moreover, to assure sound environmental development, the trusteeship system should adopt the international accountability principle through sophisticated examination of inhabitants' petitions and regular visits to their territories.<sup>2481</sup>

Subsequently, the Trusteeship Council should

- a. consider reports submitted by the administering authority;
- b. accept petitions and examine them in consultation with the administering authority; c. provide for periodic visits to the respective trust territories at time agreed upon with the administering authority; and d. take these and other actions in conformity with the terms of the trusteeship agreements.<sup>2482</sup>

When the environmental remediation reaches a certain level, local authorities and groups of individuals could submit petitions to the Trusteeship Council requesting the suspension of the trusteeship over their territories.<sup>2483</sup> These petitions could be examined by the Trusteeship Council, which could then submit recommendations to the General Assembly of the United Nations, to decide whether to continue the trusteeship.

Practically, it does not matter how the United Nations' Trusteeship System works, how many petitions are heard, how many visiting missions are sent, or how hard the administering authority defends its policies in the Trustee Council. What does and should matter is whether the trusteeship system has achieved its goals.<sup>2484</sup>

This recommendation is unlikely to be adopted, but even its proposal could persuade local authorities to internally enforce the international environmental standards to avoid being subject to the administration of another State.

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<sup>2480</sup> "The trusteeship system shall not apply to territories which have become Members of the United Nations, relationship among which shall be based on respect for the principle of sovereign equality." U.N. CHARTER, *supra* note (71) art. 78.

<sup>2481</sup> Roger S. Clark, *Book Review*, CHRISTOPHER WEERAMANTRY, NAURU: ENVIRONMENTAL DAMAGE UNDER INTERNATIONAL TRUSTEESHIP, 28 INT'L LAW. 186, 190 (1994); MURRAY, *supra* note (2475) at 128-97.

<sup>2482</sup> U.N. CHARTER, *supra* note (71) art. 87.

<sup>2483</sup> *Id.*, art. 87 (b).

<sup>2484</sup> MURRAY, *supra* note (2475) at 211.

### 3. Creation of An International Fund to Rehabilitate Warfare Environmental Damage

As a result of the environmental destruction in times of armed conflict, responsible parties would be charged to pay the expenses of cleanup and rehabilitation of the environment. However, States do not easily admit their responsibility for warfare environmental damage. Usually, it takes long time, through the international legal system, to attribute responsibility for warfare environmental damage to a certain State.

Assessing such responsibility might be more easily accomplished if it takes place during or directly after the armed conflict. For example, protected areas could be rehabilitated immediately after the armed conflict, when plants and animals have only recently been disturbed.

Linking environmental rehabilitation to the receipt of compensation from the enemy could work against environmental cleanup by causing delay. Unfortunately, the environmental compensation is often the last thing to be considered by belligerent States. For instance, only after ten years following the cessation of hostilities in Gulf War II did Kuwait receive a portion of its environmental compensation.

To assure effective environmental rehabilitation, an international fund should be established to fill this gap. Professor Jeffrey Miller has proposed financing an international fund by taxing States that export arms technology, such as the United States, Russia, North Korea, South Africa, and Israel.<sup>2485</sup> He believes that as these States benefit from selling arms and weapons, they should support the negative environmental effects that may be caused by their technologies.<sup>2486</sup> This proposal makes a great deal of sense; however, in order to calculate the arms tax, international cooperation is essential in order to calculate the total amount of weapons sold by a certain State or an individual. The tax should be assessed against the arms dealer and delivered to the international fund.

Until such a proposal is adopted, the fund should be financed through the United Nations member States that have experienced the environmental effects of armed conflict

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<sup>2485</sup> Jeffrey G. Miller, *Environmental Protection and the Law of War*, public audience at Pace University, School of Law, Nov. 2, 2000.

<sup>2486</sup> *Id.*

and are financially capable, such as Japan, United Kingdom, Kuwait, Iran, Iraq, and the United States.

The incentive for contributing to such a fund can be found in the ill effects of not doing so. For example, in Afghanistan, one result of the long war against the Soviets and of the civil wars that followed was the environmental destruction of that country. The inability of Afghanistan to recover from that environmental (and other) destruction helped to create a great environment to host terrorist activities. An international effort to rehabilitate the environment could have helped to prevent that situation.<sup>2487</sup>

Finally, cleanup, rehabilitation and rebuilding the environment should be regulated and organized by the United Nations. A set of rules should regulate the percentage of contribution of each State to these efforts. These efforts should create a program to study each case, determine the appropriate funding priorities, and supervise these efforts until the job is completed.

#### **4. The Need For International Environmental Assistance To Be Independent From Political Disputes**

In some cases and in certain times, some financial or technical support from one country may avoid or prevent a substantial environmental harm in another nation. However, some States refuse to provide such support because they object to the political, economic, or military system in the recipient State. A number of developed countries refrain from environmentally assisting countries they consider “outlaw States.” Nonetheless, international organizations, as neutral bodies, do not link environmental assistance to secure nature and natural resources to the political situation of a given country.

For example, after NATO’s attacks against the former Yugoslavia, NATO’s member States, including the U.S., announced that as long as Milosevic the former Yugoslavian President was in power they would provide only humanitarian

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<sup>2487</sup> Efforts of dismantling civilian populations, cleaning up, rebuilding Afghanistan are all led by the United States. “[M]ore than 60 nations and the world’s leading development organizations said they had secured pledges of more than \$4.5 billion in foreign assistance to help rebuild the war-torn nation, with most of that funding promised for the next two years when experts say it will be needed most.” Clay Chandler, *\$4.5 Billion Pledged for Afghan Renewal*, WASH. POST, Jan. 22, 2002, at A8.

assistance.<sup>2488</sup> This statement did not in all cases preclude emergency cleanup or environmental restoration when needed.<sup>2489</sup> Another example is Iraq, where the U.S. refuse to provide material needed to improve the environmental situation in Iraq, such as agricultural materials and equipment, that could be used for military purposes or to produce herbicides. However, refusal to provide environmental assistance should not be linked to the presence of Saddam Hussein, since he may disappear at anytime, but the environment will last, and providing a healthy environment is not relevant to one person but to the common globe.

The tension between States should not present an obstacle to securing the environment. To assure that the environment is the only beneficiary from the assistance, environmental organizations such as UNEP and IUCN may play a mediator role in such cases. For instance, the assistance may be delivered, distributed and executed under the supervision of these organizations.

## **5. Strengthen and Increase Individual Punishments in International Law<sup>2490</sup>**

Traditional international law addresses international persons, i.e., States and international organizations. It “has no credible means to address individual [...] accountability for even the most flagrant violations of law.”<sup>2491</sup> However, modern international law, especially in the environmental field, concerns individuals as well as international persons. Individuals can directly harm the environment and can also be held responsible for such acts. Accordingly, international law should adopt the necessary means to capture, prosecute and punish individuals suspected of committing environmental crimes.

The absence of such rules was behind the escape of Iraqi criminals of war from punishment for the horrible environmental crimes committed during the Iraqi invasion of Kuwait in 1990. Unfortunately, “little has been done to hold Iraq or any Iraqi liable [for

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<sup>2488</sup> Jovan Gec, Pollution “Hot Spots” ID’d in Serbia, Associated Press Online, July 27, 1999, available in 1999 WL 22027435 [hereinafter Gec]; Christopher Walker, Another Victim of Milosevic-the Environment, CHRISTIAN SCIENCE MONITOR, July 21, 1999, at 9.

<sup>2489</sup> Schwabach, *supra* note (477) at 140.

<sup>2490</sup> See, II (F) of this Part.

