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**EFFECTIVENESS OF THE EXISTING INTERNATIONAL HUMANITARIAN LAW
PROVISIONS IN PROTECTING THE NATURAL ENVIRONMENT DURING
INTERNAL ARMED CONFLICTS**

**A dissertation submitted to the Faculty in partial fulfillment of the requirements for the
degree of Doctorate in Judicial Studies (S.J.D.) in environmental law at the Elisabeth
Haub School of Law at Pace University**

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ABSTRACT

The environment is inherently at risk in any armed conflict and the natural environment is always a victim of wars. In order to properly protect the environment, the international community must explicitly recognize the civilian nature of the environment and bar all damages to it notwithstanding its extent, longevity and severity. The current study focuses on the environmental protection during armed conflicts. In World War I, parties employed the indiscriminate use of chemical weapons as a way of gaining military advantage over their enemies. The world responded by adopting the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their destruction (Chemical Weapons Convention, CWC). Later on, the Convention on the Prohibition of Military or Any Other Use of Environmental Modification Techniques (ENMOD Convention) was adopted following the devastating effects of the use of herbicides in the war in Vietnam. There were also inclusions of protection for the natural environment in Protocol I of 8 June 1977 additional to the Geneva Conventions (Additional Protocol I). All these laws have been existing for a long period yet they have not been updated to include non-international armed conflict and the environment remains targeted even by states. The explanation for the lack of deterrence on state can best be explained by the primacy that the treaties put on the military advantage and the cumulative threshold of widespread, long-lasting and severe damage. States can satisfactorily claim that any part of the environment was a legitimate military target and therefore downplay any direct or indirect attack on it. This research looks at some of the steps that have recently been undertaken by the ICRC and the ILC and examines the adequacy of such steps including the relevance of military manuals and instructions.

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ABBREVIATIONS

(IHL) International Humanitarian Law

(ILC) International Law Commission

(IEL) International Environmental Law

(ICT) International Criminal Tribunal

(ICC) International Criminal Court

(ICJ) International Court of Justice

(PCIJ) Permanent Court of International Justice

(ICRC) International Committee of the Red Cross

(ENMOD) Environmental Modification Convention 1976

(GC) Geneva Conventions 1949

(HC) Hague Conventions IV 1907

(UN) United Nations

(NATO) North Atlantic Treaty Organization

(ICTY) International Criminal Tribunal for Yugoslavia

(UNMAS) United Nations Mine Action Service

(UNOCHA) United Nations Office for the Coordination Of Humanitarian Affairs

(MSNAS) Multi-Sectoral Needs Assessments

(AOAV) Action on Armed Violence

(SCPR) Syrian Center For Policy Research

(USSR) Union of Soviet Socialist Republics

(SDP) Social Democratic Party

(SARS) Serb Autonomous Regions

(UNPROFOR) UN Protection Force

(FRY) Federal Republic of Yugoslavia

(WWII) Second World War

(ISIS) Islamic State of Iraq and Syria

(TCDD) Tetrachlorodibenzo-P-Dioxin

(D.U.) Depleted Uranium

(ERW) Explosive Remnants of War

(IEDS) Improvised Explosive Devices

(UXO) Unexploded Ordnance

(GWh) Gigawatt-Hours

(COVID-19) Coronavirus Disease

(CWC) Chemical Weapons Convention

(P.P.E.) Personal Protective Equipment

(POBH) Peace Be Upon Him

Table of Contents

ABSTRACT.....	2
ACKNOWLEDGEMENTS	3
CHAPTER ONE – INTRODUCTION	8
1.1. Background.....	8
1.2. Research Questions	13
1.3. Research Methodology.....	14
1.4. Research Design.....	15
1.5. Wars’ Analysis.....	15
1.6. Purpose of this Thesis	18
1.7. Significance of this Thesis.....	19
1.8. Thesis Structure.....	20
CHAPTER TWO – HISTORICAL OVERVIEW OF THE WARS	23
2.1. Introduction	23
2.2. Analysis of Wars and Environmental Impact	24
2.2.1. World War II (WWII).....	24
2.2.2. Analysis of the Vietnam War.....	29
2.2.3. Bosnian War.....	37
2.2.4. Syrian War	49
2.3. Conclusion.....	64
CHAPTER THREE – MILITARY MANUALS, NATIONAL LAWS AND IHL ENFORCEMENT	66
3.1. Introduction.....	66
3.2. Implementation of IHL Principles in the Military Manuals of States	66
3.2.1. Germany’ National IHL Practices	66
3.2.2. National Practices of IHL in the United States of America.....	70
3.2.3. National Practices of IHL in Bosnia and Herzegovina.....	73
3.2.4. National Practices of IHL in the Syrian Arab Republic	75
3.3. Implementation of Environmental Protection through National Laws	75
3.3.1. Major Axis States (Nazi) and Major Allied States Laws (Britain) during WWII	75
3.3.2. American Tort Law in the Vietnam War	81
3.3.3. Holding Persons Accountable Under American Tort Law	82
3.3.4. National Laws during the Bosnian War.....	87
3.4. Islamic Laws governing the Environment in times of War.....	88
3.4.1. Environment protection under Islamic Law	92

3.5. Conclusion on the Enforcement Gap.....	96
CHAPTER FOUR: ANALYSIS OF INTERNATIONAL LAWS AND GAPS WITHIN EXISTING LEGISLATION	98
4.1. Introduction	98
4.2. International Humanitarian Law Conventions.....	100
4.2.1. Convention on the Prohibition of Military or any Hostile Use of Environmental Modification Techniques (ENMOD Convention) 1976	100
4.2.2. Geneva Conventions of 1949.....	104
4.2.3. Additional Protocol I to the Geneva Conventions 1949	108
4.2.4. Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 18 October 1907 (Hague IV Convention).....	113
4.2.5. UN International Law Commission’s Draft Principles on Protection of the Environment in Relation to Armed Conflicts	121
4.2.6. ICRC 2020 Guidelines on the Protection of the Natural Environment in Armed Conflict	124
4.3. Principles on the Protection of Civilian Objects	126
4.3.1. Limitations of the ‘military necessity’ concept	126
4.3.2. ‘Due Regard’ Principle and Discrimination	129
4.4. International Tribunals and Enforcement of IHL	130
CHAPTER FIVE – ANALYSIS OF GAPS WITHIN EXISTING LEGISLATION AND SUGGESTIONS ON HOW TO RESOLVE THEM	142
5.1. Findings and Analysis of Research Questions	142
5.1.1. Inadequacies of Articles 35 and 55 of Additional Protocol I to the 1949 Geneva Conventions	142
5.1.2. IHL Provisions Regulating Civilian Property and Objects Indirectly Protect the Environment.....	146
5.1.3. Current Existing IHL Norms Do not Protect the Environment During Civil Wars	148
5.1.4. No International Mechanism to Monitor Implementation of Military Manuals	148
5.1.5. Principles of Distinction, Military Necessity, and Proportionality are not Sufficient.....	149
5.1.6. Environmental Damage Constitutes Crimes Against Humanity	150
5.2. Comprehensive Suggestions and Improvements on the Identified Gaps.....	151
5.3. Conclusion.....	156
Bibliography	1

CHAPTER ONE – INTRODUCTION

1.1. Background

Wars have a devastating consequence on the natural environment and natural materials. Since World War I, the world has continuously suffered from advanced weapons that target the environment. In other instances, the environment has been the collateral damage in exploitation of military objectives. In World War I, parties resorted to the indiscriminate use of chemical weapons as a way of gaining military advantage over their enemies. The use of chlorine gas and mustard gas was common and there were serious damages to the natural environment. Ideally, the chemicals were intended to be weapons of mass destruction.¹ The world responded to such damage by developing a legal framework that would bar states from using such weapons. The Hague Declaration outlawed the use of chemical warfare agents (CWA) IN 1899 which was later canonized in the Hague Convention of 1907.

Later, there was the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their destruction (Chemical Weapons Convention, CWC) which entered into force in 1997. However, the development of these prohibitions against the use of chemical warfare agents did not stop the world from their use irrespective of the widespread danger that they caused to the environment. The United States of America employed Agent Orange on forests that it perceived as hideouts for Vietnam rebels causing adverse health effects and environmental damage.² Similar trends were recorded in the Iran–Iraq war (1980–1988) where tabun and Sulphur mustard were used targeting over 100,000 people.³

¹Szinicz L (2005) History of chemical and biological warfare agents. *Toxicology* 214(3):167–181.
doi:10.1016/j.tox.2005.06.011

²Pitschmann V (2014) Overall view of chemical and biochemical weapons. *Toxins* 6(6):1761–1784.
doi:10.3390/toxins6061761

³Gupta [Ed] R (2009) *Handbook of toxicology of chemical warfare agents*. Academic Press

Over the last century there have been numerous wars and conflicts, whose effects on the environment have been worsened by new technology. The Middle East region has borne the brunt of these wars with and a great deal of internal conflicts in Iraq, Yemen and even Syria. In this dissertation we will examine the connection between war/conflict and the harm they have on the environment. Present wars in the Middle East, particularly the Syrian civil war will be analyzed against three major past wars as the baseline, in order to form a conclusion of the thesis's questions. The current research is mainly concerned with the nexus between the legal framework on armed conflict and the damages to the environment in stances where there are international armed conflicts and where there are civil wars such as in Syria. The damage that war causes to the environment during armed conflict usually takes long to assess and often involves suffering for civilians.⁴ Yet, the current body of international humanitarian law (IHL) seems to only capture those aspects of environmental damage that results out of international armed conflicts which involves states. Secondly, the existing legal framework places emphasis on the effects that are widespread, long-term and that cause severe harm to the environment.

The international community has once more united to address the environmental effects of armed conflicts away from the chemical warfare agents that came out of WWI. The United Nations and international organizations such as the International Community of the Red Cross (ICRC) have continuously expressed concerns of the impact of war on the environment and the civilian population.⁵ Following the uproar of the use of Agent Orange in the 1970s during

⁴UN Security Council, Protection of civilians in armed conflict: Report of the Secretary-General, UN Doc. S/2020/366, 6 May 2020, p. 11; and ICRC, When Rain Turns to Dust: Understanding and Responding to the Combined Impact of Armed Conflicts and the Climate and Environment Crisis on People's Lives, ICRC, Geneva, 2020.

⁵UN Environment Assembly, Res. 3/1, Pollution mitigation and control in areas affected by armed conflict or terrorism, 6 December 2017, Preamble; UN Environment Assembly, Res. 2/15, Protection of the environment in areas affected by armed conflict, 27 May 2016, Preamble; UN General Assembly, Res. 47/37, Protection of the environment in times of armed conflict, 25 November 1992, Preamble; UN General Assembly, Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3–14 June 1992, Annex I: Rio Declaration on Environment and Development, UN Doc. A/CONF.151/26 (Vol. I), 12 August 1992, Principle 24 (reaffirmed at the United Nations Conference on Sustainable Development, Rio+20, Rio de Janeiro, 2012); UN General Assembly, Res. 37/7, World Charter for Nature, 28 October

Vietnam war, states resolved in 1976 and adopted the Convention on the Prohibition of Military or Any Other Use of Environmental Modification Techniques (ENMOD Convention). Equally, the 1974–1977 Diplomatic Conference on the Reaffirmation and Development of International Humanitarian Law reconsidered environmental protection under the Geneva Conventions and included Articles 35(3) and 55 in Protocol I of 8 June 1977 additional to the Geneva Conventions (Additional Protocol I).

Just like the Hague Conventions and the Chemical Conventions, the additional treaty law of ENMOD Convention and Additional Protocol I did not bar states from recklessly damaging the environment. During the 1980–1988 Iraq-Iran War, oil installations were bombed indiscriminately causing massive pollution to the environment. Later, Iraq unceremoniously burned Kuwaiti oil wells during the 1990–1991 Gulf War and spilt oil along the waters of the Arabian Gulf. These developments invoke the question of efficiency of the existing international humanitarian law in protecting the environment during armed conflict. The need to tame states from occasioning material harm to the environment arose from these wars in the Middle-East which demonstrated that the existing treaty law was inefficient in protecting the environment. The United Nations (UN) General Assembly made a resolution that permitted the International Committee of the Red Cross (ICRC) to come up with guidelines for incorporating IHL rules on the protection of the natural environment into military manuals and instructions.⁶ The 1994 *Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict* aimed at increasing compliance of military

1982, para. 5; and Declaration of the United Nations Conference on the Human Environment, Principle 26, reprinted in United Nations, Report of the United Nations Conference on the Human Environment, Stockholm, 5–16 June 1972, UN Doc. A/CONF.48/14/Rev.1, UN, New York, 1973, p. 5.

⁶UN General Assembly, Res. 47/37, Protection of the environment in times of armed conflict, 25 November 1992, Preamble: “Welcoming the activities of the International Committee of the Red Cross in this field, including plans to continue its consultation of experts with an enlarged basis of participation and its readiness to prepare a handbook of model guidelines for military manuals ...”.

personnel with IHL rules through training of the armed forces.⁷ The United Nations General Assembly chose to invite states to consider incorporating the 1994 Guidelines without the assembly formally adopting the guidelines.⁸

Again, the question still remained on how efficient these guidelines could guarantee the protection of the environment given the fact that military manuals had some form of IHL rules even before the promulgation of the 1994 Guidelines but the environment continued to suffer. Take for instance, in the Vietnam war, the US Rules of Engagement for the Vietnam War (1971) committed to protecting property. There is no doubt that the Rules of Engagement for the Vietnam War (1971) incorporated IHL rules but that did not guarantee environmental protection against Agent Orange and other herbicides. The efficacy of the existing laws and guidelines again came to the fore raising concerns on whether the classification of the natural environment was the problem or the treatment of the environment as collateral during armed conflicts. There is a further challenge to the protection of the environment that seemed to have been left out. Modern conflicts lean more on civil wars rather than international conflicts. That implies that even if the 1944 Guidelines were to be fully incorporated by the states and their armed forces properly trained by them, the damage caused by non-state actors to non-international conflicts would still be unaccounted for.

After the release of the 1994 Guidelines, the 1999 conflict in Serbia led to the poisoning of the Danube River arising from the bombs that hit industrial facilities.⁹ The Bosnian war was

⁷ ICRC, Guidelines for Military Manuals and Instructions on the Protection of the Environment in Times of Armed Conflict, 1994, annexed to UN General Assembly, United Nations Decade of International Law: Report of the Secretary-General, UN Doc. A/49/323, 19 August 1994.

⁸ UN General Assembly, Res. 49/50, United Nations Decade of International Law, 9 December 1994, para. 11. This invitation was echoed in 2016 by UN Environment Assembly, Res. 2/15, Protection of the environment in areas affected by armed conflict, 27 May 2016, para. 5. For an overview of the discussions that took place in the UN General Assembly, see M. Bothe, "Military activities and the protection of the environment", *Environmental Policy and Law*, Vol. 37, No. 2/3, 2007, p. 234.

