

## PREVENT ENVIRONMENTAL DAMAGE DURING ARMED CONFLICT

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DOI: 10.21684/2412-2343-2018-5-2-72-99

*International humanitarian law consists of different rules that are used for protecting people and restricting the methods of warfare. The application of international humanitarian law is not only limited to the protection of victims related to armed conflicts during the outbreak of hostilities; however, it is also helpful for protecting the victims of these conflicts, including environment. The legal rules for the protection of environment in armed conflict also provide legal protection for the environment during the outbreak of hostilities. The study is divided into several sections, starting from environmental damage in the context of warfare. Afterward, the study discusses the importance of preventive measures in armed conflicts. Furthermore, the properties of prevention protection of environment are discussed including cultural property, engineering installations and protected areas near hospitals and safety zones. The study has shown positive consequences of preventive protection method in both the conduct and the outbreak of hostilities. A set of mechanisms or legal procedures is imposed under humanitarian conventions to provide preventive protection to the environment. The principles of humanitarian law have been developed and enforced through the actions of the Red Cross. However, proved nonetheless to be insufficient to prevent environmental destruction. Principally, the enforcement mechanisms hindered the effectiveness of the provisions. In contrast, several conditions for the possibility of registering cultural property in the international register of cultural should be encouraged based on special prevention mechanisms so that the humanitarian conventions can take serious considerations towards it.*

*Keywords: armed conflict; culture; environmental damage; humanitarian; prevention protection method; warfare.*

**Recommended citation:** Zeyad Mohammad Jaffal & Waleed Fouad Mahameed, *Prevent Environmental Damage During Armed Conflict*, 5(2) BRICS Law Journal 72–99 (2018).

## **Table of Contents**

### **1. International Humanitarian Law**

#### **1.1. Definition of Environment in the Context of Warfare**

#### **1.2. Environmental Damage of War**

#### **1.3. The Importance of Preventive Measures**

### **2. Preventive Protection of the Environment in Armed Conflicts**

#### **2.1. General Preventive Protection of Environment**

*2.1.1. Issue Military Instructions and Manuals to Ensure Respect for Environmental Protection Rules in Case of Armed Conflict*

*2.1.2. Oblige States Parties to Refrain from Inventing, Developing or Acquiring a New Method of Warfare*

*2.1.3. Encourage States to Conclude Bilateral or Collective International Agreements to Prevent Any Hostilities That May Cause Damage to the Environment*

*2.1.4. Give International Humanitarian Organizations and Bodies Freedom of Intervention to Protect the Environment in Case of Armed Conflict*

*2.1.5. Encourage States in Peacetime to Teach IHL Rules for the Protection of the Environment During the Outbreak of Hostilities*

*2.1.6. Forming Special Teams of Qualified Personnel to Ensure Environmental Protection in Case of an Outbreak of Hostilities*

*2.1.7. Holding Periodic Conferences, Meetings, and Seminars to Activate the Rules of Environmental Protection in Case of Armed Conflict*

*2.1.8. The Duties of Military Commanders to Prevent Any Violation of the Provisions of IHL Relating to the Protection of the Environment*

*2.1.9. Avoid the Establishment of Military Installations and Targets near Civilian Objects That Are Part of the Civilian Environment*

*2.1.10. Take the Feasible Precautions to Protect the Environment at the Planning Stage of the Attack*

#### **2.2. Special Preventive Protection of Environment Before the Outbreak of Military Actions**

##### **2.2.1. Cultural Property**

*2.2.1.1. Avoid Establishing Cultural Property near Military Targets*

*2.2.1.2. Construction of Places Allocated for the Preservation of Cultural Property in a Manner That Is Resistant to the Effects of Combat Operations*

### 2.2.1.3. Registration of Cultural Property in Special Records of the Competent International Organization

#### 2.2.2. *Engineering Installations*

#### 2.2.3. *Other Protected Areas*

##### 2.2.3.1. Hospital and Safety Zones and Localities

##### 2.2.3.2. Non-Defended Localities

##### 2.2.3.3. Demilitarized Zones

## Conclusion

### 1. International Humanitarian Law

The concept “international humanitarian law” (IHL) refers to the understanding of *jus in bello*, which means the laws concerned with the conduct of war.<sup>1</sup> International humanitarian law is apparently supervised and promoted by the International Committee of the Red Cross (ICRC). It is claimed by the ICRC that IHL is an important aspect of the international law that rules relations between countries.<sup>2</sup> The focal point of the law is to empower and guard individuals who are not participating in fighting (medics, aid workers and civilians) and can no longer fight (sick, prisoners of war, shipwrecked troops and wounded).<sup>3</sup> Further, it aims to espouse the rights and duties directed toward of the parties to a conflict in the conduct of such events.

International humanitarian law, according to international lawyers, was a humanitarian focus to the Geneva part juxtaposed to the Hague law, which was a promoter of the methods of warfare. However, it is deemed that both laws preliminary focus on humanitarian aspects and; thus, overlap.<sup>4</sup> According to Cherif Bassiouni, IHL refers to the obligations of international law, concerned with customary, Hague or Geneva, and conventional armed conflict.<sup>5</sup> The history of IHL is associated with two common approaches: (1) a story of oppression and imperialism, and (2) the humanization of war and law.<sup>6</sup>

<sup>1</sup> Yoram Dinstein, *The Conduct of Hostilities Under the Law of International Armed Conflict* (3<sup>rd</sup> ed., Cambridge: Cambridge University Press, 2016).

<sup>2</sup> Gary D. Solis, *The Law of Armed Conflict: International Humanitarian Law in War* (Cambridge: Cambridge University Press, 2016).

<sup>3</sup> The Geneva Conventions of 1949 and Their Additional Protocols, ICRC, Overview, 29 October 2010 (Jun. 10, 2018), available at <https://www.icrc.org/eng/war-and-law/treaties-customary-law/geneva-conventions/overview-geneva-conventions.htm>.

<sup>4</sup> Amanda Alexander, *International Humanitarian Law, Postcolonialism and the 1977 Geneva Protocol I*, 17(1) *Melbourne Journal of International Law* 15, 17 (2016).

<sup>5</sup> *Globalization and Its Impact on the Future of Human Rights and International Criminal Justice* (M. Cherif Bassiouni (ed.), Cambridge: Intersentia, 2015).

<sup>6</sup> Amanda Alexander, *A Short History of International Humanitarian Law*, 26(1) *European Journal of International Law* 109 (2015).

It occurs by providing for pre-emptive protection of environment prior to the outbreak of hostilities and a subsequent phase of the attack on the environment by determining the international responsibility for the violation of the rules of environmental protection and the appropriate penalty for the perpetrators. Therefore, humanitarian protection of the environment can be divided into three phases:

- 1) preventive protection before the outbreak of the military operations;
- 2) control protection during the operation of armed conflict;
- 3) deterrent protection through the determination of international responsibility for violating environmental protection rules and imposing civil or criminal penalties if this responsibility is established after an attack on the environment and a violation of the protection rules.

Another advantage of this conventional law is to easily prevent a de facto "oligarchic" from the "strongest states" from imposing its will on most states.<sup>7</sup> The Geneva Convention Relative to the Protection of Civilian Persons in Time of War (Fourth Geneva Convention)<sup>8</sup> is a predominant source of conventional IHL. The Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Protocol I)<sup>9</sup> is another leading source of conventional IHL. Thereby, it is essential to ascertain the essence of environment by international law before demonstrating the extent of IHL in protecting environment.