<sup>2491</sup> Sharp, *supra* note (509) at 3.

committing environmental] crimes.”<sup>2492</sup> The international community should adopt means of punishing any individual who violates or provokes the violation of any international environmental norm, since the threat of punishment is likely to induce individuals to comply with international and national environmental rules.<sup>2493</sup> National jurisdiction should not stand as an obstacle to prevent the international community from imposing its rules. Local authorities should punish members of its own armed force who fail to comply with environmental rules, just as they would seek the punishment of those who belong to other nation’s armed forces.<sup>2494</sup>

State sovereignty should not prevent the international community from prosecuting criminals. Any encroachment on State sovereignty in order to capture and prosecute environmental criminals is slight compared to the harm caused by those criminals to the environment. Adopting such measures in a new international instrument would relieve any harm to the State sovereignty. The U.S. intervention in Panama to arrest General Manuel Noreiga,<sup>2495</sup> and in Afghanistan to capture AlQaeda members, and the NATO arrests of the former Yugoslavian President, Milosevic, provide examples of an international force that arrested war criminals who violated international law rules, without undermining the sovereignty of the States involved.

## **6. Extend IUCN’s Mission to Cover Armed Conflict**

Since the International Union for the World Conservation of Nature and Natural Resources (IUCN) is one of the most active environmental organizations, it serves as a useful case study as to how such organizations might advance the cause of international law. For example, the IUCN supports studies on

[t]he role of military establishments in environmental protection and re-generation, [...t]he interaction between armed conflict and the environment [and i]dentifying means of strengthening the current international legal system concerning environmental protection during times of armed conflict. [...] IUCN should urge

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<sup>2492</sup> Leibler, *supra* note (1220) at 117; Caggiano, *supra* note (7) at 504; Greenwood, *State Responsibility*, *supra* note (2056) at 408-10.

<sup>2493</sup> Parsons, *supra* note (2455) at 493.

<sup>2494</sup> DYCUS, *supra* note (4) at 145.

<sup>2495</sup> Hagan, *supra* note (2341) at 449.

governments that are not already parties to relevant [to armed conflict] international legal instruments to ratify these instruments[,] IUCN should [prepare for regional and global] diplomatic conferences [...] to reinforce [...] supplement [...] the actual] legal regimes for environmental protection in times of armed conflicts [...].<sup>2496</sup>

Accordingly, the World Conservation Congress at its 2<sup>nd</sup> Session in Amman, Jordan, 4-11 October 2000, considered “the effects of armed conflicts in natural areas of national, regional and global importance, and on the indigenous peoples and local communities that inhabit them” the Congress adopted Resolution No.CGR2.CNV016, concerning Armed Conflicts in Natural Areas (Panama and Columbia), and requested that the Director General seek to ensure that IUCN promotes cooperation and conservation measures between Columbia and Panama in these and other natural areas endangered by armed conflict.”<sup>2497</sup>

The 1948 Statute of the IUCN was revised in Montreal on October 22, 1996. According to this revision Part I Article 1 provides as follows: “The [IUCN] is constituted in accordance with Article 60 of the Swiss Civil Code as an international association of governmental and non-governmental members. Therefore, it has legal personality and may perform any act in accordance with its objectives.”<sup>2498</sup> It seeks to “influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.” This statement makes clear the link between military activities, which are often threatful to the environment, and the goal of the IUCN.

In addition to the goals of the IUCN, its composition is very helpful in providing a connection with national authorities, especially the military, since

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<sup>2496</sup> Will Verwey, *Protected Areas, War and Civil Strife*, in PARKS FOR LIFE: REPORT OF THE 4<sup>TH</sup> WORLD CONGRESS ON NATIONAL PARKS AND PROTECTED AREAS 97-8 (Jeffrey A. McNeely Ed., Feb. 10-12, 1992) [hereinafter Verwey].

<sup>2497</sup> Armed Conflicts in Natural Areas (Panama and Columbia) Resolution No. CGR2.CNV016, Adopted by the 2<sup>nd</sup> World Conservation Congress, Amman, Jordan 4-11 Oct. 2000, *see* <<http://www.iucn.org>> (last visit Jan. 14, 2001) [hereinafter Armed Conflicts in Natural Areas (Panama and Columbia)].

<sup>2498</sup> IUCN Statutes of Oct. 5, 1948, revised Oct. 22, 1996 (ISBN 2-8317-0410-3) (published for IUCN by Imprimerie SADAG, Belgrade, France, 1997) at 2, [hereinafter IUCN Statutes], cited in Prof. Nicholas A. Robinson, *Note on the Legal Status of IUCN*, *supra* note (746) at 1.

IUCN is unique among international organizations in that it was created with and has consistently possessed a membership of sovereign States,<sup>2499</sup> governmental agencies of States,<sup>2500</sup> and both international and national non-governmental organizations (“NGOs”), as well as non-voting Affiliate Members.<sup>2501</sup>

This unique membership system will allow IUCN to be connected to governmental and non-governmental bodies, within the limit of a State or among States. The IUCN should benefit from this position and maintain relations with military forces in member States, to provide the organization with the ability to intervene in military operations, especially in times of armed conflict. In this regard it is important that Article 70 of the Additional Protocol I allows relief actions that are humanitarian in nature<sup>2502</sup> to be taken in accordance with the acceptance of States parties to the conflict.<sup>2503</sup>

Some may object to this idea because the ICRC seems to hold such a position in the present time. However, the ICRC has not succeeded in preventing any attacks against the environment, since its primary role is in protecting people and saving their lives. Its focus is not environmental. The IUCN does focus directly on environmental issues. Moreover, unlike the ICRC, the IUCN has States as members. Thus, the IUCN may be able to generate more direct institutional support for its activities, in a way the ICRC would not be able to.

As a first step, the IUCN should establish cooperation with the military authorities in every member State. The IUCN may offer honorary membership to military

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<sup>2499</sup> “States” meaning those States which are “members of the United Nations or any of its specialized agencies, or of the [IAEA], or parties to the Statutes of the [ICJ].” *Id.*, art. 5(a); Robinson, *Note on the Legal Status of IUCN*, *supra* note (746) at 2 fn.5.

<sup>2500</sup> The IUCN Statutes defines “government agencies,” many of which are park departments or environmental ministries, - as “organizations, institutions and, when applicable, government departments which form part of the machinery of government in a State including those agencies of the components of federal States having a analogous structure.” *Id.*, art. 5(b); Robinson, *Note on the Legal Status of IUCN*, *supra* note (746) at 2 fn. 6.

<sup>2501</sup> International non-governmental organizations “shall be institutions and associations organized in two or more States,” *Id.*, art. 5(e), and national non-governmental organizations “shall be institutions and associations incorporated within a State,” *Id.*, art. 5(d); Robinson, *Note on the Legal Status of IUCN*, *supra* note (746) at 2 fn. 7.

<sup>2502</sup> As a fact, the human environment cannot be given a real protection without protecting the natural environment, since humans need to live in a healthy and safe environment.

<sup>2503</sup> “[R]elief actions which are humanitarian and impartial in character and conducted without any adverse distinction shall be undertaken, subject to the agreement of the Parties concerned in such relief actions.” Additional Protocol (I), *supra* note (79) art. 70.



commanders and invite them to participate in the IUCN congress meetings every three years to increase their environmental awareness. Moreover, IUCN may play an important educational role, by providing military authorities with materials regarding environmental protection during armed conflicts, and by giving environmental lectures to military personnel.