⁹ Gopal, Sriram, and Nicole Deller. *Precision bombing, widespread harm: Two case studies of the bombings of industrial facilities at Pancevo and Kragujevac during operation Allied Force, Yugoslavia 1999*. Institute for Energy and Environmental Research, 2002; Desa, Macrin Gabriel. "THE ENVIRONMENTAL

originally a civil war that between the Serbs and Bosniaks but later became internationalized with the involvement of the NATO.¹⁰ In 2008, there were reports of pollution of the underground water in the Gaza strip following military operations.¹¹ The Israeli-Palestinian conflict was a non-international armed conflict that nonetheless caused widespread damage to the natural environment. Additionally, the civil unrest and conflict in the Democratic Republic of Congo has caused widespread deforestation and harm to the natural environment adding to the list of internal conflicts that may not have been contemplated by the existing IHL treaties and the 1994 Guidelines.¹² The ICRC has so far updated its Guidelines to the 2020 versions giving this thesis a new breath of analyzing the effect of the 2020 version alongside the existing treaty law. Equally, International Law Commission (ILC) appointed two special rapporteurs in 2013 and 2017¹³ following a growing momentum by states to strengthen the environmental protection during armed conflicts.¹⁴ The ILC has since produced the Draft Principles on the Protection of the Environment in Relation to Armed Conflicts which were adopted on first

IMPACT OF BOMBING ON INDUSTRIAL SITES THROUGHOUT YUGOSLAVIA DURING THE 1999 CONFLICT."

¹⁰ Martinovic-Vitanovic, Vesna, and Vladimir Kalafatic. "Ecological impact on the Danube after NATO air strikes." *Environmental consequences of war and aftermath*. Springer, Berlin, Heidelberg, 2009. 253-282.

¹¹ Ferragina, Eugenia. "The Effect of the Israeli-Palestinian Conflict on the Water Resources of the Jordan River Basin." *Global Environment* 1.2 (2008): 152-170.

¹² ICRC, Strengthening Legal Protection for Victims of Armed Conflicts, Report submitted to the 31st International Conference of the Red Cross and Red Crescent, ICRC, Geneva, October 2011, pp. 14–17.

¹³ For the reports of the first special rapporteur appointed in 2013, see ILC, Preliminary report on the protection of the environment in relation to armed conflicts submitted by Marie G. Jacobsson, Special Rapporteur, UN Doc. A/CN.4/674, 30 May 2014; ILC, Second report on the protection of the environment in relation to armed conflicts submitted by Marie G. Jacobsson, Special Rapporteur, UN Doc. A/CN.4/685, 28 May 2015; and ILC, Third report on the protection of the environment in relation to armed conflicts submitted by Marie G. Jacobsson, Special Rapporteur, UN Doc. A/CN.4/700, 3 June 2016. For the reports of the second special rapporteur appointed in 2017, see ILC, First report on protection of the environment in relation to armed conflicts by MarjaLehto, Special Rapporteur, UN Doc. A/CN.4/720, 30 April 2018; and ILC, Second report on protection of the environment in relation to armed conflicts by MarjaLehto, Special Rapporteur, UN Doc. A/CN.4/728, 27 March 2019.

¹⁴ UNEP, Protecting the Environment during Armed Conflict: An Inventory and Analysis of International Law, UNEP, Nairobi, 2009, produced with the stated purpose of identifying gaps in the existing legal framework and recommending how these should be addressed. See also the work of the International Union for Conservation of Nature (IUCN) and its Peace, Security and Conflict Specialist Group: <https://www.iucn.org/commissions/world-commission-environmental-law/our-work/peace-security-andconflict>

reading at the ILC's seventy-first session in 2019.¹⁵ These Draft Principles were open for comment through 2020 and this thesis shall discuss the developments of the legal framework and the efficiency of some of the proposals in the Draft Principles.

The thesis centers on the stimulation mechanism of environmental safety law, which requires an up-to-date and qualified management system for a number of explanations. The most important one is that the provisions adopted a higher threshold; “widespread, long-term and severe” harm to the environment which makes it almost impossible to prove any violation by a state for this triple cumulative standard. This is further exacerbated by the inclusion of the IHL norms of Distinction, Military Necessity, and Proportionality which are not sufficient. These provisions are discussed on larger thematic areas that consider the civilian nature of the environment; principle of distinction; demilitarization of ecologically important zones, protection of property and the impact on safeguarding the environment; and direct prohibition on causing widespread harm to the environment.

1.2. Research Questions

This study investigated four questions:

- i. Do the existing IHL rules sufficiently protect the natural environment during armed conflicts?
- ii. Do the existing IHL rules apply to non-international armed conflicts?
- iii. Does the existing IHL rules offer direct or indirect protection to the natural environment during armed conflict?

¹⁵ILC, Draft Principles on the Protection of the Environment in Relation to Armed Conflict (2019), reproduced in UN General Assembly, Report of the International Law Commission: Seventy-first session (29 April–7 June and 8 July–9 August 2019), UN Doc. A/74/10, UN, New York, 2019, Chap. VI. Protection of the environment in relation to armed conflicts, pp. 209–296. For further information on the drafting process, see the summary of the work of the ILC on the protection of the environment in relation to armed conflicts: http://legal.un.org/ilc/summaries/8_7.shtml

- iv. Does the inclusion of IHL norms in military manuals and instructions guarantee sufficient protection to the natural environment during armed conflict?

1.3. Research Methodology

Based primarily on a descriptive approach, this research focuses on the typology of armed conflicts, including international and non-international disputes, civil unrests, the application of international legal obligations to domestic belligerents, and the consequences of warfare on civilian objects such as the environment. The research describes the positive IHL rules in treaties, guidelines and Draft Principles and the context of their development.

This study equally adopted analytical research method where it critically analyses the history of wars using four major wars that impacted the natural environment. The discussion of World War II, Vietnam conflict, Bosnian war, and the Syrian civil conflict are outlined in terms of their historical background, impact on the environment and protection/ destruction of property. The discussion of these wars analyzes the key issues of the research and criticize the existing laws and the efficacy of the remedies that they offered during the four wars. Further, this research used a qualitative research method where previous United Nations documents and resolutions were used to gather information on the topic. The study reviewed the preparatory documents in treaty negotiations, conventions, UN General Assembly resolutions, the works and reports of the International Committee of the Red Cross (ICRC), the reports of the special rapporteurs, International Law Commission (ILC) reports, the reports of the United Nations Environmental Program among other primary sources. The study also used secondary sources from books, articles, journals and publications on the topics of armed conflicts, IHL, environmental protection and international law.

1.4. Research Design

This study falls within what is called a comparative legal research method. Comparative legal research methodology involves a comparison of more than one body of law. The paper will be comparing Islamic Law with the laws that were applied to the World War II, the Vietnam War, and conflict in Bosnia, and the underlying religious values. These wars were chosen for this part because of the similarity to the conflicts in the Middle East, since they involved the use of chemical warfare and mass bombings. It will then draw a correlation between those wars and the environmental impact. Then this paper will use these comparisons in an attempt to prove the hypothesis in the results chapter, which will also further analyse the international laws and compare them with that of the Law in the Middle East. By choosing this method, we will be able to determine the impact conflict and war have had on the environment in the Middle East. As will be noted in chapter 3, a major gap within the international body of laws is the lack of its application in internal conflicts which is what plagues the Middle East. This part will use this method to critically analyse the laws looking at cases, statutes, rules, and some secondary scholarly journals. A review and comparison of laws and cases will also be analysed as part of this data collection to attempt to measure the effectiveness of any laws in place to prevent environmental, as well as infrastructural damage. Hence, the effectiveness of the current system will be reviewed and a comparison will be made to past wars to discuss possible long-term effects.

1.5. Wars' Analysis

There has been a surge in the number of wars around the world in addition to the harmful use of destructive weapons. This paper is designed to raise awareness on the negative impact of these wars to researchers with a sharp focus on the Middle East. The paper will address this by looking back on the evolution of warfare in major wars throughout the globe,

which disregarded the environment and its protection, to finally focus on the Syrian war, which is still ongoing.

When looking at war and its impact on the environment during WWII, there was new technology including the air drop bombs and the atomic bomb which proved to have a greater capacity for destruction.¹⁶ History has shown that the Allied powers bombed the Axis with a total of 3.4 million tons from 1939 to 1945.¹⁷ This caused devastation to the environment and the infrastructure of the cities and countryside.¹⁸ Germany still has tons of unexploded bombs resulting from WWII.¹⁹ The bombing in WWII set the stage for all wars to come, bombing without regard for the impact on the environment or the devastation that it causes to the people.²⁰

The next major war that will be studied is the Vietnam war, which saw an increase in chemical warfare and devastation to the environment.²¹ The United States is believed to have used over 13 million liters of chemical agents in Vietnam so as to gain military advantage over the Vietcong who took cover in forests within the “enemy territory.”²² Those chemicals were the cause of awful consequences to the environment and the people of Vietnam of which are still being felt up to now.²³ They went beyond destroying the infrastructure; the soil, the water and increased level of pollution throughout the country, caused long term challenges, such as

¹⁶The Editors of Encyclopedia Britannica, Bomb weapon Britannica Encyclopedia Britannica (2019), <https://www.britannica.com/technology/bomb-weapon>.

¹⁷*Brilliant Maps & Data World, Every Bomb Dropped by the British & Americans during WW2 Brilliant Maps(2017)*, <https://brilliantmaps.com/uk-us-bombs-ww2/>.

¹⁸Adam Higginbotham, There Are Still Thousands of Tons of Unexploded Bombs in Germany, Left over from World War II Smithsonian Magazine (2016), <https://www.smithsonianmag.com/history/seventy-years-world-war-two-thousands-tons-unexploded-bombs-germany-180957680/>.

¹⁹*Id.*

²⁰*Id.*

²¹Jason Von, How U.S. Chemical Warfare in Vietnam Unleashed an Enduring Disaster Phys.org (2017), <https://phys.org/news/2017-10-chemical-warfare-vietnam-unleashed-disaster.html>.

²²*Id.*

²³*Id.*

children being born with severe birth defects and health issues.²⁴ The impact was so severe that they still have not eradicated it as of today.²⁵

Next, the war in Bosnia set during the years 1992 to 1995 will be further analyzed. The war in Bosnia had devastating effects. It destroyed valuable infrastructure, involved chemical warfare, damage to the environment and even ethnic cleansing.²⁶ There were many lives lost and this war which was a test case for the effectiveness of the international laws with respect to protecting the environment.²⁷ Applications were made to the Hague under international laws which were in place to protect, among other things, the environment during war and conflict.²⁸ As will be further discussed later in the final chapters of this paper, the tribunals have been challenged in enforcing measures during actual war times.²⁹

Finally, we reach the core of this thesis which is the impact of the Syrian conflict on the natural environment, especially because the conflict is ongoing.³⁰ The Syrian war begun on March 2011 and has been going on for a decade now.³¹ This civil war has seen many Syrian cities fall apart, oil vessels destroyed and its people being displaced. Never mind the non-existent structure for the people still in the region.³² The devastation to the environment is immense but difficult to measure due to the fact that the war is ongoing.³³ The aim of this paper is to scrutinize the effect the wars had on the environment and to evaluate the

²⁴*Id*

²⁵*Id*

²⁶Julian Borger, *Bosnian War 20 Years on: Peace Holds but Conflict Continues to Haunt* The Guardian (2012), <https://www.theguardian.com/world/2012/apr/04/bosnian-war-20-years-on>.

²⁷*Id.*, See also, *Infra* Chapters 5 .

²⁸See *infra*, Chapter 4.

²⁹See *infra*, Chapter 4.

³⁰See *infra*, Chapters 3, 4 and 5.

³¹Aljazeera News, *Syria's War Explained from the Beginning* www.aljazeera.com (2018), <https://www.aljazeera.com/news/2018/4/14/syrias-war-explained-from-the-beginning>.

³² See *infra*, Chapters 3, 4 and 5.

³³See *infra*, Chapter 3.

effectiveness of the laws in place to prevent damage during conflict and enforce measures after it ³⁴

1.6. Purpose of this Thesis

The purpose of this study is to generate further debate of the impacts of war to the environment in hopes of propelling further and enhanced legislation on the matter, resulting in improved international solutions. Since WWII, the world has discussed the challenge that armed conflict pose to the environment.³⁵ The impact of the potential of such destructive methods of war are already available everywhere.³⁶ Weapons today pose a threat of unprecedented magnitude to the environment in ways not experienced before .³⁷ In addition to this there are several other factors, such as the lack of laws and regulations on how to safeguard the environment,³⁸ not to mention environmental protection during armed conflict.

There have been many recent wars in the Middle East. The Iran-Iraq war of 1980-1988 and the 1991 Gulf war witnessed widespread environmental harm, which resulted in the significant obliteration of oil fittings, shell blasting and several oil spillages in the Gulf.³⁹ This destruction occurred despite the existence of international environmental law that is applicable during armed conflicts, which theoretically could cited as basis for safety and protection, where the environmental damage is seen as a criminal (illegal) offense.⁴⁰

³⁴ See *infra*, Chapters, 3, 4 and 5.

³⁵ See *infra*, Chapter 3.

³⁶ See *infra*, Chapters 3 and 4.

³⁷ Antoine Bouvier, Protection of the Natural Environment in Time of Armed Conflict - ICRC International Review of the Red Cross (1991), <https://www.icrc.org/en/doc/resources/documents/article/other/57jmau.htm>.

³⁸ *Id*

³⁹ *Id*

⁴⁰ Stavros EvdokimosPantazopoulos, Protection of the Environment during Armed conflicts: an Appraisal of the ILC's Work QIL QDI (2016), <http://www.qil-qdi.org/protection-environment-armed-conflicts-appraisal-ilcs-work/>.

1.7. Significance of this Thesis

This research is significant in further discussion of the recent 2020 ICRC Guidelines and the ILC Draft Principles which are current developments in the field in international humanitarian law. Secondly, this research will significantly contribute to the area of environmental protection during civil wars as opposed to most of the previous researches that have only dealt with international armed conflicts. With the world recently acknowledging that preserving and caring for the environment is something that must be done, the hope is that this thesis will shed some light on the subject, in order to advance talks and enhance legislation to protect the environment during armed conflicts in the Middle East today. This is significant due to the great amount of unrest currently ongoing in the Middle East and other pressing issues, such as drought and food insecurity. The focus will be on Syria due to the long-lasting civil war that is ongoing. This study moots what can be done to help shield Syria from any further damage to its infrastructure. It focuses on both the local and international laws that are in place to address harms from war and conflict to the environment.

In the Middle East many internal conflicts have an impact on the health of the environment. Furthermore, evidence shows that an unhealthy environment leads to further conflict and political unrest, which in turn exacerbates issues such as food insecurity and problems for the poor or displaced.⁴¹ With the advent of such conflicts further devastating the environment in Syria and other parts of the Middle East, it is imperative for future peace that laws, regulations and proper forums be put in place so that the environment can be protected. This will hopefully reduce any further damage to the region's environment, which could lead

⁴¹Mohamed Abdallah Youness, How Climate Change Contributed to the Conflicts in the Middle East and North Africa World Bank Blog (2015), <https://blogs.worldbank.org/arabvoices/climate-change-conflict-mena>.

to further unrest. This goes beyond the Middle East. Climate change has global impacts on countries across the world. Protecting the environment is part of safeguarding human rights.

In the chapters ahead, we will delve deeply to show how past conflicts and wars have impacted the environment and demonstrate that climate change is exacerbated as a result of conflict. We will question whether this can be improved in such a way that injunctions can be passed to prevent harm to the environment or whether these just needs to be some form of reparation by States who cause the damage. The timing of when and where the protective measures are put in motion is also a major aspect. Of course, it would be optimal if some sort of injunctive relief could preemptively avoid the damage. However, we highly doubt that this is something that is feasible during an active war.

Are there laws in place that could bring this about? How can legislation be implemented and enforced during an active war? How would reparations to states be implemented? With reparations after a war by the offending countries the significance would be on enforcement and whether there will be any exceptions. What if the offending party is insolvent? What forum will handle the assessment? Additionally, what would be the consequences for those States that fail to pay for the reparations? This is significant because without the ability to bring the States heed and to enforce payment of reparations then it is just legislation in name only which will not resolve the issue of the environmental impact and possible displacement of people.