### **1.1. Definition of Environment in the Context of Warfare**

It is witnessed from the 1982 World Charter for Nature that warfare or other hostile activities degrading nature, shall be secured.<sup>10</sup> The protection of the environment is intrinsically associated to the human well-being, but it is further concerned with the natural environment. Under IHL, the environment is accredited as natural instead of providing a wider definition of the word.<sup>11</sup> In this context, prohibited acts cause lasting, severe and widespread damage to the natural environment. The natural environment qualifies to the ICRC Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949.<sup>12</sup>

<sup>7</sup> Rymn James Parsons, *The Fight to Save the Planet: U.S. Armed Forces, Greenkeeping, and Enforcement of the Law Pertaining to Environmental Protection During Armed Conflict*, 10(2) Georgetown International Environmental Law Review 441, 470 (1998).

<sup>8</sup> Chris Jenks, *A Matter of Policy: United States Application of the Law of Armed Conflict*, 46(3) Southwestern University Law Review 337 (2017).

<sup>9</sup> Thomas Buergenthal et al., *International Human Rights in a Nutshell* 1–29 (5<sup>th</sup> ed., St. Paul: West Academic, 2017).

<sup>10</sup> Haydn Washington et al., *Why Ecocentrism is the Key Pathway to Sustainability*, 1 Ecological Citizen 35 (2017).

<sup>11</sup> Asif Khan & Maseeh Ullah, *The Protection of Environment during Armed Conflict: A Case Study of International Humanitarian Law (the Case of Fallujah)* (Jun. 10, 2018), available at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3069563](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3069563).

<sup>12</sup> Theresa U. Akpoghme & T.C. Nwano, *Revisiting the Legal Framework Indirectly Protecting the Environment in Situations of Armed Conflicts*, 1(2) Ajayi Crowther University Law Journal 1 (2017).

According to the regulations of the Fourth Geneva Convention, the means of harming the enemy is not unlimited and occupying state shall merely be considered as usufructuary and administrator of the public buildings, agricultural works, and forests.<sup>13</sup> Likewise, IHL poses a significant challenge to the enforcement and applicability for environmental protection. The overwhelming conflicts are internal even though IHL is fundamentally developed in a period of interstate conflicts. Thereby, mostly laws are less restrictive or inapplicable when applied to internal conflicts. It is witnessed that approximately 40% of all intrastate conflicts are linked to natural resources over the last sixty years.<sup>14</sup>

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD) also links interstate conflicts with environment. The ENMOD Convention was ascertained by the United States as a reaction to the military strategies during the Vietnam War.<sup>15</sup> The establishment of the convention was due to the reaction of using large quantities of chemical defoliants, resulting in lasting environmental contamination and extensive human suffering.

Global degradation is further observed as a major contributing factor to future armed conflicts as the effects of climate change are increasingly emerged. In the context of environment and armed conflicts, the United Nations and the Intergovernmental Panel on Climate Change (IPCC) have stated the probability that food and resource scarcity are induced by climate-change, sparking regional conflict.<sup>16</sup> Disputes over water accessibility are already a major impediment to long-lasting peace settlements between some nations in the Middle East. For instance, in the 1980s, the armed conflict in the Sudan was instigated by food insecurity and famine.<sup>17</sup> Furthermore, food self-sufficiency and increasingly danger of civil conflict are mitigated by uncontrolled urban migration and spiraling populations in East Africa soil erosion and deforestation.<sup>18</sup>

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<sup>13</sup> Timothy J. Heverin, *Legality of the Threat or Use of Nuclear Weapons: Environmental and Humanitarian Limits on Self-Defense*, 72(4) *Notre Dame Law Review* 1277 (2014).

<sup>14</sup> Vally Koubi et al., *Do Natural Resources Matter for Interstate and Intrastate Armed Conflict?*, 51(2) *Journal of Peace Research* 227 (2014).

<sup>15</sup> Silke Marie Christiansen, *Climate Conflicts – A Case of International Environmental and Humanitarian Law* 189–234 (Cham: Springer, 2016).

<sup>16</sup> War And Conflict – Related Environmental Destruction, *Encyclopedia.com* (2009) (Jun. 10, 2018), available at <https://www.encyclopedia.com/environment/energy-government-and-defense-magazines/war-and-conflict-related-environmental-destruction>.

<sup>17</sup> Marie G. Jacobsson, *Working to Protect the Environment in Armed Conflict*, *Medium*, 2 November 2016 (Jun. 10, 2018), available at <https://medium.com/@UNEP/working-to-protect-the-environment-in-armed-conflict-ce9aff1aa479>.

<sup>18</sup> S.M. Enzler MSc, *The Impact of War on the Environment and Human Health*, *Lenntech* (September 2006) (Jun. 10, 2018), available at <https://www.lenntech.com/environmental-effects-war.htm>.

## 1.2. Environmental Damage of War

The International Court of Justice (ICJ) has stated that “environment is under daily threat” and that it “is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn.”<sup>19</sup> The destruction of the environment is as old as warfare itself.<sup>20</sup> Moreover, technological advancements have changed the landscape of war, fundamentally affecting both the ways, in which hostilities are conducted.<sup>21</sup>

The methods of warfare are extremely destructive because of technological advances in military weaponry and tactics in this century. To drive civilian populations from an area and to demoralize opposing troops, armed forces mostly use target objects of particular interest that mainly include churches and mosques in Yugoslavia and natural areas in Guatemala inhabited by indigenous peoples.<sup>22</sup> Combatants have often deliberately or indiscriminately targeted the environment for depriving troops of cover, food, and water. It has entailed the use of inhumane weapons such as poisonous gas, landmines, and chemical defoliants; violation of protected natural areas through troop movement, poaching for food, and actual combat; and scorched earth practices.

The atomic bomb attacks on the Japanese cities of Hiroshima and Nagasaki in 1945 was the greatest environmental calamity in the history of armed conflict. This tragic impact of destruction is extensively captured through eyewitnesses rather than sterilized statistics.<sup>23</sup> A wave of searing heat could scorch thousands of people in the gardens and streets in the center of the city within a few seconds. Furthermore, conflict outbreak poses several potential risk enhancement factors such as weak governance, poverty, and income inequality.<sup>24</sup> Natural disasters deepen grievances as they cause more acute imbalances and increase resource scarcity between areas of abundance and scarcity. The unequal distribution of ex-post humanitarian aid or ex-ante preventative measures are linked to grievances as imposed by governments. It is deemed that conflict is contributed through weak government resources to natural disasters.

<sup>19</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J. 226 (Jun. 10, 2018), also available at <http://www.icj-cij.org/files/case-related/95/095-19960708-ADV-01-00-EN.pdf>.

<sup>20</sup> Tara Weinstein, *Prosecuting Attacks That Destroy the Environment: Environmental Crimes or Humanitarian Atrocities?*, 17(4) *Georgetown International Environmental Law Review* 697, 699 (2005).

<sup>21</sup> Mete Erdem, *Enforcing Conventional Humanitarian Law for Environmental Damage During Internal Armed Conflict*, 29 *Georgetown Environmental Law Review* 435, 435–436 (2017).

<sup>22</sup> Carl E. Bruch, *All's Not Fair in (Civil) War: Criminal Liability for Environmental Damage in Internal Armed Conflict*, 25 *Vermont Law Review* 695, 697–698 (2001).

<sup>23</sup> Carl-Friedrich Schleussner et al., *Armed-Conflict Risks Enhanced by Climate-Related Disasters in Ethnically Fractionalized Countries*, 113(33) *Proceedings of the National Academy of Sciences* 9216 (2016).

<sup>24</sup> Pieter Serneels & Marijke Verpoorten, *The Impact of Armed Conflict on Economic Performance Evidence from Rwanda*, 59(4) *Journal of Conflict Resolution* 555 (2015).

Economic opportunities for criminal activity are presented through the disruption caused by natural disasters. These influences on livelihoods allow individuals to join armed groups. The opportunity cost of conflict is increased with better access to reconstruction aid. When disasters construct a smokescreen for expanding military or political objectives, political opportunities are aroused for conflict engagement.