Additionally, the IUCN may establish environmental symbols to distinguish environmental sites to be protected in case of military attacks during armed conflicts. For example, a symbol of a leaf may designate a protected area or a forest, a UNESCO symbol may indicate a historical site or a cultural monument, and a wave sign may denote a dam, river or shore. These environmental signs could be approved by an international conference and distributed to military authorities. Furthermore, IUCN may cite the possible causes of irreparable environmental harm, such as the destruction of endangered species habitats or the destruction of a historical site, and require military authorities to increase the precautionary measures in these areas and to deter possible actions.<sup>2504</sup> Finally, IUCN should also promote the creation of an international fund to restore natural resources damaged by armed conflicts and to finance intervention in environmental emergency cases.<sup>2505</sup>

## **7. Improve Existing International Agreements**

Most of the international instruments that were examined in Parts II, III, and IV of this thesis were concluded in response to specific circumstances or dangers, and reflected the concerns of those particular circumstances. However, following Gulf War II, there was increased interest in addressing more universal or ongoing environmental threats. Nations, organizations, and individuals showed a new interest in dealing with environmental dangers that could result from any armed conflict.<sup>2506</sup> Commentators on the issue were divided into two groups. The first group believes that existing environmental law rules are sufficient to assure environmental protection during armed

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<sup>2504</sup> Parsons, *supra* note (2455) at 488.

<sup>2505</sup> IUCN, Parks For Life, Report of the 4<sup>th</sup> World Congress on National Parks and Protected Areas 98 (JEFFREY A. MCNEELY ED., Feb. 10-12, 1992).

<sup>2506</sup> Parsons, *supra* note (2455) at 443.

conflict, and that the problem consist in guaranteeing adherence to the existing rules and not in the rules themselves.<sup>2507</sup> Another group of commentators<sup>2508</sup> believes in the necessity to enact new law to deal with environmental destruction during armed conflicts.<sup>2509</sup> My view lies somewhere in between, i.e., that the existing system is not completely capable of assuring the environmental protection during times of armed conflicts. However, it is not necessary to enact new law; it would be sufficient if existing international law instruments were modified or supplemented to respond to the present environmental threats. Existing law provides a basic level of protection, and serves as a starting point. We must start there, and seek to build upon that foundation.

Most of the IHL instruments would be improved if the principle of “military necessity” is eliminated. Even if the principle of military necessity is not completely eliminated, any attack based on that principle should not harm human lives or the environment. Moreover, Articles 35 (3) and 55 of the Additional Protocol I to the Geneva Conventions should be modified to attenuate the condition of responsibility for environmental damage. Instead of requiring all the three elements,<sup>2510</sup> i.e., widespread, long-term and severe damage, it would be useful if, like the ENMOD,<sup>2511</sup> responsibility were based on the occurrence of a single element.<sup>2512</sup> Damage that could be described in terms of any one of those elements could present a real danger to the environment, and should be treated as such. Moreover, Article 56 of the Additional Protocol I could be modified to improve the environmental protection during armed conflict. The text of Article 56 provides protection only to a certain number of installations, “dams, dikes, and

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<sup>2507</sup> “The U.S. Government falls into this [team].” See e.g., Statement of Michael J. Matheson, Deputy Legal Advisor, U.S. Department of State, before the Meeting on International Law Principles of the Senate Environment and Public Works Committee’s Gulf Pollution Task Force, Jul. 11, 1991; Exploitation of the Environment as a Weapon, Statement of Robert B. Rosenstock, the U.S. Representative to the Sixth Committee of the 46<sup>th</sup> Session of the U.N. General Assembly, cited in Simonds, *supra* note (969) at 210.

<sup>2508</sup> “Lawyers and those concerned with the law often respond to what is seen a new problem by wanting to invent or create new laws. This is not, however, always the best possible course to take.” Adam Roberts, *An International Expert’s Overview*, in ENVIRONMENTAL PROTECTION AND THE LAW OF WAR 151 (GLEN PLANT ED., 1992).

<sup>2509</sup> The European Community Environment Commissioner, Greenpeace, the Government of Jordan and to some extents UNEP fall in this team. See e.g., Memorandum from Colonel J.P. Terry, Deputy Legal Counsel to the Chairman of the Joint Chiefs of Staff, on Environmental Destruction as a Weapon of War 2 (June 11, 1991); Greenpeace International, Greenpeace Calls for a Geneva Convention for the Environment (June 1991); Exploitation of the Environment as a Weapon in Times of Armed Conflict, U.N. GAOR, 46<sup>th</sup> Sess., Annex, U.N. Doc. A/46/141 (1991), cited in Simonds, *supra* note (969) at 210.

<sup>2510</sup> Okordudu-Fubara, *supra* note (331) at 181.

<sup>2511</sup> ENMOD, *supra* note (957) art. I.

nuclear electrical generating stations.”<sup>2512</sup> In view of the Iraqi degradation of the environment in Kuwait in 1991, when the Iraqi military burned oil wells and spilled crude oil into the Gulf waters, it becomes essential to include oil facilities in the forecited list.<sup>2513</sup> Including oil facilities in Article 56 would have two environmental advantages; first, it would protect natural resources during times of armed conflict, and second, it would avoid the requirements of Article 35 (3) and 55 that the environmental harm must be widespread, long-term and severe.<sup>2514</sup> The Additional Protocol I environmental standards should be extended to cover internal armed conflicts too, since there is no reason to distinguish between the environmental destruction caused by international armed conflict and that caused by non-international armed conflict.<sup>2515</sup>

The Additional Protocol II to the Geneva Convention should also be modified, by including provisions similar to Articles 35 (3) and 55 of the Additional Protocol I, if not more stringent.<sup>2516</sup>

The IUCN Amman Clause should be included in all instruments regulating international and internal armed conflicts. The IUCN Amman Clause can fill any gap in current environmental protection law. It states that

[u]ntil a more complete international code of environmental protection has been adopted, in cases not covered by international agreements and regulations, the biosphere and all its constituent elements and processes remain under the protection and authority of the principles of international law derived from established customs, from dictates of the public conscience, and from the principles and fundamental values of humanity acting as steward for present and future generations.<sup>2517</sup>

The Charter of the U.N. should be modified to charge the Security Council, along with maintaining international peace and security, with the responsibility to intervene whenever there is a threat of widespread long-lasting or severe environmental damage. The General Assembly should also participate in criminalising any environmental

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<sup>2512</sup> Simonds, *supra* note (969) at 211.

<sup>2513</sup> Additional Protocol (I) , *supra* note (79) art. 56.

<sup>2514</sup> Kelly, *supra* note (1817) at 946.

<sup>2515</sup> *Id.*, at 946-47.

<sup>2516</sup> Simonds, *supra* note (969) at 213-14.

<sup>2517</sup> *Id.*, at 213.

humiliation.<sup>2519</sup> This step on the part of the General Assembly would have a great environmental effect, because, even if it was not adopted by unanimous vote, it could establish a general principle of law acceptable among civilized nations, and would require the minority to comply with it.

The importance of ENMOD requires a periodical update of the convention to meet the needs of the environment and new threats to it. A State which experienced catastrophic environmental destruction by other nation's military forces, such as Kuwait, should undertake to convince the majority of member States to ENMOD to approve a periodical review conference perhaps every ten years, to improve the environmental protection of ENMOD.<sup>2520</sup> Since ENMOD addresses offensive military activities, it should be modified to extend its jurisdiction to cover defensive military activities as well. ENMOD could also be strengthened by a provision that would allow for enforcement even if the State causing damage did not admit a hostile intent behind its action, because the effect on the environment should be considered and not the mindset of the State.<sup>2521</sup> Additionally, Article 1 of ENMOD, which currently provides protection against only widespread, long lasting or severe damage, could be modified to include under its jurisdiction any environmental harm.