1.8. Thesis Structure

This paper is set out in five chapters with the first being the introduction and basic framework. It contains an explanation of how the research was conducted and whether the research included prior studies, new studies or other collected data. Chapter 1 also contains the four research questions which were investigated in the succeeding paragraphs. Chapter 2 contains the historical overview of the wars in terms of describing the conflict, intensity,

parties, strategies and consequences. Chapter 2 details the wars /conflicts and laws that will be looked at to draw the correlational relationship. This part comprises a comparative analysis of World War II, the Vietnam War, and the War of Bosnia (often called the genocide) and the Syrian War, which is still ongoing. This chapter will compare the effects of war on the environment caused by these conflicts in order to support the thesis hypothesis that the laws are ineffective and do not cover civil wars.

Chapter 3 starts by discussing the military manuals of the four main countries involved in the four wars and finally brings the analysis of local legislation. We compare Islamic Law with the laws that applied to World War II the Vietnam War, Bosnia, and the underlying religious values. Also, this part will look at past wars and major conflicts like World War II and the Vietnam War and others examining the wars and looking at the conditions of the environment in those countries post-war. We will examine literature on both internal and external war/conflict, the effects on the environment and what has been written about the effectiveness of the laws in place. We will seek to discern any gaps in the existing local legislation. The chapter will contain a discussion of the process that was used to collect the data and how that data will be analyzed. In the end, it will discuss what types of laws and cases will be reviewed. In this part we will review the literature covering the laws both Islamic and international covering war and conflict in the Middle East with respect to environmental protections.

In Chapter 4, will analyze the current international legal framework on safeguarding the environment during armed conflict and the gaps within existing legislation. A breakdown of each of the studies was included along with an analysis of international laws and their informant in both local and international. The data cited includes an identification of the environmental effects resulted from the war or conflict. The analyses explore if anything was done to lessen the effects; the local and international laws that purported to protect the

environments that were in effect at the time; and the enforceability of the same. This chapter emphasizes studies and cites actual cases. It also closely examines the international legislation that existed during the wars we have discussed and evaluates whether their application would have lessened the impact of the environmental effects post war. As the conflict in Syria is essentially a civil war notwithstanding the interferences by outsiders. When evaluating that war and the other wars which stem from internal conflicts, it will discuss the application of the international laws to non-international conflict. The discussion will emphasize those international laws looking at their enforceability and how states and non-state sector would fall under the international laws.

Lastly, chapter four, will also examine the tribunals or courts that would have jurisdiction over claims under the laws that would protect the environment during war and conflict. It will additionally look at their history and how they were formed and what types of cases they see. There are several different international tribunals such as the International Criminal Court (ICC), the International Court of Justice (ICJ) and the permanent court of International Justice (PCIJ), among others. The study analyses the laws and the forums in place to safeguard the environment at times of wars and internal conflicts. It will address their adequacy and efficacy and the remedies and enforcement powers of the forums.

Finally, Chapter 5 summarizes the findings, proposals and a conclusion of this thesis. This thesis will share a comprehensive work of suggestions in order to improve environmental safeguards during armed conflicts and war in times of internal conflict, building on the existing legislation, touching on current issues and enforcement problems. It will make an extensive analysis on why Islamic legislation is a good fit for our research hypothesis, its principles and what it can do to improve the situation in Syria. A large focus on Islamic legislation and the middle east will be highlighted as part of the solution we have envisioned during this paper, as Syria being the case study.

CHAPTER TWO – HISTORICAL OVERVIEW OF THE WARS

2.1. Introduction

International wars and internationalized armed conflicts have often involved the use of tactics that cause irreparable harm to humans and to the environment. Although humans seem to be adequately protected under the modern international laws of armed conflict, the environment is not. This Chapter compares the history and consequences of international, and non-international armed conflicts that have in one way or the other, defined the relationship of war and environmental protection.

The first conflict discussed in this Chapter is World War II (WWII), where the world suffered most from environmental pollution. The parties to this war either used weapons, means and methods of warfare that had a devastating effect on the environment or targeted the environment as an object of the war, or both. From the destruction of pacific islands to the flooding of agricultural fields in Netherlands, States violated all the norms protecting the environment as a civilian object. The use of atomic bombs in Japan resulted in radiation and the worst damage to the environment. Secondly, this Chapter discusses the history and consequences of Vietnam War. The deliberate use of Agent Orange as a chemical weapon despite the existing norms that outlawed it, demonstrated the lack of internal restraint States had from the rules of war. The use of Agent Orange was a direct attack on the environment for military purposes and caused widespread, long-term and severe damage to humans and the environment. Thirdly, this Chapter discusses the Bosnian war where belligerent groups destroyed the natural environment. Lastly, this Chapter analyses the Syrian war and the destruction of the environment both by the government and the rebel forces. The use of chemical weapons by the government and rebel forces is also highlighted. Generally, this Chapter draws a comparison between the protection of the environment guaranteed by States during international armed conflicts and that offered during civil wars.

2.2. Analysis of Wars and Environmental Impact

2.2.1. World War II (WWII)

There have been many studies and data on the environmental impacts of WWII.⁴² The environmental after-effects of WWII were drastic and greatly affected the world. The chemical and nuclear warfare that came out of WWII were devastating to the environment as well as to humans.⁴³ It was one of the largest and deadliest wars in history.⁴⁴ There were 30 countries involved, and it lasted for almost six years.⁴⁵ The war began when Hitler invaded Poland.⁴⁶ The United States did not join in until after the bombing of Pearl Harbor by Japan.⁴⁷ WWII marked a new era of war; with the use of weapons that were never used before, such as the atomic bomb, a nuclear weapon that puts off lethal radiation.⁴⁸ WWII left deep marks on the war zones' natural environment, home fronts, and areas occupied by war industries.⁴⁹ The Germans used many weapons that were detrimental to the environment, destroyed everything that they did not need and flooded farms with salty water in Netherlands to hinder farming by enemy forces.⁵⁰

Important to this current study is the manner in which the environment was either a victim of war or a military object of attack. This study seeks to analyze the methods of war which targeted the environment; the use of chemical weapons that were intended to cause

⁴² Legro, Jeffrey W. "Military culture and inadvertent escalation in World War II." *International Security* 18.4 (1994): 108-142; Roul, Mr Animesh. "Weapons of War: State Actors and Chemical Weapon through the Years."; Mannion, Antoinette M. *The Environmental Impact of War & Terrorism*. Department of Geography, University of Reading, 2003; Swintek, Philip. "The Environmental Effects of War." (2006).

⁴³ Van Courtland Moon, John Ellis. "Chemical weapons and deterrence: The World War II experience." *International Security* 8.4 (1984): 3-35.

⁴⁴ Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁴⁵ Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁴⁶ Brown, Louis. "A radar history of World War II." *J. Am. Hist. Res* (1999).

⁴⁷ Foster, Stuart, and Jason Nicholls. "America in World War II: An Analysis of History Textbooks from England, Japan, Sweden, and the United States." *Journal of Curriculum & Supervision* 20.3 (2005).

⁴⁸ Swintek, Philip. "The Environmental Effects of War." (2006).

⁴⁹ *Id.*

⁵⁰ Lanier-Graham, Susan D. *The Ecology of War: Environmental Impacts of Weaponry and Warfare*. New York: Walker Publishing Company, Inc., 1993: 24.

environmental harm; the choice of atomic bombs with widespread and long-term effects on the environment; reprisals on the environment and the manner in which States abdicated their duties to protect the natural environment during World War II. Forest fires were intentionally ignited to gain military advantage over enemies. The fires resulted in the destruction of forests, crops and fertile soil which could not be defined strictly as military objects but as part of the natural environment which is civilian in nature. In Europe alone, this destruction of crops, forests and wildlife was estimated to have spread to at least 15 million acres.⁵¹ The direct attacks by the Germans on Dutch land have already been demonstrated. However, it is equally noteworthy to state that the allied forces also targeted two large dams in the Ruhr Valley to gain a military advantage over Germany. Ideally, the destruction of the dams was aimed at crippling Germany economically to halt Hitler's capacity to manufacture weapons.⁵²

The second dynamic of directly targeting the environment during WWII was in the acts of the United States in the Pacific theatre. In order to gain military advantage over Japanese forces in the Pacific islands that spread from Hawaii to the Japanese mainland, the U.S. Marines engaged in deforestation and destruction of coral reefs. Just like the Germans, the U.S. Marines exploited the resources for their military gains.⁵³ The use of resources including the natural environment is not prohibited under international law of armed conflict. However, the reprisals and targeting of the natural resources that are used by the enemy constitute a breach of international rules of war, which is the focus of this study. Further, WWII was characterized by methods and means of warfare with the effect of long-term, widespread and severe damage to the environment.

⁵¹ Lanier-Graham, Susan D. *The Ecology of War: Environmental Impacts of Weaponry and Warfare*. New York: Walker Publishing Company, Inc., 1993: 23.

⁵² Swintek, Philip. "The Environmental Effects of War." (2006): 5.

⁵³ Lanier-Graham, Susan D. *The Ecology of War: Environmental Impacts of Weaponry and Warfare*. New York: Walker Publishing Company, Inc., 1993: 26.

The environmental effects of WWII have been felt across the globe, specifically the forest fires in the United States as well as the extreme sand storms in North Africa. Nonetheless, nothing is comparable to the devastating effects caused by the atomic bombs in Japan.⁵⁴ The Nuclear Bombs dropped on Hiroshima and Nagasaki had irreparable harm to the environment and humans. The destruction caused is a perfect example of what severe, widespread and long-term damage war can cause to the environment. Lastly, chemical warfare was present in WWII to some extent even though the use of chemicals had been banned following its use in World War I. Lainer-Graham notes that about 220,000 pounds of mustard gas were thrown into the bottom of the ocean during or after the war.⁵⁵ The discussion below focuses on examining the strategic military aspects as well as the damage WWII had to the environment.

i. Historical Background of World War II

WWII is a war that started as a result of instability in Europe brought on from World War I (WWI).⁵⁶ Adolf Hitler, the German dictator, rose to power as part of the aftermath of WWI, and had dreams of world domination.⁵⁷ WWII began in 1939 after Germany invaded Poland and the Great Britain and France attacked Germany in turn.⁵⁸ This war resulted in more casualties and more property destruction than any war before it, with approximately 45 to 60 million people killed, and roughly 6 million of them being Jews in Nazi concentration camps.⁵⁹ This war had two parts: the part that was fought in Europe, and the part fought in Asia.⁶⁰ The two warring alliances were the Axis and the Allies. The Axis was made up of Germany, Italy,

⁵⁴ Swintek, Philip. "The Environmental Effects of War." (2006).

⁵⁵ Lanier-Graham, Susan D. *The Ecology of War: Environmental Impacts of Weaponry and Warfare*. New York: Walker Publishing Company, Inc., 1993: 28.

⁵⁶ Uldricks, Teddy J. "War, politics and memory: Russian historians reevaluate the origins of World War II." *History & Memory* 21.2 (2009): 60-82; Boyce, Robert, and Joseph A. Maiolo, eds. *The Origins of World War Two: The Debate Continues*. Macmillan International Higher Education, 2003.

⁵⁷ Hehn, Paul N. *A Low, Dishonest Decade: The Great Powers, Eastern Europe and the Economic Origins of World War II*. A&C Black, 2005.

⁵⁸ Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁵⁹ Swintek, Philip. "The Environmental Effects of War." (2006).

⁶⁰ *Id.*

and Japan.⁶¹ The Allies on the other side were France, Great Britain, the United States, the Soviet Union, and, to a lesser extent, China.⁶²

After Germany took Poland, they invaded Denmark and Norway, followed shortly thereafter by attacks on Belgium, the Netherlands, and France.⁶³ All of these nations were conquered rapidly by Germany.⁶⁴ In 1940 Germany launched an air attack on Britain, but they failed against Britain's Royal Air Force.⁶⁵ Next, Italy expanded the War into North Africa and Greece.⁶⁶ In 1941, Germany invaded the USSR, which proved to be a huge mistake as the Germans were not prepared for Russia's harsh winters and vast lands.⁶⁷ They were later forced to retreat, and the Russians pursued them across Europe.⁶⁸

ii. Impact of World War II and Breach of Environmental Protection

In WWII, the atomic bomb, chemical warfare, and airstrikes were used.⁶⁹ A study of WWII effects on the environment revealed that “atomic bombing, fuel leakages, and chemical weapons were the most damaging.”⁷⁰ WWII caused damage to ecosystems, polluted the environment, and killed millions of humans and animals.⁷¹

⁶¹ John Graham Royde-Smith & Thomas A Hughes, World War II | Facts, Summary, Combatants, & Causes Encyclopedia Britannica (2018), <https://www.britannica.com/event/World-War-II>.

⁶² *Id* at page Introduction

⁶³ Hargreaves, Richard. *Blitzkrieg Unleashed: The German Invasion of Poland, 1939*. Stackpole Books, 2010; SparkNotes Editors., World War II (1939–1945): Brief Overview Sparknotes.com (2019), <https://www.sparknotes.com/history/european/ww2/summary/>.

⁶⁴ Spark Notes, above at 1

⁶⁵ Prazmowska, Anita. *Britain and Poland 1939-1943: The Betrayed Ally*. No. 97. Cambridge University Press, 1995.

⁶⁶ SparkNotes Editors., World War II (1939–1945): Brief Overview Sparknotes.com (2019), <https://www.sparknotes.com/history/european/ww2/summary/>.

⁶⁷ *Id* at 2; Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁶⁸ Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁶⁹ Swintek, Philip. "The Environmental Effects of War." (2006).

⁷⁰ Michelle McFadyen, Environmental Impact of World War Two prezi.com (2019), <https://prezi.com/rbxejzsmplil/environmental-impact-of-world-war-two/>.

⁷¹ *Id* at 1.

In addition to the immediately-felt effects of the atomic bomb expelling radiation, other effects of WWII on the environment later materialized, such as fuels spewing from ship wreckage in the ocean.⁷² In 2006 one such ship wreckage was found. Most of the ships and aircrafts were actually sunk intentionally and have formed artificial reefs thereby compensating the damaged natural environment of the Pacific islands and other places.⁷³ The Germans used a lot of weapons that were detrimental to the environment. German used mustard gas and chemical weapons against the enemy forces which caused superfluous injury as well as indiscriminate attack.⁷⁴ According to a study, production, as well as development and use of nuclear weapons, caused damage to the environment and some impacts which are still felt today.⁷⁵ There are thousands of military bases throughout the United States that are designated as highly toxic and dangerous by the Environmental Protection Agency.⁷⁶ This is a direct result of wars. The toxic waste comes from the remnants of weapons used in warfare.

iii. Heritage Destruction

Cultural heritage is described as the “close link between the intangible and the tangible—the psychological connection between cultural objects or sites and a people’s sense of heritage and identity—conveys the true significance of cultural heritage property and the vast damage that its destruction can do to a single community, or an entire people”,⁷⁷ as well as “movable or immovable property of great importance to the cultural heritage of every

⁷² *Id.*

⁷³ Swintek, Philip. "The Environmental Effects of War." (2006).