Environmental damage is recognized as a humanitarian issue; and humanitarian law is helpful to protect the environment in times of peace as well as in times of armed conflict. Even though; non-derogable human rights are still applicable in times of armed conflict, humanitarian law is the main set of rules by which situations of armed conflict are regulated. The principles of humanitarian law have been developed and enforced through the actions of the Red Cross. However, proved nonetheless to be insufficient to prevent environmental destruction. Principally, the enforcement mechanisms hindered the effectiveness of the provisions.<sup>25</sup> Although, warfare has never been separable from the use of environmental destruction, the protection of the environment has never been a top priority in the conduct of warfare.<sup>26</sup>

In Gulf War, Iraqi forces set fire to 600 of Kuwait's oil wells and uncapped or damaged 175 more. During the same conflict at least six million barrels of oil were deliberately discharged into the Arabian Gulf, adding to the already considerable damage wrought by routine oil industry operations and the hundreds of attacks on tankers and oil facilities during the Iran-Iraq war.<sup>27</sup> These examples and others led nations gathered at the U.N. Earth Summit to declare,

Warfare is inherently destructive of sustainable development. States shall, therefore, respect international law providing protection for the environment in times of armed conflict and cooperate in its further development, as necessary.<sup>28</sup>

The environmental damage in wartime is inevitable. It occurs with any adverse, incremental change in the existing status of the environment. In the future, armed conflict will continue and the damage from armed conflict, based on current trends, is certain to increase.<sup>29</sup> If environmental damage during armed conflict is not restrained,

<sup>25</sup> Aurelie Lopez, *Criminal Liability for Environmental Damage Occurring in Times of Non-International Armed Conflict: Rights and Remedies*, 18(2) *Fordham Environmental Law Review* 231, 268 (2006).

<sup>26</sup> See Laurent R. Hourcle, *Environmental Law of War*, 25(3) *Vermont Law Review* 653, 654 (2001). For example, during the 1993 intervention into Somalia, "post-action reports of the U.S. Forces indicate that environmental issues were a low priority." *See Id.* at 681.

<sup>27</sup> Aaron Schwabach, *Ecocide and Genocide in Iraq: International Law, the Marsh Arabs and Environmental Damage in Non-International Conflicts*, 15 *Colorado Journal of International Environmental Law & Policy* 1, 1 (2004).

<sup>28</sup> United Nations Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26 (vol. I); 31 I.L.M. 874 (1992).

<sup>29</sup> Parsons 1998, at 460.

the armed forces that are intended to protect us from harm may become the agents of our ultimate destruction. Therefore, the need to protect the environment against unjustified damage during armed conflict is an unmet challenge of the 21<sup>st</sup> century.

### **1.3. The Importance of Preventive Measures**

Preventative remedies are peculiarly important to environmental protection. There is a growing awareness that environmental damage “cannot be adequately compensated in pecuniary terms, nor readily reversed or restored.”<sup>30</sup> The practical implications of precautionary principle are indicated through several multilateral environmental agreements that outline the fundamental features of precautionary principle in national level environmental initiatives.<sup>31</sup> It has been witnessed from Montreal Protocol on Substances That Deplete the Ozone Layer,<sup>32</sup> where parties are demonstrated for protecting the ozone layer by undertaking precautionary measures to control equitably global emissions. The importance of international laws is further implied from the precautionary principle that is able to guard civil population from catastrophic effects and natural calamities during peace time and prevent such damages. It has been witnessed from the Rio Declaration, sustainable development is inherently destructive through warfare.<sup>33</sup> Therefore, the protection for the environment is respected under international law in the context of armed conflict and development. Similarly, the importance of undertaking a precautionary approach is emphasized by the ICRC in the absence of scientific certainty that refers to the probable impact of a specific weapon on the environment.<sup>34</sup>

## **2. Preventive Protection of the Environment in Armed Conflicts**

Preventive protection in armed conflicts refers to those legal procedures that are imposed by conventional IHL prior to the outbreak of armed conflict for ensuring

<sup>30</sup> See Henry H. Almond Jr., *Strategies for Protecting the Environment: The Process of Coercion*, 23 *University of Toledo Law Review* 313 (1992).

<sup>31</sup> Alexandru Florin Magureanu & Ioan Ștefu, *Environmental Protection and Armed Conflicts in National and International Regulations*, International Conference of Scientific Paper, AFASES 2014, Brasov, 22–24 May 2014 (Jun. 10, 2018), available at [http://www.afahc.ro/ro/afases/2014/manag/Magureanu\\_Ștefu.pdf](http://www.afahc.ro/ro/afases/2014/manag/Magureanu_Ștefu.pdf).

<sup>32</sup> Lucy J. Carpenter & Stefan Reimann (Lead Authors), *Update on Ozone-Depleting Substances (ODSs) and Other Gases of Interest to the Montreal Protocol*, Chapter 1 in *Scientific Assessment of Ozone Depletion: 2014*, Global Ozone Research and Monitoring Project – Report No. 55, World Meteorological Organization, Geneva, Switzerland, 2014 (Jun. 10, 2018), also available at [https://www.esrl.noaa.gov/csd/assessments/ozone/2014/chapters/chapter1\\_2014OzoneAssessment.pdf](https://www.esrl.noaa.gov/csd/assessments/ozone/2014/chapters/chapter1_2014OzoneAssessment.pdf).

<sup>33</sup> Chee Yoke Ling, *The Rio Declaration on Environment and Development: An Assessment* (Penang: Third World Network, 2012).

<sup>34</sup> Elizabeth Mrema et al., *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law* (Nairobi: UNEP/Earthprint, 2009).

that the environment is protected from potential aggression. Four points should be considered of preventive protection:

1) the legal protection provided by IHL to the environment and other victims of armed conflict gives these categories – including the environment – legal rights that cannot be waived or agreed upon. This is decided by Art. 7 common to the four Geneva Conventions of 1949;

2) the legal protection provided by conventional IHL of environment represents the minimum protection to be observed, states parties to the conflict may agree, at any stage of the armed conflict and even before the outbreak of hostilities, to provide additional protection for the environment other than those established by IHL, as decided by Art. 6 common to the four Geneva Conventions of 1949;

3) the sources of legal protection of the environment in IHL are not limited to the four Geneva Conventions of 1949 and the Additional Protocols of 1977, but other sources are existed, such as the Hague Conventions of 1899 and 1907;

4) finally, the legal protection is not being specifically and explicitly addressed but is more related to the legal protection of victims of armed conflict in general, which can be adapted to provide special protection for the environment at various stages of outbreaks of hostilities, considering environment as one of the victims of armed conflict.

### **2.1. General Preventive Protection of Environment**

The terms “the prevention of environmental harm,” and “protection of the environment” are used in the similar context. There are distinctions and nuances framed between the two terms.<sup>35</sup> Protection refers to the extent of positive action attempted to guard the environment from harm. Prevention and prohibition connote restrictions on the competency to execute activities that would destruct the environment. Thereby, the idea of environmental protection subjects for the wide range of environmentally beneficial obligations in general environmental discourse.

Several international instruments are set forth by the U.N. Security Council to guard the environment throughout the armed conflict. Several military manuals, reported practice and official statements have articulated the general need to protect the environment during armed conflict. Severe damage to the environment is caused by condemnations of behavior in armed conflict. Numerous states pinpointed the importance of the protection of the environment during armed conflict as witnessed from the ICJ in the *Nuclear Weapons case*.<sup>36</sup> Such general protection

<sup>35</sup> Tara Smith, *The Prohibition of Environmental Damage during the Conduct of Hostilities in Non-International Armed Conflict*, PhD Thesis (May 2013) (Jun. 10, 2018), available at <https://aran.library.nuigalway.ie/handle/10379/3523>.