Finally, ENMOD deals with military activities only in times of armed conflicts, not in peacetime. Since such activities may have serious environmental impacts, ENMOD should be modified to include military operations in peacetime, especially activities that occurred on military bases abroad. The treaty should provide that any act, direct or indirect, that causes damage to the environment even in times of peace, would be considered as a crime against international law.<sup>2522</sup> The treaty should adopt a powerful enforcement system to assure that military forces are not protected by their national systems in cases of flagrant violations against the environment.

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<sup>2518</sup> IUCN Amman Clause, *supra* note (745) para. 9.

<sup>2519</sup> Okordudu-Fubara, *supra* note (331) at 219.

<sup>2520</sup> Kelly, *supra* note (1817) at 949.

<sup>2521</sup> *Id.*, at 948.

<sup>2522</sup> Margaret T. Okordudu-Fubara, *Oil in The Persian War, Legal Appraisal of an Environmental Warfare*, 23 ST. MARY'S J. 123, 219 (1991).

## 8. Conclude New Treaties

Following the Gulf War II, there was some pressure on the international community to conclude a treaty encompassing warfare environmental damage. An academic conference reported in *The Independent* (London) on June 4, 1991<sup>2523</sup> reaffirmed that trend. The question of whether a new set of rules should be codified, or whether the existing rules should be modified, was subject to a great discussion.<sup>2524</sup> As stated earlier in this thesis, many good rules already exist, some others need to be modified or supplemented, while some new laws need to be put in place. Customary law and State practice supply some of the “missing” rules.<sup>2525</sup> However, a new comprehensive treaty should concentrate on environmental protection and cover the gaps in existing international environmental rules. For example, a new convention that criminalizes damage to the environment during military operations whether in peacetime or in times of armed conflict should be adopted.

Professor Richard Falk proposed the Ecocide Convention.<sup>2526</sup> He was inspired by the adoption of the 1948 Convention on the Prevention and Punishment of the Crime of Genocide, and compared the importance of the environmental protection to the importance of the humans.<sup>2527</sup> According to Article I of the Draft Articles on the Crime of Ecocide “ecocide, whether committed in time of peace or in time of war, is a crime under international law.”<sup>2528</sup> Article I requires member States to prevent and punish crime of ecocide.<sup>2529</sup> Article I also criminalizes environmental degradation during peacetime and times of war. However, it could be argued that using the term of “time of war” instead of times of armed conflict might exclude internal armed conflicts from the convention. Article II of the Draft defines as criminal acts done with an “intent to disrupt

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<sup>2523</sup> MCCOUBREY, *supra* note (588) at 236-7.

<sup>2524</sup> *Id.*, at 237.

<sup>2525</sup> Parsons, *supra* note (2455) at 484.

<sup>2526</sup> Richard A. Falk, *Environmental Disruption by Military Means and International Law*, in ENVIRONMENTAL WARFARE: A TECHNICAL, LEGAL AND POLICY APPRAISAL, 34 (ARTHUR H. WESTING ED., 1984) [hereinafter Falk, *Environmental Disruption*].

<sup>2527</sup> *Id.*, at 43.

<sup>2528</sup> A Proposed Convention on the Crime of Ecocide, was proposed in 1973 by Richard A. Falk, and revised in 1984, available at Falk, *Environmental Disruption*, *supra* note (2526) at 45-9 [hereinafter Proposed Convention on Ecocide].

<sup>2529</sup> Falk, *Environmental Disruption*, *supra* note (2526) at 45-9.

or destroy” the environment. This requirement may exclude serious acts of environmental destruction that may be committed as a result of mere negligence or disregard.

The Draft not only criminalizes completed crimes against the environment, but also conspiracy and attempt to commit such crimes.<sup>2530</sup> This Draft goes beyond criminalizing environmental destruction in peacetime and times of war, and requires the U.N. to form a Commission for the investigation of ecocide crimes.<sup>2531</sup> Jurisdiction is given either to an international environmental court or the judicial authority of the State where the crime was committed.<sup>2532</sup>

To facilitate the prosecution procedures, member States are required to cooperate in extraditing criminals to the concerned authority, and such environmental crimes should not be, under any circumstances, described as political crimes which may allow criminals to escape extradition and prosecution.

As an alternative approach, several groups, including the United Nations, ICRC, Greenpeace International and a number of jurists,<sup>2533</sup> proposed a fifth Geneva Convention.<sup>2534</sup> The fifth Geneva Convention includes Marten’s Clause to cover all the subjects not examined in the earlier Conventions.<sup>2535</sup> The application of the fifth Geneva Convention is wider than the Ecocide Convention, since it covers all the environmental destruction resulting from armed conflict, including internal armed conflicts under its jurisdiction. However, it does not apply to peacetime environmental destruction.<sup>2536</sup> The proposed fifth Geneva Convention requires member States to be cautious in military activities that may harm neutral States, and should inform them about any harmful conduct.<sup>2537</sup> It limits the applicability of the principle of military necessity, and states that it shall “not automatically prevail over the principle of environmental protection.”<sup>2538</sup> Like the Ecocide Convention, the fifth Geneva Convention requires a showing of intent

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<sup>2530</sup> Proposed Convention on Ecocide, *supra* note (2529) art. III (b) (d).

<sup>2531</sup> *Id.*, art. V.

<sup>2532</sup> *Id.*, art. VII.

<sup>2533</sup> Parsons, *supra* note (2455) at 472.

<sup>2534</sup> London Round Table Conference on A Fifth Geneva Convention on the Protection of the Environment in Times of Armed Conflict, June 3, 1991, organized by the London School of Economics, Greenpeace International, and the Center for Defense Studies, cited in *Id.*, at 473 fn. 249.

<sup>2535</sup> PLANT, ENVIRONMENTAL PROTECTION AND THE LAW OF WAR: A ‘FIFTH GENEVA’ CONVENTION, *supra* note (652) at 43 (Part 1, Element 1 (A)).

<sup>2536</sup> *Id.*, at 43 (Part 1, Element 1 (B)).

<sup>2537</sup> *Id.*, at 44 (Part 1, Element 1 (E)).

<sup>2538</sup> *Id.*, at 45 (Part 1, Element 1 (F)).

to harm the environment, but also considers the nature of the weapons or techniques used. If the nature of those weapons is likely to cause environmental damage then the Convention will be applied.<sup>2539</sup> Moreover, the proposed fifth Geneva Convention requires member States to prohibit weapons and techniques that can be expected in all circumstances to cause environmental damage.<sup>2540</sup> It further prohibits the use of certain specific weapons and tactics already recognized to be harmful to the environment.<sup>2541</sup> The Convention also seeks to exclude zones and areas containing ecosystems, species or genetic materials of vital international importance from being subject to any attack, and provides that they should be demilitarized.<sup>2542</sup> Beside State responsibility,<sup>2543</sup> individuals can be prosecuted under the draft.<sup>2544</sup> Finally, the Convention assigns to the environmental NGOs the task of applying the convention and safeguarding the environment.

Both the Ecocide Convention and the fifth Geneva Convention are quite advanced. Since States are usually cautious regarding any new international convention, these proposals are unlikely to be adopted without considerable discussion and education to lay a foundation for agreement.