⁷⁴ *Id.*; Szinicz, Ladislaus. "History of chemical and biological warfare agents." *Toxicology* 214.3 (2005): 167-181; Michelle McFadyen, Environmental Impact of World War Two Prezi.com (2019), at 4-9 <https://prezi.com/rbxejzsmpl1l/environmental-impact-of-world-war-two/>; Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁷⁵ Jennifer Learning M.D, *War and the environment: Human Health Consequences of the Environmental Damage of war. Critical condition: Human Health and the environment.*, 19 Environment International 627 (1993).

⁷⁶ *Id.* at 98.

⁷⁷ Ashley Mullen, Note. International Cultural Heritage Law: the Link between Cultural Nationalism, Internationalism, and the Concept of Cultural Genocide (2020), <https://live-cornell-law-review.pantheonsite.io/wp-content/uploads/2020/09/Mullen-final.pdf>.

people, such as monuments of architecture, art or history, whether religious or secular; archaeological sites; groups of buildings which, as a whole, are of historical or artistic interest; works of art; manuscripts, books and other objects of artistic, historical or archaeological interest; as well as scientific collections and important collections of books or archives or of reproductions of the property defined above.”⁷⁸ This means that destruction of sights and landmarks could have been a war strategy in order to undermine the people.

2.2.2. Analysis of the Vietnam War

The Western countries, similar to the Vietnamese in the Vietnam war, were bound by religious values. They were predominantly Christian with the Bible as their holy book and the ten commandments as their rules.⁷⁹ Although not overtly religious, the moral value system of the west is built upon the principles of Christianity.⁸⁰ The ten commandments state that people should not kill. Although the Bible does not depict the protections for the environment in the same way that it is depicted in Islamic Law, the principles are still there.

i. Historical background

The Vietnam war lasted for approximately 20 years; during that period, many soldiers and Vietnamese civilians lost their lives.⁸¹ There were a total of 58,220 United States military casualties from the Vietnam war.⁸² An estimated 2 million civilians were killed from both sides during the Vietnam war, and as many as 250,000 Southern Vietnam soldiers were killed.⁸³ The

⁷⁸ *Id* at 1493.

⁷⁹ Bart D Ehrman, *The Triumph of Christianity: How a Forbidden Religion Swept the World* (2 ed. 2019).

⁸⁰ Wolfhart Pannenberg, *Christianity and the West First Things* (1994), <https://www.firstthings.com/article/1994/12/christianity-and-the-westambiguous-past-uncertain-future> .

⁸¹ Moyar, Mark. *Triumph Forsaken: The Vietnam War, 1954–1965*. Cambridge University Press, 2006; Wiest, Andrew. *The Vietnam War 1956-1975*. Routledge, 2003.

⁸² National Archives, Vietnam War U.S. Military Fatal Casualty Statistics National Archives (2018), <https://www.archives.gov/research/military/vietnam-war/casualty-statistics>.

⁸³ The Vietnam Embassy in Pyongyang, Cruel fact: How Many Vietnamese People Died in the Vietnam war? Vietnam Embassy in Pyongyang, North Korea (2019), <https://vietnamembassy-pyongyang.org/how-many-vietnamese-died-in-the-vietnam-war/>.

Vietnam War started as an internal conflict between northern and southern Vietnam. Japan seized control over Vietnam from France from 1940 to 1945 (this was during the period when Germany had invaded France). In 1945, the allies of WWII freed Vietnam from Japanese control and Vietnam declared independence from France.⁸⁴

France sought help from an ally, the United States of America.⁸⁵ Neither France nor the United States recognized Vietnamese independence at that time.⁸⁶ It was still looked at as French territory.⁸⁷ From 1946 to 1954, there was a war between France and Indochina, which was largely funded by the United States, who did not want a further spread of communism.⁸⁸ France was defeated, communism took over the Northern Vietnamese area.⁸⁹ The War pushed negotiators at the Geneva Conference to produce the final Geneva Accords in July 1954.⁹⁰ The accords established the 17th parallel (latitude 17° N) as a temporary demarcation line separating the French and the Viet Minh's military forces. North of the line was the Democratic Republic of Vietnam, or North Vietnam, who defeated the French.⁹¹ Thus, the Geneva accord separated Vietnam into the communist North and non-communist South, but it allowed people from either side to relocate to whichever side they preferred.⁹²

Catholic nationalist Ngo Dinh Diem emerged as the leader of South Vietnam, with the United States' support, while Ho Chi Minh lead the communist state of the North.⁹³ November 1st 1955, was the approximate start date of the Vietnam War, which was a civil war between

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ Ronald H Spector, Vietnam War - French Rule ended, Vietnam Divided Encyclopedia Britannica (2018), <https://www.britannica.com/event/Vietnam-War/French-rule-ended-Vietnam-divided>.

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

⁹³ History.com Editors, Vietnam War Timeline History (2018), <https://www.history.com/topics/vietnam-war/vietnam-war-timeline>.

the communist North and the non-communist South. There is some debate with respect to when this War started for the United States; however, there seems to be a consensus that it began when the United States sent a Military Assisted Advisement Group (MAAG) to Indo-China.⁹⁴ By 1955, MAAG became the main conduit for American military assistance to South Vietnam and the organization responsible for advising and training the South Vietnamese military.⁹⁵ There was a lot of corruption in Diem's administration.⁹⁶ This lead to non-communists in the South building alliances with communists in North Vietnam.⁹⁷ The Viet Minh were able to infiltrate South Vietnam with insurgents who were Southern Vietnam citizens trained and armed by the Viet Minh.⁹⁸

The United States supported South Vietnam, its ally in its defense of North Vietnam and the Viet Cong in its efforts to prevent itself from becoming a communist nation.⁹⁹ During this war, a majority of the fighting in North Vietnam was done with airstrikes, but in South Vietnam territory, there was predominantly ground fighting.¹⁰⁰ The Viet Cong used landmines and guerrilla attacks in its offense. The bombings were in North Vietnam and Laos, a neutral country that provided access for supplies to get to North Vietnam. The weapons used in this war included bomber planes, hand grenades, machine guns, and herbicides like Agent Orange.¹⁰¹ The United States Department of Defense developed the herbicides as a tactical defense to be used in “combat operations.”¹⁰² The weapons, bombs, and chemicals used in the

⁹⁴ Pdoggbiker, When Did the Vietnam War Start for the U.S. Cherrieswriter - Vietnam War Website (2019), <https://cherrieswriter.com/2019/04/29/when-did-the-vietnam-war-start-for-the-u-s/> (last visited Jun 12, 2020).

⁹⁵ *Id.*

⁹⁶ Ronald H Spector, Vietnam War - French rule ended, Vietnam divided Encyclopedia Britannica (2018), <https://www.britannica.com/event/Vietnam-War/French-rule-ended-Vietnam-divided>.

⁹⁷ *Id.* at 1

⁹⁸ *Id.* at 3

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

Vietnam war had devastating effects on the people and the environment that are still being felt today by the Vietnamese people.

Agent Orange, the primary herbicide used in this war, contained dioxin.¹⁰³ The dioxin has been found in human blood and body tissues which evidences the impact of its use. People who live in that area suffer such ailments, as well as various forms of cancer, congenital disabilities in children fathered by veterans, cognitive or neuropsychiatric problems, and peripheral neuropathy.¹⁰⁴ It is also possible to find remnants of dioxin in most of the soil in Vietnam more than half a century after the war ended.¹⁰⁵ Erosion and runoffs have resulted in the dioxin entering lakes; and Vietnam officials prohibit fishing in many lakes as a result.¹⁰⁶ The air the inhabitants breathe currently contains dioxin.¹⁰⁷ Crops are challenging to grow, and those that do grow are infected with dioxin.¹⁰⁸ These are the long term environmental effects of the Vietnam War.

The United States shelled many places perceived to be occupied by the enemy. This was not done by American soldiers alone; the South Vietnam military also dropped bombs in an alliance with the United States in its defense. One of the bombs used during this war was napalm, a chemical compound.¹⁰⁹ “Napalm could be propelled to greater distances than gasoline” and released large amounts of carbon monoxide when it exploded, poisoning the air and causing even more damage than traditional bombs of that time.¹¹⁰ They also used M-48 tanks and M-60 machine guns on the ground.¹¹¹ The Viet Cong, North Vietnam soldiers, also

¹⁰³ Theodore H Tulchinsky & Elena A. Varavikova, *The New Public Health* www.sciencedirect.com (2015), <https://www.sciencedirect.com/book/9780124157668/the-new-public-health#book-info>.

¹⁰⁴ Michael R Dobbs, *Clinical Neurotoxicology : Syndromes, Substances, Environments* (2009).

¹⁰⁵ Kenneth Ray Olson & Lois Wright Morton, *Long-Term Fate of Agent Orange and Dioxin TCDD Contaminated Soils and Sediments in Vietnam Hotspots*, 09 *Open Journal of Soil Science* 1–34 (2019).

¹⁰⁶ *Id.*

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Id.*

caused considerable damage to the infrastructure and environment.¹¹² They repeatedly attacked without regard to civilians in South Vietnam.¹¹³

During this period, the United States was involved in the cold war with the Union of Soviet Socialist Republics (USSR), a communist institution, so it was firmly against communism.¹¹⁴ The United States leaders at the time believed that communism would have a “domino effect,” meaning that if one State turned communist, it would spread to neighboring States.¹¹⁵ Thus, at that time, they were determined to aid any country to help it defend against communism.¹¹⁶ The United States trained the South Vietnam army and provided weapons; however, they were not as savvy as the Viet Minh with combat in jungles and Vietnam's environment.¹¹⁷

The United States was frustrated by its lack of success in ground combat, so they tried to win the war from the air.¹¹⁸ It started with “Operation Rolling Thunder” which dropped millions of explosive bombs on North Vietnam and Ho Chi Minh trail (this was a trail that North Vietnam used to get supplies).¹¹⁹ Additionally, they started to drop napalm bombs, which caused dreadful burns to civilians.¹²⁰ When this failed to break down the jungle cover, the United States Air Force started “Operation Ranch Hand” which was the defoliation program aimed at clearing the deep forest cover using Agent Orange,¹²¹ in order to make it easier for their soldiers to see and eliminate possible hiding spots for the enemy.

¹¹² John M. Carland, *Winning the Vietnam War: Westmoreland's Approach in Two Documents*, 68 *The Journal of Military History* 553–574 (2004).

¹¹³ *Id.* at 558

¹¹⁴ *Id.* at 559

¹¹⁵ CNN Library, Vietnam War Fast Facts, the Fall of Saigon: 40 Years Later CNN (2013), <https://edition.cnn.com/2013/07/01/world/vietnam-war-fast-facts/index.html> (last visited Jul 10, 2019).

¹¹⁶ *Id.*

¹¹⁷ Ronald H Spector, Vietnam War - French Rule ended, Vietnam Divided Encyclopedia Britannica (2018), <https://www.britannica.com/event/Vietnam-War/French-rule-ended-Vietnam-divided>

¹¹⁸ History.com Editors, Vietnam War History (2018), <https://www.history.com/topics/vietnam-war/vietnam-war-history>.

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.*

Effects of Vietnam War and Use of Chemical Weapon

It has been nearly half a century since its end, and the impact on their health has been staggering.¹²² The dispersion of Agent Orange over a vast area of central and South Vietnam poisoned the soil, river systems, lakes, and rice paddies of Vietnam, enabling toxic chemicals to enter the food supply chain.¹²³ Vietnamese people were not the only ones poisoned by Agent Orange. United States' soldiers, unaware of the dangers to being exposed to it, were also poisoned.¹²⁴ Unlike the effects of other chemical weapons used in Vietnam, for example, napalm, which caused painful death by burns or asphyxiation; Agent Orange exposure did not affect its victims immediately.¹²⁵ In the first generation of victims, the impact of the chemical warfare was mostly visible in high rates of various forms of cancer among both United States soldiers and Vietnam residents; however, once the children were born, more issues were seen.¹²⁶ It is estimated that tens of thousands of people have suffered serious birth defects as a result of Agent Orange, including spina bifida, cerebral palsy, physical and intellectual disabilities, and missing or deformed limbs.¹²⁷ Since the effects of the chemical are passed from one generation to the next, Agent Orange is now debilitating its third and fourth generations.¹²⁸

¹²² Kim, Hyoung-Ah, et al. "Immunotoxicological effects of Agent Orange exposure to the Vietnam War Korean veterans." *Industrial health* 41.3 (2003): 158-166; Chamie, Karim, et al. "Agent Orange exposure, Vietnam War veterans, and the risk of prostate cancer." *Cancer* 113.9 (2008): 2464-2470; Hong, Pa, Yun Gyu Song, and Sungwoo Paek. "Possible effects of agent orange and posttraumatic stress disorder on hyperglycemia in Korean veterans from the US-Vietnam war." *Medicine* 100.25 (2021).

¹²³ Chamie, Karim, et al. "Agent Orange exposure, Vietnam War veterans, and the risk of prostate cancer." *Cancer* 113.9 (2008).

¹²⁴ *Id.*

¹²⁵ James Ferns, *Why Did the US Lose the War in Vietnam?* International Socialist Group (2012), <https://www.international-socialist.org.uk/index.php/2012/08/why-did-the-us-lose-the-war-in-vietnam/> (last visited Jan 11, 2021).

¹²⁶ *Id.*

¹²⁷ *Id.*

¹²⁸ *Id.*

The destruction caused by Agent Orange and the chemical warfare of the United States to the Vietnamese forests has proven irreversible.¹²⁹ The natural habitat of rare species such as tigers, elephants, bears, and leopards was corrupted, in most cases beyond repair.¹³⁰ In parts of central and southern Vietnam that were already exposed to environmental hazards, the Agent Orange and herbicide spraying led to a nutrient loss in the soil.¹³¹ This, in turn, has caused erosion, compromising forests in twenty eight river basins.¹³² As a result, flooding has gotten worse in numerous watershed areas.¹³³ A number of these vulnerable areas also happen to be home to low-income people and, these days, home to a large number of Agent Orange victims.¹³⁴

In a 2019 study on the long-term effects of Agent Orange on the environment in Vietnam, it was found that there was still soil contaminated with dioxin TCDD in several hotspots around the country.¹³⁵ The Vietnam War defoliated rain forests, ancient wetland mangroves, other parts of nature and left behind contaminated soil and sediment hotspots.¹³⁶ During this war, the United States military sprayed 80 million liters of Agent Orange, which was a synthetic plant growth regulator comprised of equal amounts of two herbicides, 2,4-dichlorophenoxyacetic acid $C_8H_6Cl_2O_3$ (2,4-D) and 2,4,5-trichlorophenoxyacetic acid $C_8H_5Cl_3O_3$ (2,4,5-T).¹³⁷ TCDD, the dioxin, 2,3,7,8-tetrachlorodibenzodioxin ($C_{12}H_4Cl_4O_2$) was an unintended byproduct of the accelerated combustion process used in the manufacture of herbicides 2,4,5-T.¹³⁸ “Agent Orange has frequently been blamed for soil

¹²⁹ *Id* at 6

¹³⁰ *Id.*

¹³¹ Jason Von, How U.S. chemical warfare in Vietnam unleashed an enduring disaster Phys.org (2017), <https://phys.org/news/2017-10-chemical-warfare-vietnam-unleashed-disaster.html>.

¹³² *Id* at 6

¹³³ *Id.*

¹³⁴ *Id.*

¹³⁵ Kenneth Ray Olson & Lois Wright Morton, Long-Term Fate of Agent Orange and Dioxin TCDD Contaminated Soils and Sediments in Vietnam Hotspots, 09 Open Journal of Soil Science 1–34 (2019).

¹³⁶ *Id* at pages 5-13.