<sup>36</sup> Michael A. Becker, *The Dispute That Wasn't There: Judgments in the Nuclear Disarmament Cases at the International Court of Justice*, 6(1) Cambridge International Law Journal 4 (2017).

of environment before the outbreak of the hostilities is determined through the following mechanisms:

*2.1.1. Issue Military Instructions and Manuals to Ensure Respect for Environmental Protection Rules in Case of Armed Conflict*

There are many legal provisions that oblige States parties to international humanitarian conventions for promoting the dissemination of rules of IHL, including the rules of environmental protection. This mechanism is provided by the general mechanisms of prevention in Art. 80(2) of Protocol I, which requires States parties to issue orders and instructions to ensure respect for the provisions of IHL and to implement their obligations in this regard. One of the oldest general mechanisms as referred to in Art. 1 of the Hague Convention (IV) Respecting the Laws and Customs of War on Land of 1907, which provides that

The Contracting Powers shall issue instructions to their armed land forces which shall be in conformity with the Regulations respecting the laws and customs of war on land, annexed to the present Convention.<sup>37</sup>

Military manuals, which present one avenue for developing a unified set of norms that armed forces could follow in all types of armed conflict. The manuals provide a practical means for educating military officers and commanders and constitute a reference for use during the conflict. In setting forth rules of engagement, these manuals clarify, implement, and enforce specific standards governing environmental damage in armed conflict. Furthermore, since the manuals set forth norms by which governments hold their soldiers accountable, they may reflect developing *opinio juris* (and state practice) and emerging customary international law.<sup>38</sup>

The issuance of such military manuals, as a mechanism of general environmental protection prior to the outbreak of hostilities, is not limited to States alone, indeed, international humanitarian organizations have also contributed to the application of this mechanism by issuing instructions and military directives to the armed forces. For example, nations; such as, United States and Germany have detailed military manuals, which require, *inter alia*, troops to act in the same manner regardless of whether they are engaged in an international or an internal conflict. Thus, the joint U.S. Navy/Marine Corps/Coast Guard Commander's Handbook on the Law of Naval Operations provides that

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<sup>37</sup> *Rules of International Humanitarian Law and Other Rules Relating to the Conduct of Hostilities: Collection of Treaties and Other Instruments* 14 (Geneva: ICRC, 1989; revised and updated edition, 2005).

<sup>38</sup> Bruch 2001, at 743. As of 2000, only a few nations had military manuals, and most of these were for developed nations. See *Id.* footnote 286, quoted Arthur H. Westing, *In Furtherance of Environmental Guidelines for Armed Forces During Peace and War in The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives* 171 (J.E. Austin & C.E. Bruch (eds.), Cambridge: Cambridge University Press, 2000).

In those circumstances when international armed conflict does not exist (e.g. internal armed conflicts), law of armed conflict principles may nevertheless be applied as a matter of policy.<sup>39</sup>

Some has observed that the German Humanitarian Law Manual requires German soldiers

to comply with the rules of IHL in the conduct of military operations in all armed conflicts however such conflicts are characterized.<sup>40</sup>

Certain model guidelines have been developed by the ICRC to help out governments in ascertaining military manuals that emphasize international law,<sup>41</sup> as well as the Military Manual on the Protection of Cultural Property, issued by UNESCO in 2016. In 1999, the U.N. Secretary-General explicitly required U.N. peacekeeping forces to follow norms applicable to IHL.<sup>42</sup> The U.N. Secretary-General's order specifically provides that

United Nations force is prohibited from employing methods of warfare which may cause superfluous injury or unnecessary suffering, or which are intended, or may be expected to cause, widespread, long-term and severe damage to the natural environment.<sup>43</sup>

Similarly, when NATO developed rules of engagement for peacekeeping forces in the former Yugoslavia, they said: "looked to the [Geneva] Protocols as a good statement of many of the customary rules of armed conflict" and "clearly stated... that we would require the forces to follow the rules of armed conflict" including the environmental provisions of Protocol I.<sup>44</sup>

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<sup>39</sup> U.S. Navy, U.S. Marine Corps, U.S. Coast Guard, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M (Washington: Department of the Navy Office of the Chief of Naval Operations and Headquarters, U.S. Marine Corps, and Department of Transportation U.S. Coast Guard, 1995), at 6-1.

<sup>40</sup> Bruch 2001, at 743-744.

<sup>41</sup> Revised Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict, prepared by the International Committee of the Red Cross and presented to the U.N. Secretary-General, annexed to Report of the Secretary-General on the United Nations Decade of International Law, U.N. Doc. A/49/323, 19 August 1994, p. 49-53.

<sup>42</sup> U.N. Secretary-General, Secretary-General's Bulletin: Observance by United Nations Forces of International Humanitarian Law, 6 August 1999, ST/SGB/1999/13.

<sup>43</sup> *Id.* para. 6.3.

<sup>44</sup> See Bruch 2001, at 745.

### *2.1.2. Oblige States Parties to Refrain from Inventing, Developing or Acquiring a New Method of Warfare*

Article 36 of Protocol I stated that

In the study, development, acquisition or adoption of a new weapon, means or method of warfare, a High Contracting Party is under an obligation to determine whether its employment would, in some or all circumstances, be prohibited by this Protocol or by any other rule of international law applicable to the High Contracting Party.

Article 36 of Protocol I has suggested to review the new weapons, means of warfare and methods. It has been deemed that two factors should be considered to determine the new weapon. These factors include:

- 1) by reference to the state;
- 2) by reference to the date.

The first factor indicates that a weapon has been in use with one state would not prevent the receiving state from stating the new weapon before being sold to another state. In contrast, the second point indicates that weapons that are in use could not be considered new throughout the terms of Art. 36 on approval by a state of Protocol I.<sup>45</sup> Thereby, it is essential for a state to execute a review of those weapons, subjected to international scrutiny to defend its possession and use them vigorously.

### *2.1.3. Encourage States to Conclude Bilateral or Collective International Agreements to Prevent Any Hostilities That May Cause Damage to the Environment*

The encouragement by the provisions of IHL for States to agree on additional rules of protection constitutes one of the general mechanisms of prevention as a means of legal instruments imposed by international law on States prior to the outbreak of hostilities to provide general protection of the environment, both natural and civilian. It has been witnessed from Art. 6 common to the four Geneva Conventions of 1949 that parties may conclude other matters and special agreements that can be appropriate for developing autonomous provision. Similarly, additional protection to objects comprising adverse forces is emerged through high contracting parties to the conflict as witnessed from Art. 56(6) of Protocol I.

Article 11 of the San Remo Manual on International Law Applicable to Armed Conflicts at Sea stipulate that

The Parties to the conflict are encouraged to agree that no hostile actions will be conducted in maritime areas, containing:

- (A) rare or fragile ecosystems, or

<sup>45</sup> Justin McClelland, *The Review of Weapons in Accordance with Article 36 of Additional Protocol I*, 85(850) International Review of the Red Cross 397 (2003).

(B) the habitat of depleted threatened or endangered species or other forms of marine life.<sup>46</sup>

Article 14 of the 1994 ICRC Guidelines on the Protection of the Environment encourages States “to enter into further agreements providing additional protection to the natural environment in times of armed conflict.”

*2.1.4. Give International Humanitarian Organizations and Bodies Freedom of Intervention to Protect the Environment in Case of Armed Conflict*

IHL provisions obligate States – prior to the outbreak of hostilities – to grant humanitarian organizations and bodies the freedom to act to protect victims of armed conflict, including the environment, which could cease potential damage that may occur after the outbreak of hostilities. Article 70(5) of Protocol I states that

the Parties to the conflict and each High Contracting Party concerned shall be encouraged to facilitate the relief operations referred to in the first paragraph.

It is witnessed from Art. 81(3) that the assistance provided by the Red Cross Societies and the association to the armed conflict victims should be facilitated to the high contracting parties and the parties to the conflict.

Although, these texts did not specifically mention that international organizations concerned with the protection of the environment were given this advantage, at the same time they did not prevent such organizations from being given the possibility, since the term “other humanitarian organizations” in Art. 81(4) including, without doubt, humanitarian organizations concerned with the protection of the environment, like the ICRC, Greenpeace, Doctor Without Borders and Health Without Borders.