Furthermore, a new comprehensive convention dealing with terrorism should be adopted. This convention should provide a new definition of terrorism in view of the developed techniques that terrorist groups are using nowadays. However, since governments are not permanent, any conference that will call for the conclusion of a new treaty on terrorism must assemble different nations, religions, and ethnic groups to ensure a truly international effort. The representatives must have the opportunity to discuss and negotiate, in order to distinguish terrorism from legal acts of violence undertaken in the name of self-determination. The Islamic nations already took this step and defined terrorism when Muslim scholars discussed the matter during a conference in Makkah, Saudi Arabia in 2002. According to the Islamic conference, terrorism means “all acts of aggression unjustly committed by individuals, groups or States against human beings

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<sup>2539</sup> *Id.*, at 46 (Part 2, Element 2 (A)).

<sup>2540</sup> *Id.*, at 48 (Part 2, Element 2 (b)).

<sup>2541</sup> *Id.*, at 52-4 (Part 1, Element 3).

<sup>2542</sup> *Id.*, at 51 (Part 1, Element 1 (H)).

<sup>2543</sup> *Id.*, at 44 (Part 1, Element 1 (D)).

<sup>2544</sup> *Id.*, at 5 (Part 4, Element 4 (B)).

including attacks on their religion, life, intellect, property or honor ...[d]amaging the environment and public or private facilities and endangering natural resources” is equally an act of terrorism.<sup>2545</sup> Since the Islamic nation did its part, other nations should do theirs to approach different definitions and then reach a common one. The new treaty on terrorism should include the common definition.

The new treaty on terrorism should focus on establishing effective cooperation among nations in fighting terrorism. There should be a set of codified rules examining in detail the duty of member States to extradite suspected terrorists, the neutral authority to whom they should be delivered in case of disagreement, and the procedures of such extradition or delivery.

## **9. Charge U.N. Peacekeeping Operations to Monitor Environmental Situations**

The United Nations has the power to form and use small, multinational, and lightly armed forces as a peacekeeping operation,<sup>2546</sup> to monitor cease-fires between combatants. This same model may be used to assure the protection of the environment and natural resources and to report any flagrant violation against them.

The U.N. resolution gives peacekeeping forces the right to access and monitor situations within cease-fire areas. They might also be able to monitor environmental destruction committed within areas under their surveillance,<sup>2547</sup> especially since the environment has been used as a military target in recent wars. The peacekeeping forces could not only monitor the violation of cease fires by use of traditional weapons, but could also report any use of the environment as a weapon in the areas under their surveillance. For example, peacekeeping forces can prevent a State’s armed forces from dumping or releasing hazardous substances into the territories of other States. They can also report to the U.N. Security Council any substantial environmental violation. However, the U.N. peacekeeping forces cannot practice such environmental surveillance without legal basis.

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<sup>2545</sup> *Muslim Scholars Define Terrorism*, THE VOICE OF MUSLIMS, Jan. 18, 2002, at 1.

<sup>2546</sup> Parsons, *supra* note (2455) at 496.

<sup>2547</sup> *Id.*



Therefore, the U.N. Security Council resolution authorizing the use of peacekeeping operations should also charge them to fulfill certain missions including monitoring the environmental situations within certain areas. Such operations could be called “Greenkeeping.”<sup>2548</sup> The nature of the mission might affect the formation of the peacekeeping forces. For example, a certain number of environmentalists could be included in the peacekeeping forces to fulfill environmental missions; or military personnel of the peacekeeping forces could be required to have a certain level of environmental experience.

The United Nations forces should go beyond supervising and reporting environmental degradation, which may do little for human well-being after violations are committed. The United Nations may establish an “environmental task force” the goal of which is to quickly respond to environmental emergency situations that may result from armed conflict.<sup>2549</sup> When the U.N. Security Council decides to deploy armed forces within certain country, it can deploy the environmental task force at the same time. The “Greenkeeping” would then be in a position to assure the environmental protection, to prevent any military action that might cause severe environmental harm, to secure protected sites within the State, and to take immediate emergency environmental rescue operations.

Attributing such a mission to armed forces under the authority of the U.N. Security Council gives the environmental mission of these forces the necessary respect, violators may be faced with stringent measures of the Security Council.

### ***B) Recommendations Addressed to National Societies***

The State is considered the intermediate body between the international community and the people of a nation. The State may take part in the international instruments and apply them within its jurisdiction. Moreover, a State may convey the nation’s point of views to the international community during the consideration of any international instrument.

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<sup>2548</sup> *Id.*

<sup>2549</sup> Verwey, *supra* note (2496) at 98.

## 1. Revise Military Manuals, Based upon the Experiences of Germany, USA, and Other Countries

Including environmentally friendly rules of law in the national military manuals would contribute to the protection of the environment within the State's jurisdiction and would be reflected in the behavior of its armed forces abroad. For instance, when the military manual prohibits any environmental destruction during peacetime and in times of armed conflict, armed forces would comply with this requirement whether their operations took place on their homeland or abroad. Moreover, environmentally friendly practices may present a model which other nations military manuals may adopt. Any armed forces should "deter, prevent, and punish unjustified environmental damage,"<sup>2550</sup> and to assure the best environmental protection, military manuals should incorporate the environmental rules of International Humanitarian Law,<sup>2551</sup> Environmental Law Rules and Enviro-humanitarian Law.

Governments may revise their existing military manuals by incorporating the existing rules.<sup>2552</sup> Further, any military manual should at least include both Marten's Clause and the IUCN Amman Clause. For example, military manuals of the United States, United Kingdom and Germany already include the Marten's Clause,<sup>2553</sup> and should be improved to include the IUCN Amman Clause regarding environmental protection.

Improving military manuals can take place only by revising the existing military manuals according to the procedures set forth in the legal system of each country. Improving military manuals can be an easy task in a legal system such as Kuwait, where

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<sup>2550</sup> Parsons, *supra* note (2455) at 484.

<sup>2551</sup> Baker, *supra* note (725) at 382.

<sup>2552</sup> The Munich consultation on "Law Concerning the Protection of the Environment in Times of Armed Conflict" held in Dec. 1991, sponsored by the International Council of Environmental Law and the International Union for the Conservation of Nature and its Resources, pt. I, para. 5.

<sup>2553</sup> See, DEP'T OF THE ARMY, THE LAW OF LAND WARFARE, para. 6 (Field Manual No. 27-10, 1956); U.S. DEP'T OF THE AIR FORCE, INTERNATIONAL LAW -- THE CONDUCT OF ARMED CONFLICT AND AIR OPERATIONS 1-7 (b) (AFP No. 110-31, 1976). See also, UNITED KINGDOM WAR OFFICE, THE LAW OF WAR AND LAND, BEING PART III OF THE MANUAL OF MILITARY LAW, paras. 2, 2, 5 (1958). See, FEDERAL MINISTRY OF DEFENSE, HUMANITARIAN LAW IN ARMED CONFLICTS -- MANUAL, para. 129 (ZDV 15/2, 1992), cited in Kelly, *supra* note (1817) at 78 fn. 7.

the Minister of Defense possesses extraordinary powers.<sup>2554</sup> However, in some other legal systems, only the legislators can revise military manuals. But there exist other mechanisms for including environmental law rules in military practices other than revised military manuals. For example, in the United States, “in a February 1996 memo to senior State Department, the former Secretary of State, Warren Christopher, laid out the policy of the Clinton Administration on environmental security, placing the environment near the top of U.S. national security interests,”<sup>2555</sup> which gave the environment a high priority.