¹³⁷ *Id.*

¹³⁸ *Id.*

and sediment contamination and long-term human health problems; however, the true source of harm is the dioxin TCDD.”¹³⁹ Although Agent Orange has a short half-life of days and weeks after application to vegetation and has not been found to persist, after 50 years, in the water or soils of Southern Vietnam, the half-life of the dioxin TCDD depends on where it is deposited.¹⁴⁰

It varies from 1 to 3 years on soil surfaces that have been fully exposed to sunlight, to as long as 20 to 50 years or more when buried in tropical subsoils, and more than 100 years in the river and sea sediments.¹⁴¹ After 48 years, the dioxin TCDD levels in fish and shrimp are still high, and fishing is banned in ponds and lakes adjacent to the airbase.¹⁴² This happened because dioxin TCDD was heavily concentrated in the United States Air Force in Vietnam where the herbicides were stored and then loaded on planes and helicopters for aerial spraying. In this study, data is analyzed from soil samples taken in 1980, 1996 through 1999 and 2002 through 2003.¹⁴³ The dioxin is an endocrine disruptor and can cause certain cancers, chloracne, and reproductive and developmental effects.¹⁴⁴ There were eleven more studies conducted at the hotspots from 1990 to 2016, and all of the studies found concentrations of the dioxin at the hotspots.¹⁴⁵ The toxicity of dioxin and its long term presence in Vietnam hotspots is detrimental to the Vietnamese environment. The same results are likely in the Middle East, where chemicals like dioxin have been used in conflicts and wars.

The Vietnam war was one of the most toxic wars in history. Pollutants were used throughout the War to try and ease the way for soldiers to fight. The pollutant with the most significant impact in that War was Agent Orange. According to the Environmental Justice Atlas

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.* at 8.

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ *Id.*

study, the environmental impact of Agent Orange use is twofold. The first visible impacts include the damage that it caused to the environment, air, water, agricultural land and human health.¹⁴⁶ Other environmental impacts are potential genetic contamination. It is necessary here to clarify what is meant by genetic contamination. It is “the release into the natural environment of these altered genes, creating the risk that they might breed with wild plants or animals and spread out uncontrollably.”¹⁴⁷ As of now, there is no direct evidence of this genetic contamination, although it seems like a likely scenario.¹⁴⁸

2.2.3. Bosnian War

i. History of the Bosnian War

In 1943, during the second World War, the Federal Republic of Yugoslavia (FRY) was formed. The federation is composed of 6 states, including Bosnia-Herzegovina, Croatia, Serbia, Slovenia, Macedonia and Montenegro. The population in the federation is composed of Orthodox citizens, catholic citizens, and Muslim citizens. The entire federation was under the leadership of Marshal Josip Tito, who died in 1980.¹⁴⁹ Following the death of Marshal Josip Tito, the federation began to disintegrate as the republics began to demand their independence. The states got divided into ethnic lines. In 1991, Croatia, Slovakia and Macedonia were the first to declare their independence. After declaring independence, war ensued as the Serbs dominated the military forces. A referendum was planned to decide on the independence of the states. The Serbs intentionally boycotted the referendum, hoping that the independence would not happen. The referendum was held and the yes votes tallied 92%.¹⁵⁰

¹⁴⁶ *Id*

¹⁴⁷ Doug Moss, *Genetic Pollution*, Emagazine.com, 2011, <https://emagazine.com/genetic-pollution/>.

¹⁴⁸ John R Lampe, *Bosnian War Facts, Summary, & War Crimes Encyclopedia Britannica* (2019), <https://www.britannica.com/event/Bosnian-War>.

¹⁴⁹ Kalyvas, Stathis N., and Nicholas Sambanis. "Bosnia's civil war." *Understanding civil war* (2005): 191.

¹⁵⁰ Kalyvas, Stathis N., and Nicholas Sambanis. "Bosnia's civil war." *Understanding civil war* (2005): 191.

For four years, the Serb's military seized Sarajevo and tortured and prosecuted Bosnians. Between 1992 and 1995, the Bosnian-Serb military continuously shelled civilians and children living in the city. Using snipers and other methods of war, the forces killed, wounded and inflicted terror on the people living in the city. The forces also partly or completely destroyed the religious and cultural buildings that were available in the city of Sarajevo.¹⁵¹

In 1993, so many Muslims from Cerska in the eastern BiH fled to the areas declared by the United Nations as the safe areas in Srebrenica and Žepa. The Bosnian-Serb forces focused their fight on the Srebrenica and Žepa areas with the intention of ethnic cleansing. The campaigns for ethnic cleansing intensified in eastern Bosnia-Herzegovina. This led to the killing of about eleven thousand individuals, one thousand and six hundred of them being children. In other words, the shelling, sniper killing and ethnic cleansing cut the Sarajevan citizens from the rest of the world.¹⁵² Crimes against humanity such as murder, forced deportation and torture were committed against Bosnian Muslims, particularly those who lived in towns such as Foca, Srebrenica, Visegrad and Prijedor. In 1995, the leader of Bosnian-Serbs, Radovan Karadžić ordered the Serbs forces to eliminate all the Muslims in the Srebrenica enclave. The forces overpowered the Dutch peacekeepers in the station. They ordered women and children to board buses, which transported them to Bosnian territory, where some were burned in the buses and some raped before being killed.

Reports reveal that the forces attacked and killed about 100,000 civilians in the Srebrenica enclave. Over two million persons were displaced as some ran into the forest towards Tuzla. Thousands of women were raped and about seven thousand Bosnian Muslims

¹⁵¹ Halilovich, Hariz. *Places of pain: Forced displacement, popular memory and trans-local identities in war-torn Bosnian communities*. Vol. 10. Berghahn Books, 2013.

¹⁵² ¹⁵² Kalyvas, Stathis N., and Nicholas Sambanis. "Bosnia's civil war." *Understanding civil war* (2005): 191.

were summarily executed in 1995. The reason for their execution was to identify themselves with a particular ethnic and religious group. As a result of the war, about 40,000 people were reported missing. The North Atlantic Treaty Organization (NATO) launched continuous attacks on Serbia and Montenegro in 1999.¹⁵³ About three thousand mass graves have been discovered. Serbian forces attempted to hide the killings by digging and reburying the victims of its atrocities. Thus, since 1995, several mass graves have been discovered and the bodies are still being identified through DNA analysis.

Acts of the State and Non-State Actors Towards the Environment

Notably, it is not a must that arms be used in a conflict to classify it as a war. Rebels in a country can use various approaches, such as isolated acts of violence and riots. These acts might not amount to armed conflict. However, if they persist for a longer duration and the intensity increases day by day and the participants also increase, it might develop into a non-international conflict. This was the situation with the non-state actors in the Bosnian war until Kosovo Liberation Army took over in arms. On the other hand, the state used war machinery to attack the civilians.¹⁵⁴ The war in Yugoslavia was a unique one. It involved both the non-international and international elements. The non-international bit was witnessed when the Serbian forces led and attacked civilians in Bosnia, leading to a massacre and displacement of thousands of civilians from their homes. The international bit of it was experienced when NATO launched airstrikes on Serbia and Montenegro.¹⁵⁵

Undoubtedly, the aftermath of war leaves a devastating impact on both the people and the environment. The natural resources, environment, and public health were seriously

¹⁵³ Phillips, R. Cody. "Bosnia-Herzegovina: The US Army's Role in Peace Enforcement Operations 1995–2004." *Washington, DC: US Army Center of Military History (CMHD), US Department of the Army* (2005).

¹⁵⁴ Cruden, Alexander, ed. *The Bosnian Conflict*. Greenhaven Publishing LLC, 2011.

¹⁵⁵ Byron, Christine. "Armed conflicts: International or non-international?." *Journal of Conflict & Security Law* 6.1 (2001): 63-90.

affected during and after the Bosnian war. Therefore, one can look at the effects of the Serbian war on the environment in two stages; first, the effects of NATO's ordinance and second, Serbian forces attacking the Bosnian civilians. The effects of NATO's ordinance affected the environment directly and indirectly. NATO raided the Federal Republic of Yugoslavia for a period of seventy-eight days. During the raid, about one thousand two hundred NATO military aircraft were used in the war. There were about thirty-four thousand missions conducted by the NATO forces and around two thousand three hundred airstrikes on the Federal Republic of Yugoslavian territory. As a result of the ordinance, industrial sites and energy installations were devastated by missiles or bombs.¹⁵⁶ The ecosystems were seriously affected as groundwater, surface water, air, and soil were seriously contaminated by toxic elements.

i. Environmental Consequences of the Bosnian War

The war in Bosnia and Herzegovina was initially sectarian and involved different ethnic groups that belonged to the former Yugoslavia. It had little employment of heavy machinery and weapons of mass destruction to the environment until the NATO forces joined the war. The indiscriminate shelling had adverse effects on the water sources, forest cover, air quality and the general environment. "Accumulation of rubbish and household waste is becoming a serious environmental problem, many months after the air strikes and the deployment of the peacekeeping force in Kosovo. The environmental impact of the Balkan war breaks down into two parts: direct and indirect damage caused by NATO ordnance; the effects of the destruction of infrastructure and industrial installations; damage to the natural heritage; consequences of population displacement."¹⁵⁷ The Bosnian War was the culmination of years of degradation

¹⁵⁶ Nazemroaya, Mahdi Darius. *The globalization of NATO*. SCB Distributors, 2012.

¹⁵⁷ *Id.*

and mass killing by the Serbian forces of Bosnian Muslims.¹⁵⁸ Muslims were often tortured and raped.¹⁵⁹ There were concentration camps.¹⁶⁰ Muslim villages were often torched.¹⁶¹ Additionally, the targeting of Muslim men indicates the clear intention to extinguish the entire ethnic group.¹⁶² This cleansing, as the Serbians called it, did not just happen overnight; it was the result of chipping away of rights for years until it culminated in this genocidal cleansing of the Bosnian people.¹⁶³

Impacts of the usage of Depleted Uranium

Depleted uranium is used as a fuel for nuclear power plants. It is a by-product of enriched uranium. Depleted uranium is mostly used to create antitank weapons, which can cause very serious environmental effects. NATO confirmed that depleted uranium artilleries were used in Yugoslavia. Therefore, everyone around the war area is likely to be affected, whether they are actively or inactively engaged in the war. Soldiers and civilians are likely to be affected by the depleted uranium.¹⁶⁴

Thus, this study borrows from the Report on the Gulf War Syndrome to illustrate how harmful depleted uranium can be to the environment and the people living around the war area.¹⁶⁵ Reports about the ill health brought about by the use of depleted uranium by the military can be traced to the Gulf War, which led to the discovery of the Gulf War Syndrome. Concerns over depleted uranium as a military defense or attack system have grown since 1991 since the elements and the nature of the metals have been associated with various

¹⁵⁸ The Bosnian Genocide Created a Terrifying New Normal That Must Never Happen Again, <https://eachother.org.uk/bosnian-genocide-the-creation-of-a-new-normal/>

¹⁵⁹ *Id* at 1.

¹⁶⁰ *Id*.

¹⁶¹ *Id*.

¹⁶² *Id*.

¹⁶³ *Id*.

¹⁶⁴ Sarap, Nataša, et al. "Environmental radioactivity in southern Serbia at locations where depleted uranium was used." *Arhiv za higijenu rada i toksikologiju* 65.2 (2014): 189-197.

¹⁶⁵ Bjørklund, Geir, et al. "Depleted uranium and Gulf War illness: updates and comments on possible mechanisms behind the syndrome." *Environmental Research* 181 (2020): 108927.

deceases and harmful environmental impacts. The metal is dense and it has a low radioactive level of waste. Hence, the environmental effect of depleted uranium in Yugoslavia can be long-term. Additionally, some of the missiles and strikes might have missed their targets and fallen in areas where people get their drinking water or vegetables from.¹⁶⁶

Thus, in 2002, The Royal Society of the United Kingdom recommended that people should be cleared from areas where depleted uranium ammunition was used. The Society also recommended that people be removed from contaminated areas to keep children from coming into contact with the elements. The Royal Society also recommended that water and mil be monitored for the next couple of decades. Uranium in the body can lead to lung complications, particularly those that form uranium dioxide. The contaminated water, when consumed, can lead to absorption and storage in the bones and the tissues.¹⁶⁷

Effects of the use of Massive Military Airstrikes

Bombardment from the air led to massive destruction of infrastructure, transport systems, forests, farms and industries in the Federal Republic of Yugoslavia. The fumes emitted from the bombarded areas and the fallen buildings seriously affected the environment. As a result of this, so many people died instantly and some in the future owing to health complications. Furthermore, the destruction of homes and forests leads to serious environmental consequences. Hence, so many people got displaced from their homes, while some became refugees in other countries.¹⁶⁸

NATO's forces continuously flew over the Yugoslavian airspace for almost three months. It took control over the air space and that of the regions in its neighboring counties

¹⁶⁶ Bakrač, Saša T., Emilija Klem, and Miško Milanović. "Assessment of ecological damage from the NATO bombing of the Republic of Serbia in 1999." *Vojno delo* 70.8 (2018): 71-81.

¹⁶⁷ Royal Society Working Group on the Health Hazards of Depleted Uranium Munitions. "The health effects of depleted uranium munitions: a summary." *Journal of Radiological Protection* 22.2 (2002): 131.

¹⁶⁸ Bakrač, Saša T., Emilija Klem, and Miško Milanović. "Assessment of ecological damage from the NATO bombing of the Republic of Serbia in 1999." *Vojno delo* 70.8 (2018): 71-81.

for about 150,000 hours. Therefore, there was a concentration of so many aircraft in a significantly small area for a long period. Thus, due to harmful elements such as polyvinyl chloride, ammonium perchlorate, polyethylene, polybutadiene and lead stearate, the atmospheric environment around the area got contaminated, particularly the air and the rainfall in the region.¹⁶⁹ The planes also emitted nitrogen oxides, which are harmful to the ozone layer as it causes its depletion. Furthermore, the fuel discharged from NATO's military aircraft spilled into Yugoslavia's neighbouring countries. Also, the F16 and Mirage jet fighters, which NATO uses, emit toxic gases such as hydroxides which are very harmful to the environment and the people living within the country and in the neighbouring countries.¹⁷⁰

Devastation of the Federal Republic of Yugoslavia's Infrastructure

NATO's ordinance interfered with the state's governance and sustenance. There was a rise in the shortage of cooking fuel as natural resources experienced a shortage. In other words, the human environment in the country was utterly interfered with as the military operation took charge of the Yugoslavian airspace.¹⁷¹ The basic infrastructure of the nation was destroyed and traveling systems paralysed. Additionally, fires erupted in the destroyed industrial buildings, leading to the emission of toxic fumes into the air. The water supplies for the buildings were interrupted as some of the sources of the water got contaminated. The effects of contamination of water and air spread were felt even to the neighboring countries as elements of sulphur and nitrogen compounds could be found across the border.

Water Pollution in the Federal Republic of Yugoslavia

¹⁶⁹ Bostian, Ida L. "The environmental consequences of the Kosovo conflict and the NATO bombing of Serbia." *Colo. J. Int'l Envtl. L. & Pol'y* 11 (2000): 230.

¹⁷⁰ Edeko, Sunday E. "Environmental impact of the War for the balkanization of the Balkans." *Sacha Journal of Policy and Strategic Studies* 1.2 (2011): 29-45.

¹⁷¹ Clarke, Richard. Yugoslavia. Routledge, 2002.