This mechanism of environmental protection is a protective mechanism that protects the environment from potential damage before the outbreak of hostilities and may be a control mechanism that provides such protection after the outbreak of armed conflict. Thus, previous international texts, such as Arts. 70 and 81 of Protocol I, have been approved referred to as “the High Contracting Parties,” a term that is referred to States before their entry into the armed conflict, and “parties to the conflict,” which indicates the outbreak of armed conflict between them.

*2.1.5. Encourage States in Peacetime to Teach IHL Rules for the Protection of the Environment During the Outbreak of Hostilities*

The promotion of IHL is contributed through numerous international humanitarian texts of the armed forces and further informed generations about the rules and principles to be observed in the event. By incorporating humanitarian norms and

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<sup>46</sup> San Remo Manual on International Law Applicable to Armed Conflicts at Sea, 12 June 1994 (Jun. 10, 2018), available at <https://ihl-databases.icrc.org/ihl/intro/560?opendocument> pdf.

values, the conduct of combatants is restricted during hostilities to protect victims of armed conflict – including the environment – at various secondary and university levels and to provide of national libraries on the principles of IHL.

The teaching of international humanitarian rules, in general, and of environmental protection, in peacetime, as previously mentioned, is one of the most important mechanisms for the preventive protection of the environment from possible damage to the environment in case of armed conflict. This mechanism is structured to prevent the existence of violence and hostilities acts by incorporating texts related public awareness and protection rules. Furthermore, once hostilities are ceased, they prevent the spread of hostilities to other protected groups. Articles 47, 48, 127 and 144 of the four Geneva Conventions of 1949 revealed that the act of this convention was tried to be disseminated by the high contracting parties in their time of peace, countries and war. The indiscriminate effects of 1980 are assumed to be witnessed for the use of specific conventional weapons.

#### *2.1.6. Forming Special Teams of Qualified Personnel to Ensure Environmental Protection in Case of an Outbreak of Hostilities*

For the safety of the environment and other victims of armed conflict, this mechanism is the predominant for the occurrence of military actions. It emerges in IHL was in Art. 6 of Protocol I, based on the decision of the 20<sup>th</sup> Congress of the Red Cross in Vienna in 1965, which called for the need to work on forming a group of individuals capable of working in the implementation of IHL. This Article, entitled “Qualified Personnel,” provides that:

- the High Contracting Parties in peacetime also seek the assistance of the National Red Cross (Red Crescent, Red Lion, and Sun) Societies, to train qualified personnel to facilitate the application of the Conventions and this Protocol, particularly with regard to the activities of the Protecting Powers;
- the recruitment and training of such personnel are within the domestic jurisdiction;
- the ICRC shall hold at the disposal of the High Contracting Parties the lists of persons so trained which the High Contracting Parties may have established and may have transmitted to it for this purpose;
- the conditions governing the employment of such personnel outside the national territory shall, in each case, are the subject of special agreements between the parties concerned.

The study can add to this mechanism of general prevention mechanisms another one that leads to the same purpose, which is the mechanism of legal advisors, provided for in Art. 82 of Protocol I, stipulate that

The High Contracting Parties at all times, and the Parties to the conflict in time of armed conflict, shall ensure that legal advisors are available, and advise military commanders at the appropriate level.

According to the previous provisions, the legal adviser's system can be formed in times of peace and war, but the system of qualified personnel is always invoked as a preventive measure in times of peace and before the outbreak of hostilities. In addition, the system of legal advisers has been implemented and applied in many countries, such as Sweden in 1986 and Germany in 1992, while the system of qualified personnel has not yet been implemented or benefited with.

*2.1.7. Holding Periodic Conferences, Meetings, and Seminars to Activate the Rules of Environmental Protection in Case of Armed Conflict*

Article 7 of Protocol I, entitled "Meetings," states that:

The Depositary of the Protocol shall convene a meeting of the High Contracting Parties, at the request of one or more of the said Parties and upon the approval of the majority of the said Parties.

Several preventive legal means are provided by the Article for protecting the environment caused by the occurrence of hostilities. In view of the importance of this general preventive mechanism, the Statute of the International Committee of the Red Cross on 24 June 1998, referred to it as the responsible in the development and application of the rules of IHL.

*2.1.8. The Duties of Military Commanders to Prevent Any Violation of the Provisions of IHL Relating to the Protection of the Environment*

The provision of preventive protection of the environment is foreseen under international law to prevent any violations of IHL. This mechanism for general protective protection was provided for in Art. 87 of Protocol I, which decided that:

- the High Contracting Parties and the Parties to the conflict shall require military commanders, with respect to members of the armed forces under their command and other persons under their control, to prevent and, where necessary, to suppress and to report to competent authorities breaches of the Conventions and of this Protocol;
- to prevent and suppress breaches, High Contracting Parties and Parties to the conflict shall require that, commensurate with their level of responsibility, commanders ensure that members of the armed forces are aware of their obligations;
- the High Contracting Parties and Parties to the conflict shall require any commander who is aware that subordinates or other persons under his control are going to commit or have committed a breach of the Conventions or of this Protocol, to initiate such steps as are necessary to prevent such violations of the Conventions or this Protocol.

It has been deemed under Art. 87 of Protocol I that members of armed forces reveal their interest and focus on training and respect the law in upholding the law. Similarly, members of the armed forces should access the machinery to prosecute

and investigate violations of the law and enforce lawful targets to all positions. However, it does not only provide preventive protection for categories protected by IHL – including the environment but also provide the deterrent or repressive protection by suppressing such violation if it occurs and imposing disciplinary or deterrent criminal sanctions.

#### *2.1.9. Avoid the Establishment of Military Installations and Targets near Civilian Objects That Are Part of the Civilian Environment*

International humanitarian law has ascertained military installations and targets for the civilian environment that aims to secure the lives and property of civilians. These installations must be implemented by the states parties during the hostilities occurrence as witnessed from Arts. 48, 51 and 52 of Protocol I. During the outbreak of hostilities, the armed conflicts should be distinguished between civilian objects and military targets, and the prohibition of indiscriminate attacks. However, at the same time, these provisions of the Convention do not prevent States from entering into armed conflicts in peacetime to avoid the establishment of military installations and targets in residential areas. Article 12(1) of Protocol I states, for example, that

Medical units shall be respected and protected at all times and shall not be the object of attack.

Therefore, it is possible to emphasize that the obligation to avoid the establishment of military targets and installations near the elements of the civilian environment, is not only the responsibility of the military leadership during the course of the hostilities. But, the obligation with the civil and political administration of States parties to the conventions, to work.

#### *2.1.10. Take the Feasible Precautions to Protect the Environment at the Planning Stage of the Attack*

After the outbreak of hostilities, this mechanism executed in the preliminary phase of the aggression or attack on the environment. The general mechanisms of prevention are taking precautions to deter the impact of harm on the environment and other protected categories. This mechanism of general prevention, provided for in Art. 57 of Protocol I, within Chapter IV, entitled “Preventative measures.” This Article has postulated several precautions to avoid the effects with respect to these attacks:

(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 para. 2 of Art. 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) deter the launch of any attack that can be disastrous for the community and their objects and allow expected participation of the concrete and direct military forces;

(b) the attack refrained under military guidelines should be cancelled or suspended as the impact is expected to cause both loss of civilian life and objects;

(c) warning should be given to civilian population, before the attacks, affecting them beyond impermissible circumstances.

## **2.2. Special Preventive Protection of Environment Before the Outbreak of Military Actions**

According to conventional IHL, the study has identified the special preventive protection of certain environmental elements which are cultural property, engineering installation, and some protected areas mainly hospitals or safety and neutral zones.