On the other hand, if a “model military manual” is internationally adopted and imposed over national military forces of all countries, it would better advance environmental protection. The ICRC’s efforts are focusing on encouraging States to integrate environmental protection into military manuals. Until this model is enacted, military forces should be subject to the existing manuals and the environmental laws and regulations that are applicable to civil activities. For example, the U.S. armed forces are subject to vast array of international, foreign, federal and State laws and regulations, which obliged them to go “green.”<sup>2556</sup> The U.S. armed forces are providing a great example that should be followed by other States’ armed forces. Furthermore, despite the fact that the United States has not yet ratified the Additional Protocol I to the Geneva Conventions, the Army’s field manual, “The Law of Land Warfare,” uses language identical to the Additional Protocol I in some of its provisions. For example, the language of the manual’s definitions of the “permissible objects of attack” is identical to the language of Article 52 (2) of the Additional Protocol I. The definition is limited to “objects which by their nature, location, purpose, or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage.”<sup>2557</sup>

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<sup>2554</sup> Ghanoon Ragom 32 Lisanat 1967 Fy Sha’an Aljaysh [Law No. 32/1967 related to the Military] Jul. 12, 1967, art. 24.

<sup>2555</sup> Thomas A. Lippman, *On Amazon, Christopher Stands up for Environment*, WASH. POST., Mar. 5, 1996, at A9.

<sup>2556</sup> Parsons, *supra* note (2455) at 490.

## 2. Modernize Military Technology to Avoid Environmental Destruction

In the present time, most armed forces focus on militarizing their personnel with the most destructive and harmful weapons and techniques. Such techniques do not always achieve victory in battlefield. For instance, despite the Iraqi military capacity, it did not achieve any victory against the allies in the Gulf War II. Moreover, such techniques can also be particularly harmful to the environment. My strong view is that militaries should focus on technologies, arms and techniques that avoid environmental destruction. However, until an international legal rule adopts this view, environmental protection will be less effective than it could be.

In the civilian context, governments have made use of “technology assessment,” that is, “the systematic study of the effects on society that may occur when technology is introduced, extended, or modified with special emphasis on the impacts that are unintended, indirect and delayed.”<sup>2558</sup> For example, in the United States, the Environmental Protection Agency (EPA) has a Municipal Technology Assessment Program that provides alternative technology for municipal wastewater treatment facilities.<sup>2559</sup> Technology assessment can also be used in the military context by ministries of defense all over the world, in order to provide alternative technologies for the weapons of mass destruction, or to mitigate the severe impacts of such weapons on human population and the global ecosystems.

Some commentators criticize the idea of banning a category of weapons based on their environmental effects because according to them, such a ban would be difficult to define and expensive to implement.<sup>2560</sup> However, rehabilitating the environment could be more difficult or even impossible, and more expensive. Moreover, although the preliminary phases might be difficult and expensive, once these weapons are destroyed,

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<sup>2557</sup> DYCUS, *supra* note (4) at 141-42.

<sup>2558</sup> Timothy B. Atkeson, *Technology Assessment: An Idea Whose Time Has Come*, 4 ENV'T'L L. REP. 50140, 50140 (1947).

<sup>2559</sup> Office of Wastewater Management, available at <<http://www.epa.gov/owm/muni.htm>> (last visit Feb. 13, 2002); *see also*, Carol R. Goforth & Ronald R. Goforth, *Technology Due Diligence – The Need for and Benefits of Technology Assessment in Connection with Investment in High – Tech Companies*, 17 RUTGERS COMPUTER & TECH. L. J. 165, 194 (2001).

<sup>2560</sup> Simonds, *supra* note (969) at 214.

States would avoid any future environmental harm or destruction without those additional costs.

The armed forces are capable of playing a major part in environmental protection. Existing military equipment and facilities may be used, not only to carry out military operations, but also to serve in securing the environment. For example, military radar, space bases, and intelligence gathering have great value as tools to prevent environmental destruction, to identify existing threats, and to identify persons responsible from them.<sup>2561</sup> Moreover, military equipment and logistical support may be used to clean up contaminated sites.<sup>2562</sup>

With modern military technology, the duty of any State's armed forces, is not only to damage the enemy's forces, but also to protect its own citizens. For instance, the "Patriot," an anti-missile, was used during the Gulf War II to destroy Iraqi missiles directed against the American installations in the region. Armed forces could focus on improving their defensive techniques rather than offensive ones, in order to protect the environment as well. Doing so would tend to "green" the armed forces and prepare them to deter any environmental destruction.<sup>2563</sup>

### **3. Provide the Right of Access to Information and Environmental Justice**

Military operations in peacetime and times of armed conflict often have environmental consequences. Information about such environmental damage should not be kept from the public. A system of sharing information should be established in every nation, particularly developing countries, to allow the public and NGO's to know the environmental effects of every military operation. The European Community signed the Århus Convention in 1998, adopting standards of public access to information which became part of the national legal system of every member State. Article 1 of Århus states that, "In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation

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<sup>2561</sup> Parsons, *supra* note (2455) at 495.

<sup>2562</sup> *Id.*

<sup>2563</sup> *Id.*

in decision-making, and access to justice in environmental matters in accordance with the provisions of this convention.” Other States should learn from the European experience in this field and adopt similar systems.

In the United States, for example, the Emergency Planning and Community Right to Know Act (EPCRA) of 1986 is concerned with gathering information and making them available in a comprehensible form to the public.<sup>2564</sup> The Environmental Protection Agency (EPA) is charged with maintaining a publicly accessible computer database and putting out information to the public.<sup>2565</sup> Moreover, State and local organizations must make information reported under EPCRA available to the public. The information reported under EPCRA is intended to allow the public “to identify environmental concerns [and/or to outline] potential environmental justice concerns.”<sup>2566</sup>

The definition of the “public” that has the right of access to information should include specialized international organizations and NGOs. Specialized international organizations and NGOs have the environmental experience that would reinforce the public’s ability to face environmental threats.

Environmental damage usually has a specific character that distinguishes it from other kinds of damage. Therefore, the public should have means of access to environmental justice, and any person who is or was affected by the environmental consequences of military operations should be able to sue the armed forces for the damage that their operations caused to his health, welfare, or the environment in order to compensate him and/or clean up the contaminated site. Public access to information and environmental justice will have a positive effect on the environment by causing the armed forces to think carefully before engaging in any activity that may harm human health or the environment.

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<sup>2564</sup> Citizen for a Better Environment v. The Steel Company., 90 F. 3d. 1237, 1239 (1996), available at 65 USL W 2069, 42 ERC 2057, 26 ENV’T L. REP. 21, 408 [hereinafter Citizen for Better Environment v. The Steel Company].

<sup>2565</sup> *Id.*, at 1239.

<sup>2566</sup> *Id.*

#### **4. Modify the Status of the Civil Ministries of the Environment and Create a New Service within these Ministries to Deal with Environmental Emergency Responses and Cleanup**

Civil authorities are often unable legally to interfere with military operations, even if such operations may cause severe environmental harm. The military often is the only institution in a position to act.<sup>2567</sup> However, traditional military forces are not capable of deterring, punishing and rehabilitating environmental damage that may result from their operations. Two possible avenues could be used to fill this gap. First, civil services could be established within the ministries of environment to address the environmental damage caused by military activities whether in peacetime or in times of armed conflicts. Practically, it would be very useful to the environment if a civil authority held this task, because civil authorities are more likely to consider the environment as a high priority and will provide for greater environmental protection. The proposed civil service can be composed of environmental experts to examine environmental emergencies arising from armed conflict. The team should have extraordinary powers in times of environmental emergencies, so that its members have unlimited access to sites and information, and have authority to direct the military to take necessary measures to reduce and eliminate any environmental threat. To assure that the team will be granted this kind of power, the highest authority in the country should form this team and invest it with the forecited powers.