Lots of ammonium nitrate were discharged during the bombing of several areas in Yugoslavia. Together with other chemical compounds, ammonium nitrate contaminated major water sources such as lakes, rivers, bays and underground water. The contaminated water sources interfered with the ecosystem of living things that thrived in the water. Notably, water is a significant element of earth. It is the life that earth lives on. Without its purity, plants, animals and birds become endangered. Therefore, infected water products can become harmful even to human beings who consume them.¹⁷²

For instance, the repeated and intense airstrikes near Pancevo complex jeopardized the entire ecosystem around the explosion tanks that contained toxic elements. Should any of the airstrikes have hit the explosion tanks, it would have caused a huge catastrophe as the air would have been polluted and human beings would have been the greatest victims. However, one of the rivers that got contaminated in 1999 was Danube. As a result of repeated and intense airstrikes in the city of Novi Sad, massive oil spilled into the river Danube. The side effects were observed for about two weeks. An oil slick of about fifteen kilometers long and four hundred meters wide was observed along the river.¹⁷³ Additionally, bomb strikes devastated a liquid industrial waste dump that was located near Mojcovac and Bor. The liquid industrial waste contaminated the surface and underground water and soil. The effect of water contamination could be felt almost throughout Europe since the underground water reservoirs are connected to Europe. Worst of all, the water found underground cannot clean itself unlike flowing rivers do.

Air Pollution in the Federal Republic of Yugoslavia

¹⁷² Edeko, Sunday E. "Environmental impact of the War for the balkanization of the Balkans." *Sacha Journal of Policy and Strategic Studies* 1.2 (2011): 29-45.

¹⁷³ Edeko, Sunday E. "Environmental impact of the War for the balkanization of the Balkans." *Sacha Journal of Policy and Strategic Studies* 1.2 (2011): 29-45.

In 1999, the highest concentration of nitrogen oxides, sulphur dioxide and ammonia were recorded in the areas around Yugoslavia, including the south-west of Romania. Reports also revealed that the guards protecting the borders of Romania exhibited difficulties in breathing and symptoms of being poisoned. This resulted from the maximum concentration of sulphur dioxide and ammonia in the air. Other parts, such as Pancevo experienced high levels of air pollution resulting from pyrotoxins released by burning of synthetic construction materials, oil and grease.¹⁷⁴ Notably, air pollution is one of the boosters of climate change. The greenhouses gases emitted during the war cumulate in the atmosphere, which creates a blanket layer that prevents heat from the sun from being reflected into space. It also enhances harmful heat radiation from the sun. This results in global warming, which increases sea levels and extreme weather conditions and deceases.

Effects of the War on the Protected Parts of the Environment

The effects of the war on the environment could be felt in the soil, landscapes and forests. Experts reveal that the continued bombing of areas near reserved places interfered with the natural migration of animals and birds. This mostly resulted from the unending noise pollution and the destruction of forests and other natural habitats. The forests were also destroyed by fire caused by continuous shelling of the forests or areas near the forest.¹⁷⁵ At the Romania-Yugoslavia border, tests reveal that the concentration of metals in the soil has become 50 times higher than the usual level. Hence, any endeavour to restore the fertility of the soil in Yugoslavia might take thousands of years. Additionally, a fall of a bomb in one area means that the entire floral and fauna habitat is destroyed completely since it interferes

¹⁷⁴ Mitrović, Branislava, et al. "Natural and anthropogenic radioactivity in the environment of Kopaonik mountain, Serbia." *Environmental Pollution* 215 (2016): 273-279.

¹⁷⁵ Kašanin-Grubin, Milica, et al. "Future environmental challenges of the urban protected area Great War Island (Belgrade, Serbia) based on the valuation of the pollution status and ecosystem services." *Journal of environmental management* 251 (2019): 109574.

with the layers of the soil.¹⁷⁶ Yugoslavia thrived in the protection of natural biodiversity, both in animals and plants that were considered endangered. The bombing of protected areas reduced the number of protected organisms significantly. Examples of the destroyed natural reserves in Yugoslavia include Fruska Gora, Kopaonik, Vrsacke Planiny, Sarplanina and Taga, which happens to be accredited by United Nations Educational, Scientific and Cultural Organization Global Heritage List.

Environmental Impact by the Serbs Forces

The Serbs forces caused terror and panic among Bosnian civilians. Millions of them were forced to leave their homes and seek refuge in the neighbouring countries such as Macedonia and Albania. However, these countries lacked the means to feed and host all the refugees. Hence, some were forced to establish settlements in farmlands without the local authorities' permission.¹⁷⁷ This shocked the environment since the refugees lacked a proper sewage system and dumping system. Additionally, the refugees caused the fuelling of woods to make food and keep them warm. Some of the wastes were dumped in the rivers and lakes, which contaminated the main sources of water.

Violations of International Humanitarian

Other than the international law that governs human rights during war, international humanitarian law also ensures that human rights are followed. For international humanitarian law, the leading instruments are the Geneva Conventions, Additional Protocol to the Geneva Convention of 1949, and the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD).¹⁷⁸ Leading international law

¹⁷⁶ Edeko, Sunday E. "Environmental impact of the War for the balkanization of the Balkans." *Sacha Journal of Policy and Strategic Studies* 1.2 (2011): 29-45.

¹⁷⁷ Edeko, Sunday E. "Environmental impact of the War for the balkanization of the Balkans." *Sacha Journal of Policy and Strategic Studies* 1.2 (2011): 29-45.

¹⁷⁸ Crowe, Jonathan, and Kylie Weston-Scheuber. *Principles of international humanitarian law*. Edward Elgar Publishing, 2013.

instruments include the International Convention on the Civil and Political Rights (ICCPR) and the Universal Declaration of Human Rights (UDHR). Therefore, the state and the non-state actors are subjects to international law and international humanitarian law. Article 35 of the Additional Protocol to the Geneva Convention prohibits the use of methods or means that may cause severe effects or damage to the environment.¹⁷⁹ The Serbia forces used harsh methods of war such as torture, massacre, rape and summary execution, which caused the people to flee from their homes to areas that were considered safe. As a result of this, the displaced persons were forced to live in farmland and forests. This affected the environment as they cut wood for fuel without relevant governance.

The special police forces of Serbia also led to the destruction of buildings and infrastructure that the civilians inhabited. The dust and fumes emitted from the debris and burning synthetic materials caused air pollution.¹⁸⁰ Some of the burned synthetic materials emitted greenhouse gases that affect the atmosphere by forming part of the elements that are depleting the ozone layer. This contributed to global warming and the rising sea levels. Also, the chemical compound emitted by the military weapons interfered with public health as some people developed lung diseases. The polluted air combined with the atmospheric humidity formed acidic rain which contaminated water and soil in the nation and the surrounding regions.

One can also argue that the actions of NATO also breached the customary international humanitarian law. For instance, the bombing of the oil refinery at Novi Sad was completely hazardous to the environment.¹⁸¹ Bombing the oil refinery was anticipated to have serious air and water pollution. Customary international humanitarian laws prohibit

¹⁷⁹ Protocol, Additional. "to the Geneva Conventions." *Although the United States is* (1).

¹⁸⁰ Jenson, D., and S. Halle. "Protecting the environment during armed conflict: An inventory and analysis of international law. United Nations Environment Programme." (2009): 10.

¹⁸¹ Mrema, Elizabeth, Carl Bruch, and Jordan Diamond. *Protecting the environment during armed conflict: an inventory and analysis of international law*. UNEP/Earthprint, 2009.

attacks that might result in environmental damages. Article 6 of ICCPR and Article 3 of the UDHR provide for the right to life. The right to life and the right to a clean environment are intertwined. People need a clean environment to lead a healthy life.¹⁸² A harmful environment can shorten individuals' right to life. Some of the people exposed to depleted uranium resulting from the acts of NATO developed sickness symptoms either as a result of breathing contaminated air or drinking contaminated water.

Conclusion

Bosnian proved that the environment is a silent sufferer when it comes to conflicts, either international or non-international arms conflict. The intervention by NATO to attempt to rescue the people of Bosnia from the torture and inhuman treatment by the Serbs did not include the environment. The environment was attacked both from land and air. Some of the harms that have been caused to the environment around Yugoslavia and its surroundings might take hundreds of years to rectify. Also, the Bosnian war resulted in the loss of homes and properties, but the most valued victim of the war was the environment. Until it is protected, cleaned and valued, human beings shall continue to fall victims to impurity.

Additionally, though international law and international humanitarian laws endeavor to protect human rights, the laws do not satisfactorily address the issue of the environment. For instance, the Geneva Conventions and the Additional Protocol to the Geneva Convention do not limit how much damage the environment can endure during armed conflict. Therefore, there is a need for the international humanitarian laws to be amended to set the limits of how much the parties can affect the environment during war or conflict. The laws that need amendment include the Geneva Convention, ENMOD and the Additional Protocol to the Geneva Conventions of 1949.

¹⁸² Universal Declaration of Human Rights and International Covenant on Civil and Political Rights

2.2.4. Syrian War

Notably, the impact of the Syrian war is one of the main illustrations of how harmful greenhouse gases emitted to the atmosphere play a significant role in environmental degradation. The emission of greenhouse gases to the atmosphere by military equipment impacts the environment which may cause prolonged droughts, famine, floods and massive displacement of persons living in the affected areas. The study of the Syrian war and its impacts on the environment is entwined with the study of the change in climate. The study also warns of the future predicaments that would affect war-torn areas worldwide.

Various world political and non-governmental organizations have commented on the Syrian Civil War as one of the main causes for Syrian harsh climatic conditions. For instance, in 2015, the then President of the United States, Barack Obama, related the prolonged Syrian civil war as one of the results of climate change. Furthermore, Prince Charles of the United Kingdom noted in 2015 that one of the causes of the Syrian drought that persisted for over five years was the Syrian Civil War. Additionally, the World Bank also emphasized on the effect of the prolonged Syrian civil war on the climate. Another organization that has joined the international debate on the impact of the Syrian war on climate is the non-governmental organization known as Friends of the Earth. Academics have also related the Syrian war to the harsh climatic condition in Syria.

Therefore, this paper seeks to link climate change and the Syrian war. It does this by gathering pieces of evidence from scholars and experts about the conflict in Syria. It analyses the evidence of the greenhouse gases emitted into the atmosphere during the conflict and how it took part in the drought in Syria. It also endeavours to analyse other impacts such as migration from Syria by Syrians in such for better places, particularly in the surrounding

countries and Europe. This study seeks to analyse both the direct and indirect role of the Syrian war in climate change and whether something can be done to remedy the situation.

i. Historical background

Though there existed tensions between the government and the rebels, actual protests in Syria began in March 2011. People in pursuit of democracy walked into the streets to protest the apprehension and torture of teenagers who were caught after painting revolutionary mottos on a school's wall. The police fired on the protesters, killing more and more of them. Soon, nationwide unrest began as people called for the resignation of President Assad. By mid-July, hundreds of hundreds had taken to the streets to protest Assad's rule. Protesters began to pick up firearms and send police officers out of their local regions.

The protest turned into a civil war as rebels formed their own army, which reached Damascus and Aleppo. Reports by the United Nations revealed that approximately ninety thousand persons died as a consequence of the struggle. The number of those who got killed in the conflict rose to 250 by the year 2015. This resulted in the rise of the Islamic State (IS), one of the jihadist groups in the region. The Syrian civil war begun as a protest with a written message, "The Government must go!".¹⁸³ This was purportedly a movement that began as an uprising for democracy.¹⁸⁴ Armed forces opened fire on demonstrators, killing several people, sparking more protests.¹⁸⁵ This resulted in a domino effect sparking nationwide upheaval demanding President Assad's leaves office.¹⁸⁶ Assad sent the military with tanks and police to combat the protesters; and soon, opposition groups formed (ISIS, Kurdish, and other

183 Jamie Tarabay CNN, For Many Syrians, the Story of the War Began with Graffiti in Dara'a CNN (2018), <https://edition.cnn.com/2018/03/15/middleeast/daraa-syria-seven-years-on-intl/index.html>.

¹⁸⁴ *Id* at page 1.

¹⁸⁵ Lucy Rodgers, *Syria: the Story of the Conflict*, BBC News, March 11, 2016, <https://www.bbc.com/news/world-middle-east-26116868>.

¹⁸⁶ *Id*.

combatants), which led to a civil war.¹⁸⁷ There is speculation that Assad used chemical warfare against his own people.¹⁸⁸ Although Assad denied this, it sparked opposition from other countries, including the United States, Turkey, as well as the European Union and a group of Arab States.¹⁸⁹ Those countries-imposed sanctions against Syria.¹⁹⁰

The Allies of the Syrian government are Russia and Iran.¹⁹¹ The rebel sects are backed by the United States, France, the United Kingdom and Turkey.¹⁹² The bombings and airstrikes have caused more than six and a half million people to be displaced.¹⁹³ At least 400,000 people have been killed.¹⁹⁴ War crimes, including torture and rape, have been committed against civilians.¹⁹⁵ The United Nations' attempts at intervention have so far been unsuccessful.¹⁹⁶ There have been over eleven thousand airstrikes against Islamic State targets in Syria.¹⁹⁷ Many

¹⁸⁷ CNN Library, Syrian Civil War Fast Facts CNN (2013), <https://edition.cnn.com/2013/08/27/world/meast/syria-civil-war-fast-facts/index.html>.

¹⁸⁸ *Id.*

¹⁸⁹ Bayart, Jean-François. "Another look at the Arab Springs." *Sociétés politiques comparées* 35 (2013): 1-34.

¹⁹⁰ *Id.*

¹⁹¹ Council on Foreign Relations, Civil War in Syria Global Conflict Tracker (2019), <https://www.cfr.org/global-conflict-tracker/conflict/civil-war-syria>.

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ Lucy Rodgers, *Syria: the Story of the Conflict*, BBC News, March 11, 2016, <https://www.bbc.com/news/world-middle-east-26116868>.

¹⁹⁶ The Editors of Encyclopedia Britannica, Syrian Civil War | Facts & Timeline Encyclopedia Britannica (2018), <https://www.britannica.com/event/Syrian-Civil-War>. ("Since its start in 2011, the Syrian Civil War has created the largest refugee population in the world, constituting over a third of the global refugee population. In 2018 the United Nations recorded 6.7 million Syrian refugees, nearly 40 percent of Syria's population that year. Most fled to Turkey and other regional allies, but hundreds of thousands have found asylum in Germany, the United States, and Canada. Within Syria itself, an estimated 6.5 million civilians have been displaced. Several human rights organizations have called the Syrian Civil War the worst humanitarian crisis of the 21st century.")

Also, see *supra* at 361 ("Efforts to reach a diplomatic resolution have been unsuccessful. Geneva peace talks on Syria—a UN-backed conference for facilitating a political transition led by UN Special Envoy Staffan de Mistura—have not been successful in reaching a political resolution, as opposition groups and Syrian regime officials struggle to find mutually acceptable terms for resolving the conflict. A new round of peace talks began in Geneva in May 2017 with an eighteen-person delegation from Syria but has since stalled. Also, in 2017, peace talks initiated by Russia in Astana, Kazakhstan, with Iran, Turkey, and members of Syria's government and armed opposition leaders resulted in a cease-fire agreement and the establishment of four de-escalation zones. However, shortly after the cease-fire was announced, attacks by Syrian government forces against rebel-held areas in the de-escalation zones resumed.")