### *2.2.1. Cultural Property*

During armed conflict, the protection of cultural property is relied on the principle that destruction to the cultural property refers to the destruction to the cultural heritage of all human beings. The general provisions of humanitarian law protecting civilian property are relied on the cultural heritage of every people and customary international law.<sup>47</sup> The destructiveness of World War II tempted the international community to exercise and endow particular legal protection since the instigation of civilization. Article 1(1) of the Convention for the Protection of Cultural Property in the Event of Armed Conflict of 1954 stated that the term cultural property shall cover, irrespective of origin or ownership:

(a) the cultural heritage of every person is defined in the movable or immovable property of armed conflict;

(b) the preservation and exhibition of the movable cultural property is defined in the movable cultural property of buildings;

(c) centers containing monuments are defined in the subparagraphs of cultural property.

#### **2.2.1.1. Avoid Establishing Cultural Property near Military Targets**

Article 8(a) of the Hague Convention of 1954 states that cultural property shall be at the distance of all large industrial centers or military targets that are

<sup>47</sup> Protection of Cultural Property in the Event of Armed Conflict, ICRC, Overview, 29 October 2010 (Jun. 10, 2018), available at <https://www.icrc.org/eng/war-and-law/conduct-hostilities/cultural-property/overview-cultural-property.htm>.

vital, such as an airport or radio station, factory working for national defense, a port or railway station of importance or an important transport route. That humanitarian agreements oblige States parties to avoid the establishment of various military objectives or installations near civilian objects that are part of the civilian environment, in order to protect these objects, in general, from the effects of destruction that might be caused in the event of the outbreak of hostilities and attacking of military targets close to those objects (Arts. 48, 51 and 52 of Protocol I<sup>48</sup>), which would have been sufficient for the preventive protection of cultural property from the effects of potential hostilities, since civil objects include all objects not contributing to military action, including objects or cultural property (Art. 52 of Protocol I). However, the sense of the importance of cultural property to the human legislator is not the property of the States that contain it but belongs to all humanity, has led him to decide on special preventive protection of cultural property – in addition to the general preventive protection it covers – by obliging States to avoid the establishment of military objectives or directly related to military action, such as airports, radio stations, and military production plants, etc. near these cultural properties.

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<sup>48</sup> Article 48 of Protocol I: "In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives."

Article 51 of Protocol I:

1. The civilian population and individual civilians shall enjoy general protection against dangers arising from military operations.
2. The civilian population as such, as well as individual civilians, shall not be the object of attack.
3. Civilians shall enjoy the protection afforded by this Section, unless and for such time as they take a direct part in hostilities.
4. Indiscriminate attacks are prohibited.
5. Among others, the following types of attacks are to be considered as indiscriminate...
6. Attacks against the civilian population or civilians by way of reprisals are prohibited.
7. The presence or movements of the civilian population or individual civilians shall not be used to render certain points or areas immune from military operations, in particular in attempts to shield military objectives from attacks or to shield, favour or impede military operations.
8. Any violation of these prohibitions shall not release the Parties to the conflict from their legal obligations with respect to the civilian population and civilians, including the obligation to take the precautionary measures provided for in Article 57.

Article 52 of Protocol I:

1. Civilian objects shall not be the object of attack or of reprisals. Civilian objects are all objects which are not military objectives as defined in paragraph 2.
2. Attacks shall be limited strictly to military objectives.
3. In case of doubt whether an object which is normally dedicated to civilian purposes, such as a place of worship, a house or other dwelling or a school, is being used to make an effective contribution to military action, it shall be presumed not to be so used.

### 2.2.1.2. Construction of Places Allocated for the Preservation of Cultural Property in a Manner That Is Resistant to the Effects of Combat Operations

Article 8(2) of the Hague Convention of 1954 states that

A refuge for the movable cultural property may also be placed under special protection, whatever its location, if it is so constructed that, in all probability, it will not be damaged by bombs.

This paragraph calls upon States, prior to the outbreak of armed conflicts, to build premises dedicated to the preservation of cultural property, to be built and equipped with equipment to resist any damage they may suffer during the outbreak of hostilities, such as bombing, artillery or guided missiles.

### 2.2.1.3. Registration of Cultural Property in Special Records of the Competent International Organization

The Hague conventions have prepared a special preventive protection of cultural property in 1954 to prepare an “International Register of Cultural Property under Special Protection” by United Nations Educational, Scientific and Cultural Organization (UNESCO). The Director General of UNESCO and the High Contracting Parties supervised these special protective measures.<sup>49</sup> However, there are several conditions for cultural property to be registered in the international:

- cultural property is considered as an important factor;
- and not to be used for military purposes;
- and to be located at a sufficient distance from military objectives.<sup>50</sup>

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<sup>49</sup> Article 12 of the Regulations for the Execution of the Convention for the Protection of Cultural Property in the Event of Armed Conflict of 1954, titled “International Register of Cultural Property under Special Protection”:

“1. An “International Register of Cultural Property under Special Protection” shall be prepared.

2. The Director-General of the United Nations Educational, Scientific and Cultural Organization shall maintain this Register. He shall furnish copies to the Secretary-General of the United Nations and to the High Contracting Parties.

3. The Register shall be divided into sections, each in the name of a High Contracting Party. Each section shall be subdivided into three paragraphs, headed: Refuges, Centers containing Monuments, Other Immovable Cultural Property. The Director-General shall determine what details each section shall contain.”

<sup>50</sup> “Article 13. Requests for registration

1. Any High Contracting Party may submit to the Director-General of the United Nations Educational, Scientific and Cultural Organization an application for the entry in the Register of certain refuges, centers containing monuments or other immovable cultural property situated within its territory. Such application shall contain a description of the location of such property and shall certify that the property complies with the provisions of Article 8 of the Convention.

2. In the event of occupation, the Occupying Power shall be competent to make such application.

3. The Director-General of the United Nations Educational, Scientific and Cultural Organization shall, without delay, send copies of applications for registration to each of the High Contracting Parties.”

### 2.2.2. Engineering Installations

Engineering works and vital installations have been classified as civilian elements of the environment surrounding the battlefield, as they do not directly contribute to military action. The release of dangerous forces is caused through this work and installations. It results into damage to civilian property and loss of civilian life regardless of the concrete and direct military expected advantage.<sup>51</sup>

Since this part of the civilian environment protected during the outbreak of hostilities was addressed in various locations of this study, we will only discuss the mechanisms of special preventive protection decided by international humanitarian conventions for these works and engineering facilities as part of the civic environment. These mechanisms can be found in Art. 56 of Protocol I, entitled "Protection of Works and Installations Containing Dangerous Forces." This Article included preventive protection mechanisms for these installations as follows:

Article 56(5) of Protocol I states that military objectives under the conflict are endeavored by the parties in the installations or works. The protected installations or works are permissible and defended from the object attack in hostilities regardless of defensive actions for protecting installations or works. The protected works or installations are repelled by hostile actions to the limited weapons. The special protection against attack provided by this paragraph shall cease:

- for a nuclear engineering station;
- for a dam or a dike;
- for other military objectives.

It is deemed that all precautionary measures should be taken to ignore the release of abrupt forces, if the protection ceases installations or military objectives as specified in aforementioned paragraph.<sup>52</sup>

This protection mechanism for engineering installations applies after the outbreak of hostilities and not before it because this paragraph has addressed the "parties to the conflict." However, the reality confirms that the obligation to avoid the establishment of military targets near the engineering or dangerous installations, as a mechanism of special prevention, is in times of peace, and before the outbreak of these operations, as the construction of dams and bridges and power plants of civil installations usually is carried out in times prosperity and peace not in times of turbulence and war.

Several points about the formula are worthy of mention.<sup>53</sup> It is deemed that both international and domestic armed conflict should be restricted under the derivative

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<sup>51</sup> Betsy Baker, *Legal Protections for the Environment in Times of Armed Conflict*, 33 Virginia Journal of International Law 351 (1993).