Until this proposal is being effective, a second scenario should be considered, which is “greening” armed forces.<sup>2568</sup> Governments could create special environmental brigades within the ministries of defense to examine environmental harm of peacetime and times of armed conflicts. The members of the environmental brigade should be highly trained in the environmental field, should not be subordinated to any military authority, and should be empowered to enforce its recommendations. This recommendation will assure the priority of environmental concerns over military concerns.

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<sup>2567</sup> Parsons, *supra* note (2455) at 492.

<sup>2568</sup> *Id.*, at 492-93.

In the United States, at the State level, national guard forces have sometimes been used in emergency response to national disasters. The national guard serves as “an on-call force for state governors in case of civil disorders and [natural] disasters.”<sup>2569</sup> In the United States, the former President Clinton expanded the activities of the national guard forces in areas such as “antiterrorism, the war on drugs, environmental emergencies, rural health initiatives, and other domestic contingencies.”<sup>2570</sup> The national guard forces also participate in community service projects.<sup>2571</sup> These forces could also be used during armed conflicts to maintain and secure the environment, since environmental emergencies during armed conflict are often much more severe than those which arise during peacetime. India took a significant step in this area, by forming a green brigade within its armed forces vested with securing and protecting the environment in peacetime and in times of armed conflict.

## **5. Increase the Environmental Awareness Among People**

Public awareness of environmental concerns is crucial to ensuring adequate environmental protection. When environmental awareness reaches a certain level, the military is much more likely to take such concerns into consideration before committing serious environmental crimes. Moreover, even if a serious environmental crime took place, an aware citizenry is more to exert pressure on the army to avoid such crimes in the future and to clean up their site. Increasing public awareness was identified as an important step by the Rio Declaration, which provides that “States shall facilitate and encourage public awareness and participation by making information widely available.”<sup>2572</sup> Increasing public awareness must occur before, during, and after armed conflicts. Each of these phase presents its own challenges.

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<sup>2569</sup> Charles J. Dunlap, Jr., *The Last American Warrior Non-Traditional Missions and the Decline of the U.S. Armed Forces*, 18 FLETCHER F. WORLD'S AFF. 65, 76 (1994); see also, Jeff Bovarnick, *Perpich v. United States Dept. of Defense: Who's in Charge of the National Guard?* 26 NEW ENG. L. REV. 453, 469 (1991).

<sup>2570</sup> See, Clinton, “ROA National Security Report,” *The Officer* 42 (Oct. 1992) cited in Kathleen H. Switzer, *Benefits for reserve and National Guard Members Under the Soldiers' and Soldiers' Civil Relief Act of 1940*, 110 THE BANKING L. J. 517, 517 fn. 2 (1993).

<sup>2571</sup> *National Guard: State Emergency Missions*, *FV 1990*, USA TODAY, Sept. 14-16, 1990, at A3.

<sup>2572</sup> Rio Declaration, *supra* note (683) Principle 10.



First, before armed conflict, environmental awareness may be built by teaching environmental values in schools, and particularly in the early school years; even, for example, by encouraging kids to clean their environment by not disposing of trash on the ground, and by recycling. NGO's should play important role in this task,<sup>2573</sup> by providing experts in the environmental field to teach, or to instruct teachers. Governments should inform their armed forces about protected areas and World Heritage sites located in or near local and foreign military operations.<sup>2574</sup> The military also should practice recycling programs and undertake useful training exercises to avoid causing unnecessary environmental harm.<sup>2575</sup>

Second, during armed conflict, armed forces should be made aware of protected areas, which should not be targeted during armed conflict. The public should be informed about military sites, mine fields, and other environmental hazards. For example, in 2001, the American army taught the Afghan civilians how to distinguish between the yellow color of cluster bombs and the yellow color of food packages.<sup>2576</sup> Moreover, armed forces may provide and build camps for refugees and prohibit them from sheltering into or escaping through protected areas. And to reduce the environmental threat, military commanders should comply with the laws of war, particularly the IHL rules, and take those rules seriously in planning and executing their operations.<sup>2577</sup>

Finally, after the end of the combat a well trained task force should know the locations of fragile environmental areas. Some of them may demine mine fields, others may water the plants and feed the animals. Armed forces could teach the population how to recognize landmines and avoid their threat, as the United States did in January 2002 in Afghanistan, by providing for "mines training awareness and exposure" to the population.<sup>2578</sup>

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<sup>2573</sup> Barry S. Levy & Victor W. Sidel, *Preventing War and Its Health Consequences: Role of Public Health Professionals*, in *WAR AND PUBLIC HEALTH* 388, 390 (BARRY S. LEVY & VICTOR W. SIDEL EDS., 2000).

<sup>2574</sup> Verwey, *supra* note (2496) at 98.

<sup>2575</sup> Parsons, *supra* note (2455) at 490.

<sup>2576</sup> *U.S. Warplanes Again Hammer Taliban Positions*, *supra* note (154).

<sup>2577</sup> DYCUS, *supra* note (4) at 145.

## **6. Increase Possibility of Extradition of Criminals in Environmental Cases**

National law enforcement should cooperate with other States to facilitate the extradition of criminals indicted for committing acts of environmental destruction. Not every environmental criminal should be subject to extradition, but those whose acts violate the international standards by causing widespread, long lasting or severe environmental damage should be. If the State where the environmental crime can prove that such a level of environmental harm has occurred, then any State where the criminal is found should extradite him to be presented to justice.

National laws should be enacted in every State to assure the applicability of this principle.<sup>2579</sup> If such measures were adopted, they would make the international legal system of extradition much more effective. The national and international systems could work together, and in case of conflict, priority should be given to the system that provides more environmental protection.

### ***C- Recommendations Addressed to Non-Governmental Organizations***

The existing system of international responsibility excludes NGOs from any major role, and thus reduces the effectiveness of that system. The NGOs should be granted the right to bring violations to the attention of the ICJ, the ad hoc Courts or even to the International Criminal Court. For example, the ICRC should have the right to bring flagrant violations of the IHL rules to the attention of the above-mentioned bodies. Further recommendations to the NGOs follow.

#### **1. Introduce Environmental Protection as a Goal of the ICRC**

The ICRC's primary mission has been a humanitarian one, and it has achieved considerable success in protecting humanitarian rights. However, protecting the environment is very much a secondary concern in the mission of the ICRC. The draft

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<sup>2578</sup> DoD, News Briefing, General Tommy Franks, Jan. 18, 2002, available at <[http://www.centcom.mil/news/press\\_briefings/Franks\\_18jan.htm](http://www.centcom.mil/news/press_briefings/Franks_18jan.htm)> (last visit Jan. 31, 2002).

<sup>2579</sup> Simonds, *supra* note (969) at 216.

protocol submitted by the ICRC to the Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law applicable in Armed Conflicts (CDDH) made no reference to environmental protection. Articles 35 (3) and 55 of the Additional Protocol I, which are the environmental landmarks of the IHL, were introduced at the Conference itself.<sup>2580</sup>

Environmental concerns could be made a higher ICRC priority. Since the ICRC delegates have the right of access to battlefields, they could monitor environmental situations, gather information, and report them to the concerned authority. The ICRC could create an internal team with environmental capabilities, since environmental protection is directly tied to its humanitarian goals. For example, providing drinking water for a refugee camp involves both a humanitarian mission and an environmental one. Cooperation could be fostered between the ICRC and the IUCN. For example, IUCN could create an Emergency Response Team to work with the ICRC in emergency situations and cooperate with the ICRC delegates in working on the protection of human health and lives. The Emergency Response Team can monitor violations of environmental law rules, inspect and gather information about environmental degradation, persuade parties to the conflict to cease environmental destruction, and pursue cleanup and rehabilitation efforts.