¹⁹⁷ over eleven thousand air strikes against Islamic State targets in Syria, while the U.S.-led coalition has continued its support for ground operations by the SDF. Turkish troops have been involved in ground operations against the Islamic State since 2016, and have launched attacks against armed Kurdish groups in Syria. Meanwhile, at the request of the Syrian government in September 2015, Russia began launching airstrikes against what it claimed were Islamic State targets, while Syrian government forces achieved several notable

of those airstrikes have been aimed at oil facilities which, while a strategy for military advantage, causes harmful long term effects on the environment, including pollution of the soil, water, and ecosystem.¹⁹⁸ Targeting building and oil facilities are in violation of the Geneva Convention and the Hague Convention; however, it has not stopped them.¹⁹⁹

The United Nations reported that both sides had committed crimes against humanity, including rape, torture, enforced disappearance and murder. The two sides also blocked human supplies such as food, health services and water as a method of war. Thus, the UN Security Council advised that both parties cease the war and cruel methods of war. However, the shelling of populated areas by the government continued leading to deaths. On the other hand, IS demanded that everyone submits to its rules and killed those who refused. The jihadist group also beheaded and massacred religious groups and held hostage so many persons, including Westerners.²⁰⁰

In 2013, hundreds of persons were reported dead after rockets that were filled with nerve agent sarin were fired at several areas in Damascus. Though it was reported that only the government had the means to discharge such a deadly weapon, the government refuted the blame and instead faulted the rebels. In fear of the US intervention, President Assad agreed to the absolute destruction of chemical weapons of Syria. However, the Organisation for the Prohibition of Chemical Weapons recorded more traces of deadly

victories over the Islamic State, including the reclamation of Palmyra. According to the U.S.-led coalition against the Islamic State, 98 percent of the territory formerly held by the group in Iraq and Syria, including Raqqa and Deir al-Zour, has been reclaimed by Iraqi security forces and the SDF.

¹⁹⁸ Wim Zwijnenburg & Annica Waleij, *Fire and Oil: the Collateral Environmental Damage of Airstrikes on ISIS Oil Facilities* New Security Beat (2016), <https://www.newsecuritybeat.org/2016/01/fire-oil-collateral-damage-airstrikes-isis-oil-facilities/>.

¹⁹⁹ *Id* at 1.

²⁰⁰ Rankin, Melinda. "Investigating crimes against humanity in Syria and Iraq: The commission for international justice and accountability." *Global Responsibility to Protect* 9.4 (2017): 395-421.

weapons used on the side of the rebels. In 2015, IS was reported to have used a homemade chemical weapon composed of sulphur mustard.²⁰¹

As a result of the Syrian war, more than 4.5 million Syrians have migrated from the war-torn nation. Most of the immigrants are women and children. Most of them have moved to neighbour countries such as Turkey, Jordan and Lebanon. A lot of them have also moved into Europe. Additionally, most of the Syrians have been displaced within their country.²⁰² It is worth noting that the war in Syria is a non-international armed war. The conflict was between the government and the rebels, who were well organized. However, various crimes against humanity were committed throughout the conflict. Therefore, international humanitarian law applies to it. The actions of the government failed to meet its international duties set by Geneva Conventions of 12 August 1949, Article 3. Article 3 of the Convention prohibited hostilities such as wounding, killing, torturing, or taking hostage against those who were not taking part in the conflict.²⁰³ Instead, the Syrian government killed every person who happened to be on the rebel's side at the time of the war.

The government of Syria used about thirty-three chemical weapons against the rebels between 2013 and 2018.²⁰⁴ The actions by the government of Syria infringed on the provisions of the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD). ENMOD prohibits any state from engaging in hostile or military use of techniques that would establish a prolonged severe effect on the people or the environment in Article 3.²⁰⁵ The use of chemical weapons by the

²⁰¹ Trapp, Ralf. "The use of chemical weapons in Syria: Implications and consequences." *One hundred years of chemical warfare: research, deployment, consequences*. Springer, Cham, 2017. 363-375.

²⁰² Baltes, Chelsea Marie. "Causes and Consequences of the Syrian Civil War." (2016).

²⁰³ The Geneva Conventions Of 12 August 1949; Article 3

²⁰⁴ "HRC." *OHCHR*, www.ohchr.org/en/hr-bodies/hrc/iici-syria/independent-international-commission. Accessed on 27 March 2022

²⁰⁵ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques; Article 1

Syrian government resulted in a humanitarian catastrophe since it affected the Syrian people and the environment. The impact of the use of the chemical lasted for a long time and might be felt by even the next generations to come.

Additionally, protection of human rights in a humanitarian action is one of the norms of international humanitarian law. Therefore, before carrying out any assault on the opponents, Syrian government ought to have mitigated the risks of such an assault.²⁰⁶ In other words, the principles of international law apply in the Syrian war. For instance, Syria is a signatory to the International Convention on Civil and Political Rights (ICCPR). The Convention provides for the right to life. Article 6 of the ICCPR prevents any member state from depriving its citizens of the right to life either through torture or genocide.²⁰⁷ The use of chemical weapons by the Syrian government led to the death of so many individuals. The impact of the chemicals might be felt by many generations to come. The people also have a right to a clean and healthy environment. Chemicals intoxicate the environment making it inhabitable by the locals.

Notably, both sides of the Syrian war contravened the principle of neutrality in international humanitarian law. The supply of humanitarian supplies such as food, medicine, and water should not be interfered with. Humanity is one of the main principles that should be observed. Humanity demands that everyone has the right to life and good health. Thus, the parties should have allowed humanitarian service to supply the victims of the war with the necessary supplements to save human life.

²⁰⁶ Inter-Agency Standing Committee. "Inter-Agency Standing Committee policy on protection in humanitarian action." (2016).

²⁰⁷ International Covenant on Civil and Political Rights

ii. Environmental Consequences of Syrian Conflict

In Syria, there have been studies conducted on the issue of conflict and environmental effects. Some of them will be analyzed in this part. The first study discussed was conducted by Stanford University. The Syrian Civil War caused a sudden change in agriculture and water use according to data analyzed by Stanford researchers.²⁰⁸ The researchers have noted that "it is the first time that we could do large-scale remote sensing analysis in a war zone actually to prove a causal relationship between conflict and water resources."²⁰⁹ "With these new tools, you can do analysis and iterate very quickly- the effects were so strong, it was really easy to see right away."²¹⁰ Another study was conducted by Yoon observed that "the big challenge for us was that it was going to be next to impossible to get on the ground data in Syria".²¹¹ Furthermore, he mentioned that "we could not close the story without this information in Syria – that was what led us to use remote sensing data."²¹² Additionally, a study conducted by Action on Armed Violence (AOAV) shows that heavy use of explosive weapons left a considerable environmental impact.²¹³

Syrian war lasted for a period of eleven years. The Syrian environment was filled with greenhouse gases emitted by various artilleries for more than a decade. The worst of all was the state's continuous use of chemical weapons. At least three core researches had been conducted to reveal the impact of the Syrian conflict on the climate by 2017. These include the research by the Center for Climate and Security in Washington DC conducted by Caitlin

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² *Id.*

²¹³ Jennifer Dathan, *The Reverberating Environmental Effects of Explosive Weapon Use in Syria* by (2019), <https://aoav.org.uk/wp-content/uploads/2019/01/Reverberating-effects-of-explosive-weapons-in-Syria.V5.pdf> (last visited May 13, 2021).

Werrell and Francesco Femia.²¹⁴ The study by Warrel and Femia formed the basis for other studies on the effect of the Syrian war on climate change. Thus, the other two studies include the peer review by Peter Gleick, a scholar, and California and Columbia Universities headed by Kelley et al.²¹⁵

The three studies reached a similar conclusion, that the raging conflict in Syria affected climate change significantly within and the surroundings of Syria. The researchers revealed that climate change was most of anthropogenic nature. The researchers concluded that human activities, also referred to as anthropogenic, heavily contributed to the drought that hit Syria in the early 2000s. Furthermore, the researchers concluded that the prolonged drought led to the internal migration and displacement of Syrians in search of better living conditions. Eventually, the unrest resulted in immigration as people sought to escape the civil war.²¹⁶ However, it is noteworthy that the findings do not prove that climate change resulted in the Syrian war. Though one can argue that the extreme conditions brought about by the impacts of climate change stretched Syrians to their limits, the situation could have worsened during the Syrian civil war.²¹⁷

Pre-Syrian civil war, Syria encountered one of the worst enduring droughts.²¹⁸ Experts have also attributed the long term droughts to anthropogenic activities, taking cognizance that the Eastern Mediterranean used to experience drought seasons. Thus, the drought that hit Syria

²¹⁴ Femia, Francesco, and Caitlin E. Werrell. "Climate Change, the erosion of state sovereignty, and World order." *Epicenters of climate and security: The new geostrategic landscape of the Anthropocene* (2017): 11-19.

²¹⁵ Kelley, Colin, et al. "Commentary on the Syria case: Climate as a contributing factor." *Political Geography* 60.1 (2017): 245-247.

²¹⁶ Selby, Jan, et al. "Climate change and the Syrian civil war revisited." *Political Geography* 60 (2017): 232-244.

²¹⁷ Selby, Jan, et al. "Climate change and the Syrian civil war revisited." *Political Geography* 60 (2017): 232-244.

²¹⁸ Hoerling, Martin, et al. (2012). On the increased frequency of Mediterranean drought'. *Journal of Climate*, 25(6),

pre-civil war was a result of harmful human activities.²¹⁹ The drought took twice the time and brought twice the severity it used to bring.

Syria happens to be located in what the three researchers referred to as the Fertile Crescent. Therefore, to analyse whether indeed the drought in Syria was a result of human activities, researchers have had to expand their research to include neighbouring countries that fall within the Fertile Crescent. The researchers have proved that generally, the precipitation level had fallen by 35% on average.²²⁰ The lowest precipitation was recorded between the years 2007 and 2008.

Migration in Syria as a result of the drought

Arguably, crop failure in Syria over a longer period of time can be attributed to the prolonged drought.²²¹ The collapse of agriculture in the north-eastern governorate of Hasakah resulted in a massive migration of the Syrians from Syria's countryside. Due to the drought, about one million and five hundred people were internally displaced. Additionally, so many people moved into the cities. Thus, the United Nations carried out a drought impact assessment to find out the effect of the drought in Syria. Additionally, the United States media cables collaborated with other international media to cover the adverse effect of the drought, migration and internal displacement of individuals from their homes. The collaboration amongst several international organizations led to a successful drought appeal to aid the Syrian people.²²²

Whether the war Directly or Indirectly targeted the environment

²¹⁹ Mills, Rhiannon (2015). Charles: Syria's war linked to climate change. Sky News (23 November); available at: <http://news.sky.com/story/1592373/charles-syrias-war-linked-to-climate-change> accessed on 27 March 2022

²²⁰ Selby, Jan, et al. "Climate change and the Syrian civil war revisited." *Political Geography* 60 (2017): 232-244.

²²¹ Linke, Andrew M., and Brett Ruether. "Weather, wheat, and war: Security implications of climate variability for conflict in Syria." *Journal of Peace Research* 58.1 (2021): 114-131.

²²² UN-OCHA. (2008). Syria drought appeal, September 2008. New York: UN Office for the Coordination of Humanitarian Affairs, 29 September. available at: [HTTP:// www.unocha.org/cap/appeals/syria-drought-appeal-2008](HTTP://www.unocha.org/cap/appeals/syria-drought-appeal-2008) accessed on 27 March 2022

Whether the war in Syria directly or indirectly targeted the environment is a question of science and fact. Most of the authors relate climate change to the Syrian war. However, they list climate change as one of the roots of the unending war in Syria. For instance, Peter H. Gleick noted that drought always subsisted before the 2011 Syrian war broke out.²²³ The people living around the Mediterranean area always strived to get water and tilt their crops. But with the escalation of the drought in the 2007/8 year the condition worsened and the people felt overstretched.

More so, statistics collected as early as 2006 reveal that there were records of the increasing temperatures in the sea surface.²²⁴ Additionally, several states in the Mediterranean and Northern Africa recorded low levels of humidity and increased the number of days for the drought season, that is, evapotranspiration. This indeed threatened the future of rainy seasons or sources of water in the Mediterranean area and Northern Africa. Therefore, as long as climate change continues to get worse, the political situation in Syria might remain the same until the problem of climate change is addressed.

However, one cannot entirely discredit the harm that a warlike Syrian can do to the environment. For instance, the absence of governance on matters touching on the environment exposes the environment to the harm resulting from wars. Syria has not had a stable system to manage the greenhouse gases emitted in the course of the war. Therefore, one can scientifically prove that the climate change within the areas surrounding Syria and around the world has been boosted by the eleven-year war in Syria.²²⁵

²²³ Gleick, Peter H. "Water, drought, climate change, and conflict in Syria." *Weather, climate, and society* 6.3 (2014): 331-340.

²²⁴ Gleick, Peter H. "Water, drought, climate change, and conflict in Syria." *Weather, climate, and society* 6.3 (2014): 331-340.

²²⁵ "How Does War Contribute to Climate Change?" *CEOBS*, 25 Oct. 2021, <https://ceobs.org/how-does-war-contribute-to-climate-change/> accessed on 27 March 2022

Greenhouse gas emissions during wars are either direct or indirect. Direct emissions include circumstances such as oil spillage during the Syrian war. The oil spillage either occurs at the oil wells or during transport. When fire catches the spilled oil, greenhouse gas emissions are discharged, which harm the environment. Additionally, vegetation does not do well when there is war. With the combination of the harsh climatic conditions in Syria, no one takes their time to plant and water trees. Besides, the drought takes a better share of the available water and vegetation. Additionally, direct emissions can arise from damaged infrastructure that artilleries have hit in the cause of war.²²⁶

During war, indirect greenhouse emissions come from various sectors and are likely to affect even future generations. Notably, the absence of governance in the energy sector during a war does not hinder the demand for energy. Therefore, people resolve to use whatever means at their disposal to get the energy they deserve to keep their wheels up and running during the war. The demand for oil gas in Syria has led to the rise of artisanal oil refining. This, they do without appreciating the knowledge of how harmful the gases emitted to the atmosphere are harmful to the environment.²²⁷ Other than the harmful artisanal oil refining, wood fuelling is also another way through which individuals in Syria.

Another example of how indirect emissions take place is through the Syrians who get displaced from their country to the neighbouring ones. The demand for energy in the countries they seek refuge rises. This means that more oil gases will be supplied to meet the demand and more trees would be used as wood fuel.²²⁸ This contravenes the principle of no-harm rule.²²⁹

²²⁶ "How Does War Contribute to Climate Change?" *CE OBS*, 25 Oct. 2021, <https://ceobs.org/how-does-war-contribute-to-climate-change/> accessed on 27 March 2022

²²⁷ Fekete, Krisztina Anna, and Ágnes Zsóka. "International Security Challenges of Climate Change: Lessons from the Syrian Case for a Multi-stakeholder Approach to Resilient Adaptation." *International Security Management*. Springer, Cham, 2021. 155-170.

²²⁸ Kelley, Colin, et al. "Commentary on the Syria case: Climate as a contributing factor." *Political Geography* 60.1 (2017): 245-247.

²²⁹

Also, the need for humanitarian aid to deliver food, water and shelter to the victims of the Syrian war leaves them with a large carbon print. There is also the possibility of deforestation taking place in a bid to secure shelter for those who flee from the war zones.