<sup>52</sup> Michael N. Schmitt, *Humanitarian Law and the Environment*, 28(3) Denver Journal of International Law and Policy 265, 303–304 (2000).

<sup>53</sup> See *Id.* at 304–306.

environmental protection. Article 56 would not be violated if armed conflicts strike against targets.<sup>54</sup> Lastly, the subjectivity and non-quantifiable standards and cations can be described through the ICRC commentary as based on severe threshold.<sup>55</sup> A number of exceptions should be followed if dams and dikes are struck based on available attacks for enemy, direct support of the enemy war effort and unintended purpose.

For instance, a road across a dam or a dike forming a part of a system are essential paradigms of logistics system. A critical role is played by nuclear electrical generating stations in an armed conflict based on defensive emplacements and objectives. Furthermore, the enumerated objects abruptly by reprisal attacks are also mentioned.

This special mechanism for the protection of engineering installations from the dangers of potential hostilities is contained in Art. 56(6) which provides that

The High Contracting Parties and the Parties to the conflict are urged to conclude further agreements among themselves to provide additional protection for objects containing dangerous forces.

This Article makes it clear that the agreement to grant additional protection to engineering installations may occur prior to the outbreak of hostilities and thus constitutes one of the special prevention mechanisms for such installations, which may occur after the outbreak of hostilities and thereby provide control protection rather than preventive one.

Article 56(7) states that

In order to facilitate the identification of the objects protected by this Article, the Parties to the conflict may mark them with a special sign consisting of a group of three bright orange circles placed on the same axis, as specified in Article 16 of Annex 1 to this Protocol [Article 17 of Amended Annex]. The absence of such marking in no way relieves any Party to the conflict of its obligations under this Article.

The beginning of this Article was not addressed to the parties to the conflict but as follows: "Parties to the conflict may," which gives this mechanism a dual preventive and monitoring nature, which obliges the High Contracting Parties (prior to the outbreak of hostilities) and the parties to the conflict (after the outbreak of such operations).

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<sup>54</sup> *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* 668 (J. Pictet (ed.), Geneva: ICRC; Martinus Nijhoff, 1987).

<sup>55</sup> *Id.* at 669–670.

### 2.2.3. Other Protected Areas

Such zones include hospital and safety zones, non-defended localities, demilitarized zones, and other specially protected sites during the outbreak of armed conflict as a component of the civilian environment surrounding the battlefield. Protected areas shall mean specific areas which the humanitarian conventions give it a special and further protection in the case of outbreaks of hostilities. The provisions of the humanitarian conventions imposed on States, in peacetime and before the outbreak of hostilities, legal means, and procedures to prevent such areas from being destroyed in the event of armed conflict.

#### 2.2.3.1. Hospital and Safety Zones and Localities<sup>56</sup>

Hospital and safety zones and localities are special defined areas established by the States, before or during the outbreak of armed conflict, to protect the sick, wounded and other persons in need of care, these sites shall constitute only a small part of the state's territory with low population density and far from any military objective or facility and the conduct of combat operations.<sup>57</sup>

Article 23 of the First Geneva Convention<sup>58</sup> and Arts. 14 and 15 of the Fourth Geneva Convention<sup>59</sup> tackle this issue by stated that

In time of peace, the High Contracting Parties and, after the outbreak of hostilities, the Parties thereto, may establish in their own territory and, if the need arises, in occupied areas, hospital and safety zones and localities so organized as to protect from the effects of war, wounded, sick and aged persons, children under fifteen, expectant mothers and mothers of children under seven. Upon the outbreak and during the course of hostilities, the Parties concerned may conclude agreements on mutual recognition of the zones and localities they have created. They may for this purpose implement

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<sup>56</sup> "A. 'Hospital zones and localities,' generally of a permanent character, established outside the combat zone in order to shelter military or civilian wounded and sick from long-range weapons, especially aerial bombardment... B. 'Safety zones and localities,' generally of a permanent character, established outside the combat zone in order to shelter certain categories of the civilian population, which, owing to their weakness, require special protection (children, old people, expectant mothers, etc.) from long-range weapons, especially aerial bombardment... C. 'Hospital and safety zones and localities,' which are a combination of A and B above" (see Convention (IV) Relative to the Protection of Civilian Persons in Time of War, Geneva, 12 August 1949: Commentary (J. Pictet (ed.)), Geneva: ICRC, 1958) (Jun. 10, 2018), available at <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/1a13044f3bbb5b8ec12563fb0066f226/515ec8abe917fe30c12563cd0042aee8>).

<sup>57</sup> *The Handbook of International Humanitarian Law* 513 (D. Fleck (ed.)), New York: Oxford University Press, 1995).

<sup>58</sup> Convention (I) for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, Geneva, 12 August 1949.

<sup>59</sup> Convention (IV) Relative to the Protection of Civilian Persons in Time of War, Geneva, 12 August 1949.

the provisions of the Draft Agreement annexed to the present Convention, with such amendments as they may consider necessary. The Protecting Powers and the International Committee of the Red Cross are invited to lend their good offices in order to facilitate the institution and recognition of these hospital and safety zones and localities.

Following points are mentioned regarding protection of civilian medical and religious personnel in Art. 15:

Article 15. Protection of civilian medical and religious personnel

1. Respect and protect civilian medical personnel.
2. Civilian medical personnel should receive available help in affected areas.
3. Civilian medical personnel should be assisted by the occupying power to empower them for performing their functions. The incompatible tasks should not be executed under humanitarian mission regardless of the permission.
4. The essential services shall be executed for civilian medical personnel based on each safety and supervisory measures to the assumed conflict.
5. Medical personnel should be identified and protected under the provisions of the conventions.

For instance, the area under the Osijek hospital should be protected under the ICRC supervision under Art. 23 of the First Geneva Convention. Following categories are presented based on restricted access zones, which include family members visiting patients in the hospital, persons over 65 years of age, and sick and wounded civilian and military personnel. Means of oblique red bands should be used to mark these zones and localities.<sup>60,61</sup> The Geneva Conventions have presented this emblem and its success and failure leads to the violations of conventions. A red cross emblem on a white ground should be marked for the wounded and sick.<sup>62</sup>

### 2.2.3.2. Non-Defended Localities

Non-defended localities refer to the inhabited place where enemy occupation and location are placed in a zone where armed forces are communicated. A non-defended locality might be unilaterally declared by a party tends to an armed conflict. The instigation of such locality should be fulfilled on following circumstances:<sup>63</sup>

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<sup>60</sup> Art. 85(3) of Protocol I: "In addition to the grave breaches defined in Article 11, the following acts shall be regarded as grave breaches of this Protocol, when committed wilfully, in violation of the relevant provisions of this Protocol, and causing death or serious injury to body or health..."

<sup>61</sup> Marc Weller, *The International Response to the Dissolution of the Socialist Federal Republic of Yugoslavia*, 86(3) *American Journal of International Law* 569 (1992).

<sup>62</sup> Protected Areas and Zones, *The Practical Guide to Humanitarian Law* (Jun. 10, 2018), available at <http://guide-humanitarian-law.org/content/article/3/protected-areas-and-zones/>.

<sup>63</sup> Deidre Willmott, *Removing the Distinction Between International and Non-International Armed Conflict in the Rome Statute of the International Criminal Court*, 5 *Melbourne Journal of International Law* 196 (2004).

- no hostile use;
- no acts of hostility;
- no activities in support of military occupation;
- evacuation of all combatants.

Article 59 of Protocol I prohibits the non-defended localities to the conflict to attack by any means. A non-defended locality might be declared through appropriate authorities of a Party to the conflict. Following conditions fulfilled the locality, which include no acts of hostility, no activities in support of military operations, all combatants must be evacuated and no hostile should use military establishments.