## **2. NGOs Should Maintain Solid Relations With Internal Authorities in Each Nation**

To assure their welcome during times of armed conflict, NGOs should arrange for periodic visits to every nation in peacetime, contribute to increasing environmental awareness of the national level, and establish a national group of representatives in each State to defend their interests. Thus, when a country suffers from a national tragedy, NGOs would be in a position to relieve humanitarian and environmental threats without being rejected by civilian populations. NGOs often have material and financial resources to help in improving environmental conditions, but cannot act because of internal political or military problems. However, if their presence was not limited to emergency situations, they might be able to act more effectively. Similarly, authorities can enact

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<sup>2580</sup> Bouvier, *Protection of the Natural Environment*, *supra* note (81) at 574.

laws and regulations but may not have the materials to enforce them. Therefore, cooperation between NGO's and internal authorities could ameliorate environmental hazards.<sup>2581</sup>

Among NGO's, there can be one recognized Red Cross or Red Crescent Society per nation, to focus on relief efforts during natural disasters in peacetime.<sup>2582</sup> Currently, there exist 170 Red Cross and Red Crescent Societies around the world.<sup>2583</sup> These societies can play a significant role in safeguarding the social and economic development in each nation, and thus facilitate sound environmental practices. Local governments should facilitate their mission and provide them with necessary materials. Moreover, to provide greater environmental protection, the Red Cross and the Red Crescent Societies should expand their role to cover relief efforts during armed conflicts.

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<sup>2581</sup> Dianne M. Kueck, Comment, *Using International Political Agreements to Protect Endangered Species: A Proposal Model*, 2 U. CHI. L. SCH. ROUNDTABLE 345, 346 (1995).

<sup>2582</sup> PETER MACALISTER-SMITH, *INTERNATIONAL HUMANITARIAN ASSISTANCE: DISASTER RELIEF ACTIONS IN INTERNATIONAL LAW AND ORGANIZATION* 89 (Martinus Nijhoff, 1985).

<sup>2583</sup> Jean-Philippe Lavoyer, *The International Committee of the Red Cross-How Does it Protect Victims of Armed Conflict?* 9 PACE INT'L L. REV. 287, 288 (1997).

## **Conclusion**

International and internal armed conflicts have taken place all over the world. Modern history is full of examples of environmental damage caused by warfare, much of which has caused transboundary pollution that presents a serious threat to civilian populations, the natural environment, and plant and animal species. Current international environmental dispute mechanisms are inadequate to protect the rights of civilians or the environment. This is so despite the fact that most international law instruments that call for peaceful settlements of disputes urge nations to settle their differences peacefully and to maintain peace and security in their relations, such as the United Nations Charter of 1945.

In 1992, the Rio Declaration was adopted by an overwhelming majority of the U.N. General Assembly and the Security Council. Principle 26 of Rio Declaration on Environment and Development provides that “States shall resolve all their environmental disputes peacefully and by appropriate means in accordance with the Charter of the United Nations.” The peaceful settlement of disputes had been emphasized by the Rio Declaration because it recognized that recourse to armed conflict as a method for settling differences will undermine efforts to achieve sustainable development. The Rio Declaration combines the principle of peaceful settlement of disputes with other environmental values, by recognizing that nations should not only seek peaceful settlements of their differences, but should also protect nature and natural resources as well.

Principle 25 of the Rio Declaration provides that “[p]eace, development and environmental protection are interdependent and indivisible.” This principle raises concerns about peace, development and environmental protection, which cannot be separated and all of which are threatened by armed conflict. Thus, in order to provide a healthy and safe environment for human populations there should be peace, development and environmental protection.

The Rio Declaration also directly addresses the problem of environmental damage caused by armed conflict. Principle 23 limits the power of military forces in dealing with the environment in an occupied territory, by providing that “[t]he environment and

natural resources of people under oppression, domination and occupation shall be protected.” This principle should be strongly applied to the West Bank and Gaza Strip during the ongoing Israeli-Palestinian conflict, where Israeli and Palestinian armed forces should be subject to Principle 23 of the Rio Declaration and protect the nature and natural resources in West Bank and Gaza Strip.

Principle 24 of the Rio Declaration goes beyond prohibiting any State’s armed forces from destroying the environment of another State, by requiring that States shall participate in developing the environment during armed conflicts. It provides that “[w]arfare 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.” This principle declares that all armed conflicts are destructive of sustainable development. In light of Principle 24, it is evident that States must respect international law instruments that deal with environmental protection in times of armed conflict, and must cooperate in the progressive development of further international law to protect the environment. This principle provides great environmental protection in times of armed conflicts, but it says nothing about the mechanism and the rules that should be applied to avoid environmental damage during armed conflict.

Thus, the States assembled in Rio De Janeiro in 1992 believed that the declaration alone would not be effective without practical measures. Therefore, an action plan, Agenda 21, was adopted to implement sustainable development. It addresses several objectives and outlines certain steps for governments, international organizations, and non-State actors to adopt in order to promote sustainable development. Nevertheless, the subject of environmental impacts of armed conflict was totally ignored by Agenda 21. Since armed conflict cannot only harm the environment, but also can prevent sustainable development from taking place, an action plan is needed. Even with the adoption of the Rio Declaration and Agenda 21 in 1992, armed conflicts still occur whether between States, or within a State. Moreover, throughout the history of armed conflicts, the larger the conflict, the greater the environmental threat becomes. Nations with huge and well-equipped armed forces are capable of attacking other countries and causing vast environmental damage. Therefore, nations, particularly developed countries, should be

urged to reduce their military capacity and budgets to the minimum level possible to maintain their national security and should focus on how to implement sustainable development in order to live in peaceful societies and to maintain the international order.

Principles 23, 24, and 25 of the Rio Declaration could be considered the legal basis for environmental protection in times of armed conflict even though they say nothing about the mechanisms to do so. Agenda 21 is a major action plan for implementing sustainable development, but it does not mention warfare environmental damage that will necessarily impact on sustainable development. Thus, there is an urgent need for an environmental action plan to implement Principles 23, 24 and 25

This thesis has addressed the environmental impact of armed conflict and identified specific steps for the international community as well as national governments to take in furtherance of environmental protection and, therefore, sustainable development. These steps are crucial in order to promote more effective environmental protection. Even if armed conflict is not considered at the World Summit on Sustainable Development (WSSD) in 2002 in Johannesburg, South Africa,<sup>2584</sup> marking the ten-year anniversary of the 1992 United Nations Conference on Environment and Development (UNCED), at some point in time nations must consider practical means to protect the environment in times of armed conflict. The recommendations in this thesis should be adopted and more concern should be given to the environmental impacts of armed conflicts.

In sum, although I have completed the writing of my thesis, work should be accelerated to implement and adopt some, if not all, of the recommendations, in order to better advance protection of the global ecosystem and to achieve the sustainable development for the present and future generations. My thesis addresses not only civilian populations, but also military personnel and decision-makers as well, since its main objective is to persuade military personnel around the world to secure and protect environmental values and to consider the environment as a high priority whether in their peacetime operations or in the battlefields. My thesis also speaks for the interests of the natural world, of which human society must learn to be a better guardian. We can no

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<sup>2584</sup> Committee Bulletin Board, *Environmental Law Committee Announces World Summit on Sustainable Development*, Vol. 31 No. 1 INTERNATIONAL LAW NEWS 11, 11 (2002) [hereinafter Committee Bulletin Board].

longer sacrifice nature during times of armed conflict, as nature can not sustain our social and economic development if neglected. If my recommendation and analysis in some way furthers the adoption of new measures to safeguard the environment in times of armed conflict, then I shall be grateful for undertaking this research.



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