The ascertainment of non-defended localities might be agreed on the parties to the conflict even if such localities are not fulfilling the assumptions mentioned in the aforementioned paragraph. The limits of the non-defended locality are precisely defined and described by the agreement. An agreement shall be marked to the party of the conflict with the other party where the limits prescribed are highly visible on boundaries.

### 2.2.3.3. Demilitarized Zones

A demilitarized zone refers to the area in which agreements or treaties between contending groups, nations and military powers prevent military activities, personnel or installations. A demilitarized zone usually relies on an ascertained boundary or frontier between one or more alliances or powers.<sup>64</sup> A de facto international border should be formed by a demilitarized zone, for instance, the 38<sup>th</sup> parallel between South and North Korea.

The parties to an armed conflict are agreed on the basis of a demilitarized zone, which cannot be used or occupied for military objectives to the conflict. In times of peace or armed conflict, a verbal or written agreement can be used to ascertain a demilitarized zone.<sup>65</sup> The subject of the agreement is normally an area which fulfills the following conditions:<sup>66</sup>

1. This zone (demilitarized) is established in peacetime and may be created after the outbreak of hostilities.
2. Evacuation of fighters and moving military targets from these areas.
3. Use of fixed (non-transferable) military targets in these areas is made for civilian use.
4. The authorities or the population should not commit any acts of hostility.
5. Cease all military activity in these areas.

<sup>64</sup> Peter Jurczek, *Meaning of DMZ as a Peace and Ecological Zone*, Korea DMZ Peace Forum, Seoul, 24 September 2008 (Jun. 10, 2018), available at <https://www.tu-chemnitz.de/phil/europastudien/geographie/download/DMZ.pdf>.

<sup>65</sup> Demilitarized Zones, How Does Law Protect in War? (Jun. 10, 2018), available at <https://casebook.icrc.org/glossary/demilitarized-zones>.

<sup>66</sup> Art. 60(3) of Protocol I.

It is clear above that Protocol I's Art. 59 "Non-Defended Localities" and Art. 60 "Demilitarized Zones" offer some potential protection for the environment. Under Art. 59, a party to a conflict can declare and mark "non-defended localities" that opponents cannot attack once informed of that area's status. These areas must be an "inhabited place near or in a zone where armed forces are in contact which is open for occupation by an adverse Party." Article 60 deals with demilitarized zones, is substantially similar to Art. 59. The main difference between the articles is that areas under Art. 60 must be agreed to specifically by the parties, while "non-defended localities" are created by unilateral declaration addressed to the adverse party. Further, demilitarized zones need not be inhabited, near the actual fighting, or open for occupation.<sup>67</sup>

Theoretically, national parks or other areas of environmental significance could be classified as Art. 59 non-defended localities or, alternatively, as Art. 60 demilitarized zones.<sup>68</sup> These two articles, however, only protect the environment in circumstances that would not prevent the usual collateral damage outside the specially protected areas. Thus, lands not included in designated areas would still be subject to war-related environmental damage. In contrast, it is witnessed that states can reach to the existing agreement in peacetime to protect the environment on such areas. The certainty and reliability would restrict the areas under conflict. According to international standards, the sites would be demonstrated to dispel possible adversary and to accomplish a strategic advantage.

## Conclusion

After examining the preventive protection mechanism determined by IHL to ensure the protection and preservation of the environment from the effects of armed conflict before its outbreak; it is worth evaluating this method of legal protection, and to know that either this article has achieved its purpose or not. To answer this question, the article has examined the positive and negative consequences of this mechanism.

**Positive consequences (Benefits).** The preventive protection method (both public and private) has some positive consequences. It is protected under the provisions of this law not only during the conduct of hostilities but also against the harm that may be caused by the imposition of preventive protection prior to the outbreak of hostilities. The contribution of IHL by providing preventive protection to the environment and other protected categories in times of peace and before the outbreak of hostilities contributes to highlighting international attention to the

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<sup>67</sup> Baker 1993, at 372–373.

<sup>68</sup> For further discussion of demilitarized nature reserves, see Philippe Antoine, *International Humanitarian Law and the Protection of the Environment in Time of Armed Conflict*, 32(291) *International Review of the Red Cross* 517, 532–533 (1991).

environment. The enactment of humanitarian conventions has provided preventive protection to the environment by imposing a set of mechanisms or legal procedures. States are obliged to follow in times of peace and before the outbreak of hostilities, contributes to the development of the rules of IHL by extending its temporal application. Preventive protection established by humanitarian conventions prior to the outbreak of hostilities also contributes to the consolidation of international rules for the protection of the environment for all, civilians and combatants, in times of peace and war alike. Preventive protection of the environment and other protected categories, by means of legal methods and procedures prior to the outbreak of hostilities, contribute to the definition of the rules of protection established under the provisions of IHL by disseminating, training, teaching them in various stages of education in peacetime. Preventive protection and dissemination mechanisms are therefore of paramount importance in IHL. Respect for and compliance with the rules of IHL require, first and foremost, the introducing and training of IHL.

**Negative consequences (Disadvantages).** The preventive protection method (both public and private) has some negative consequences. Some special prevention mechanisms, such as preventive mechanisms for cultural property, are required to stipulate several conditions for the possibility of registering cultural property in the International Register of Cultural Property prepared by UNESCO, and thus enjoy special protective protection, including: that cultural property is significant, not to be used for military purposes and to be away from military positions or locations of strategic importance. The humanitarian conventions, which have imposed preventive mechanisms on States parties for protecting the victims of armed conflicts in peacetime and before the outbreak of hostilities are not explicitly referred to the environment as victims of armed conflict but rather to provide preventive legal protection to the victims of armed conflicts in general, and, in view of the importance of the environment and the need to preserve them in times of peace and war, it was necessary to give an explicit reference to this modern legal term (environment) especially in the Additional Protocols of 1977. It is a descriptive requirement as for the first requirement concerning the significant importance of cultural property, since all cultural property is important, and it is difficult to distinguish between it according to importance. The other two conditions, which relate to the non-use of cultural property for hostile purposes and are located at a sufficient distance from the military objectives, are mutually exclusive. It is not a matter of depriving cultural property of special protection if it is used for military purposes, but rather extends to the nature or status of the cultural property, which may exclude it from the scope of special protection. Certain mechanisms of prevention, those for the protection of cultural property, such as the construction of places dedicated to the preservation of the movable cultural property equipped and resistant to bombing, the inventory of cultural property and the information of other States, require a degree of financial expenditure that most developing countries are unable to meet.

### Recommendations.

1. Incorporating environmentally friendly rules of law in national military manuals could act as a secondary deterrent to international law for preventing armed forces from inflicting harm to the environment both within the state and abroad. For instance, if nations such as the United States were to include environmentally friendly practices in military manuals then it may present a model for other nations to adopt.

2. Training military operators and humanitarian law attorneys should be emphasized on the protection of the environment. The curricula of judge advocate schools, service academics, international courses and war colleges should be refined to assure appropriate concentration for normative and operational dynamics.

3. The most important agreements should be regulated to the armed conflict and frustrating the international effort to revert it. The non-participation should be refined when the conditions motivate the non-party states.

4. The environmental outcomes should be explored through significant resources. The dynamics of the risks should be comprehended to protect the environment.

5. To adequately protect the environment during times of war and hold those who cause environmental destruction responsible, the existing international law must change. International law must be structured in a way that is specific and can be understood by the international community.

6. A system of sharing information should be established worldwide to allow the public to know the environmental effects of every military operation. For example, in the United States, the Emergency Planning and Community Right-to-Know Act of 1986 gathers information about toxic chemicals and makes it available to the public.

7. Harm to the environment can be prevented by eliminating weapons that cause widespread destruction. International law could create legislation to eliminate the manufacturing and use of all weapons that could violate these conditions such as nuclear, chemical, and biological weapons and certain types of explosives. Even though many states are committed to eliminating these weapons, there are still several states that possess them.

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