Additionally, a lack of governance during a war can lead to more anthropogenic emissions by allowing old technologies to be used. Old technologies can lead to more greenhouse gas emissions than updated ones. A good instance of how old technology can be applied in the war is by combusting oil by-products from excess petroleum gas. This emits a lot of carbon iv oxide into the air, which is very dangerous to the environment. Therefore, despite the rest of the world's upgrading from the old technology, Syria is one of the countries that is still practicing it. Military activities in Syria have also led to desertification and soil erosion. This results in the loss of carbon from the soil. As a result of this, very little carbon gets to sink in the soil.²³⁰

The collapse of governance in the Syrian government has made it miss greatly on international projects geared towards bettering the environment.²³¹ For instance, Syria reported to the United Nations Framework Convention on Climate Change (UNFCCC) for the last time in 2010. The purpose of UNFCCC was to prevent human beings from any human activities that might be dangerous to the climate. Failure of Syria to submit the report prevents from bettering their environment and this harms the international community that is striving to change the harm of climate change. Furthermore, the country fails to benefit from international funds channelled towards investing in renewed energy.²³²

²³⁰ "How Does War Contribute to Climate Change?" *CEOBS*, 25 Oct. 2021, <https://ceobs.org/how-does-war-contribute-to-climate-change/> accessed on 27 March 2022

²³¹ Collins, Sheila D. "13 War, militarism and climate change." *The Common Good and Ecological Integrity: Human Rights and the Support of Life* (2016): 153.

²³² "How Does War Contribute to Climate Change?" *CEOBS*, 25 Oct. 2021, <https://ceobs.org/how-does-war-contribute-to-climate-change/> accessed on 27 March 2022

iii. Use of Chemical Weapons

The Syrian conflict has witnessed the employment of prohibited chemical weapons. The chemicals, such as chlorine and Sarin, are known to cause serious damage to human health and the environment and are actually banned under the 1993 Chemical Weapons Convention (CWC), since World War I.²³³ However, parties in the Syrian war have consistently employed this outlawed means of warfare since 2013. Between 2013 and 2017 alone, there were at least 25 incidences of chemical warfare according to the UN Human Rights Council-mandated Commission of Inquiry on Syria.²³⁴ The use of chemicals such as chlorine gas were reported in areas such as Khan Al Asal, Sarqib, Ghouta, and Jobar.²³⁵ There were also reports of similar attacks in Khan Shaykhun in April 2017 and the use of chlorine gas has become the norm in northern Syria. What is appalling is the fact that the government forces have been responsible for over 20 incidences of chemical warfare in Syria.²³⁶ Additionally, it is significant to note the magnitude by which the non-state actors in the Syrian civil war are violating the international convention prohibiting the use of chemical warfare.

iv. Aggravation caused by the COVID-19 Pandemic

The effects of the pandemic are exacerbated by the war, as well as environmental issues. The oil facilities that pollute the soil due to the airstrikes were a source of income for the country. However, now the money is not worth much.²³⁷ The people are on the verge of

²³³ Brooks, Julia, et al. "Responding to chemical weapons violations in Syria: legal, health, and humanitarian recommendations." *Conflict and health* 12.1 (2018): 1-7.

²³⁴ Human Rights Watch. Attacks on Ghouta: analysis of alleged use of chemical weapons in Syria. 10 September 2013. <https://www.hrw.org/report/2013/09/10/attacks-ghouta/analysis-alleged-use-chemical-weapons-syria>. Accessed 8 Aug 2017.

²³⁵ Brooks, Julia, et al. "Responding to chemical weapons violations in Syria: legal, health, and humanitarian recommendations." *Conflict and health* 12.1 (2018): 1-7.

²³⁶ *Id.*

²³⁷ Mehmet Ozalp, In war-torn Syria, the Coronavirus Pandemic Has Brought Its People to the Brink of Starvation The Conversation (2020), <https://theconversation.com/in-war-torn-syria-the-coronavirus-pandemic-has-brought-its-people-to-the-brink-of-starvation-144794>.

starvation due to the pandemic.²³⁸ If their soil were not contaminated, crops could be planted and grown for food. The collapse of governance systems in towns and cities has resulted in severe problems around waste collection and storage, leading to the outbreak of communicable diseases.²³⁹ The new Coronavirus pandemic COVID-19 was predicted to be a significant tragedy for Syria, which is trying to recover from the decades-long War.²⁴⁰

However, there has been controversy on the numbers produced by the government and morgues and doctors.²⁴¹ After years of devastation, the global pandemic has been especially trying for civilians in conflict zones like Syria, who are forced to face coronavirus outbreaks with minimal resources and poor infrastructure.²⁴² Doctors in Syria have reported that the country is facing an overwhelming but under-reported Covid-19 crisis among a population already beaten down by almost a decade of conflict and economic turmoil.²⁴³ The nurses and doctors are suffering from a dangerous shortage of medical supplies, Personal Protective Equipment (P.P.E.), and testing, with the medical staff being asked to buy their own P.P.E.²⁴⁴ Hospitals in Damascus, Aleppo, Homs, and other cities across the country are overcrowded and lack the essential instruments to deal with a pandemic at such scale because of the war, poor planning, and mismanagement.²⁴⁵

Doctors say that the number of coronavirus infections and deaths has rapidly increased and is far higher than the official figures of the Syrian government or the World Health

²³⁸ *Id.*

²³⁹ *Id.*

²⁴⁰ UN News, COVID-19 Crisis “Unlike Any We Have Dealt with”, as New Tragedy Looms for Syria UN News(2020), <https://news.un.org/en/story/2020/04/1060952>.

²⁴¹ George Baghdadi, Syria May Only Be Counting 1.25% of Its Actual Coronavirus deaths, Study Says [www.cbsnews.com](https://www.cbsnews.com/news/coronavirus-in-syria-deaths-under-counted-amid-civil-war-bashar-assad-regime-blames-sanctions/) (2020), <https://www.cbsnews.com/news/coronavirus-in-syria-deaths-under-counted-amid-civil-war-bashar-assad-regime-blames-sanctions/>.

²⁴² Peace Direct, COVID-19 Has Drastically Hit Civilians and Civil Society in Syria Peace Insight (2020), <https://www.peaceinsight.org/en/articles/covid-19-has-drastically-hit-civilians-and-civil-society-syria/?location=syria&theme=refugees-and-idps>.

²⁴³ The Guardian, I Work as a Medic in Syria, Where an Unreported Covid-19 Crisis Is Unfolding | Anonymous The Guardian (2020), <https://www.theguardian.com/commentisfree/2020/aug/24/medic-syria-covid-19-crisis-health-pandemic>.

²⁴⁴ *Id.*

²⁴⁵ *Id.*

Organization.²⁴⁶ The official numbers were allegedly only 1,593 cases and 60 deaths as of August 16, 2020.²⁴⁷ The medical staff does not believe these figures to be accurate, claiming they have hundreds of unconfirmed coronavirus-related deaths every day.²⁴⁸ The Deputy Director of Health for Damascus estimated the real number of Covid-19 cases to be 112,500 in the Damascus area alone.²⁴⁹ Aleppo hospitals are running out of body bags.²⁵⁰ Every day, the list of healthcare providers who have died from the virus gets longer.²⁵¹ The medical staff claims they are treating patients in dirty rooms without enough medication and with little equipment to protect themselves.²⁵²

Their hospitals are working at over-capacity, with beds and ventilators at capacity, requiring hospitals to turn patients away because there is nothing they can do to help them.²⁵³ Many patients with symptoms now prefer to stay at home than to seek medical care, and people are trying to buy their own oxygen and ventilators or hope for the best without any care at all.²⁵⁴ Medical staff see patients lying in the streets crying out for help.²⁵⁵ Only 300 tests are being performed a day in only five government-run centers.²⁵⁶ The early lockdown was reversed without clear reasons, which sent the wrong message to the public.²⁵⁷ People are not abiding by social distancing and masking guidelines because the masks are expensive.²⁵⁸ People are left with no choice but to open their businesses and go out to work, which is increasing the spread of the virus.²⁵⁹

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ *Id.*

²⁵¹ *Id.*

²⁵² *Id.*

²⁵³ *Id.*

²⁵⁴ *Id.*

²⁵⁵ *Id.*

²⁵⁶ *Id.*

²⁵⁷ *Id.*

²⁵⁸ *Id.*

²⁵⁹ *Id.*

2.3. Conclusion

In summary, War and conflict have caused severe problems in Syria and throughout the Middle East. As noted in the discussions on the other wars, including WWII, the Vietnam War, and the Bosnia war, those conflicts have left devastating harms to the environment and to the civilians trapped within them. The environment has been tremendously affected over the years from the War and conflicts. This is not just a passing result but also from targeted attacks on the infrastructure meant to harm the environment. Although some laws have come about to try and combat this, and the United Nations has proposed additional international laws, as will be duly explored, it is not enough. It could take countries decades to recover from the devastation caused to their infrastructure, environment, and to its people. Furthermore, it could be a daunting task for many countries due to its high cost, not to mention the effects this must have upon global warming. It appears that there is need for stricter international laws and penalties to countries who fail to abide by them if this problem to the environment during conflict is to be eradicated.

It is no doubt that human activities affect the environment. The war in Syria has resulted in damage of buildings, displacement of people and collapse of the government's governance grip. The government has contravened the provisions of the universal humanitarian law and the principles of international law. It has failed to honour its responsibility to respect and protect human rights. As a result, Syria used banned methods of war such as using chemical weapons and cutting off human needs supplies such as food, water and medical supplies. However, the rebel groups and the jihadist group are not without blemishes. The war between the two sides has caused harm to human beings and the environment. Syrians have been forced to flee their homes by the persistent conflict and drought caused by the harsh climatic condition.

Thus, the war activities have immensely participated in worsening climate change over the past decade. As a result of the war, there has not been clear governance on issues pertaining

to the environment. As a result, poor methods of harvesting and burning oil in the country have been utilized, resulting in emissions of greenhouse gases into the atmosphere. Also, neighbouring countries have had to suffer the same harsh environmental fate. Their resources have been overstretched as a result of the present refugees. Therefore, more trees have had to be cut, more fuel gases have had to be burned, and more people have had to be clothed.

The international community has also been forced to contribute towards harming the environment. The international humanitarian organizations have left behind a large carbon print that would be very costly to pay while fulfilling their humanitarian obligation. Most of the Syrian people living in Syria do not have the luxury of appreciating climate change and how it affects them. The worst of this is that the international community has not made any progress in establishing peace between the two sides. Therefore, environmental degradation in Syria will continue until a solution to end the war is found.

CHAPTER THREE – MILITARY MANUALS, NATIONAL LAWS AND IHL ENFORCEMENT

3.1. Introduction

IHL norms require enforcement by states and even non-state actors who are parties to armed conflicts. In 1994 the ICRC specifically developed guidelines that were to help states in incorporating IHL rules into the military manuals and instructions. In 2020, the ICRC has updated these manuals appreciating that other state and non-state organs are equally responsible for implementing IHL norms in ensuring environmental protection during armed conflicts. This Chapter Three looks at the implementation of IHL norms through military manuals and the national laws. The national laws include the criminal codes and environmental laws that should ordinarily apply even at times of war.

3.2. Implementation of IHL Principles in the Military Manuals of States

3.2.1. Germany’ National IHL Practices

The first IHL norm worth considering under this section is Rule 7 of the ICRC Guidelines which provides for the principle of distinction between civilian objects and military objectives. Throughout this thesis, the natural environment is treated as civilian in nature and no military attack should be directed at it irrespective of whether the attack is disproportionate, alters the natural environment or has widespread, systemic and severe effect on it. Germany’s Military Manual (1992) provided for the principle of distinction by prohibiting the employment of “means or methods which are intended or of a nature... to injure military objectives, civilians, or civilian objects without distinction.”²⁶⁰ This meant that throughout its military

²⁶⁰ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, § 454.

expeditions, the German military was prohibited from any indiscriminate attack especially on the environment. At the very least, the principle of distinction provides an indirect protection to the natural environment during armed conflict.

The provision in the Military Manual (1992) reflected a national practice dating back to what a German Minister of State referred to in 1983 as the five basic principles of the law of armed conflict which applied equally to the attacker and the attacked.²⁶¹ The Minister made a statement before the Lower House of Parliament noting that the principle of distinction between civilian objects and military objectives was an important part of IHL principles that Germany ascribed to. Moreover, Germany recognized that the principle of distinction was a well-established rule of customary law, binding on all States in its memorandum to the German Parliament in 1990 while ratifying the 1977 Additional Protocols.²⁶²

Additionally, Germany's Military Manual (1992) limits attack whether in offense or defense only to military objectives.²⁶³ The Soldiers' Manual (2006) also explicitly limits combat operations to the armed forces of the enemies and other military objectives rather than civilian objectives.²⁶⁴ Hence, it is punishable under Germany's law introducing the International Crimes Code (2002) for anyone whether in connection with an international or a non-international armed conflict, to attack civilian objects that are protected under IHL.²⁶⁵ It is therefore possible that perhaps the current national practice would have prevented direct

²⁶¹ Germany, Lower House of Parliament, Statement by Dr Mertes, Minister of State, 14 October 1983, *Plenarprotokoll* 10/29, p. 1927.

²⁶² Germany, Lower House of Parliament, Explanatory memorandum on the Additional Protocols to the Geneva Conventions, *BT-Drucksache* 11/6770, 22 March 1990, p. 111.

²⁶³ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, § 441, § 451.

²⁶⁴ Germany, *DruckschriftEinsatz Nr. 03, Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze, Erarbeitet nach ZDv 15/2, Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, DSK SF009320187, Bundesministerium der Verteidigung, R II 3, August 2006, p. 3.

²⁶⁵ Germany, *Law Introducing the International Crimes Code*, 2002, Article 1, § 11(1)(1).

indiscriminate attacks to the environment during the conduct of operations in World War II as was seen in Chapter 2 of this thesis.

Secondly, Rule 36 captures the principle relating to demilitarized zones. The protection of natural environment requires that the states demilitarize forests and areas of special interests for environmental protection during armed conflicts as will be seen in Chapter 4 of this thesis. The national practice of Germany to this end can be traced in its military manuals. Germany's Military Manual (1992) and Article 60 (paragraph 1) of the 1977 additional protocol provides for the prohibition of attacking demilitarized zones.²⁶⁶ Similarly, Germany's Military Manual (2001) prohibits attacks and occupation of specially protected zones which may include the natural environment.²⁶⁷ The problem of the mechanism of implementation is addressed through the Germany's Law Introducing the International Crimes Code (2002) which makes it an offense to directly attack demilitarized zones.²⁶⁸ This protection offers indirect and partial protection to the natural environment since only demilitarized zones are protected leaving out other localities to direct attack against the natural environment.

Thirdly, the principle against attacking property that is captured under Rule 38 of the ICRC Guidelines is equally included in the national practices of Germany. Germany's Military Manual (1992) notes that any hostilities against property should be avoided and general protection should be accorded to such property.²⁶⁹ Similar protection is accorded in the

²⁶⁶ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, § 461.

²⁶⁷ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, § 461.

²⁶⁸ Germany, *Law Introducing the International Crimes Code*, 2002, Article 1, § 11(1)(2).

²⁶⁹ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, §§ 901–906; see also § 463.

Germany's IHL Manual (1996)²⁷⁰ and Germany's Soldiers' Manual (2006).²⁷¹ Again, these provisions treating attacks on property as grave breaches of IHL²⁷² only offer indirect protection to the natural environment since those parts not forming part of property are left unprotected.

Lastly, Germany has given prominence to protection of the natural environment which is reflected in Rule 43 of ICRC Guidelines. Germany's Law Introducing the International Crimes Code (2002) makes it an offense to cause widespread, long-term and severe damage to the natural environment which could be excessive in relation to the overall concrete and direct military advantage anticipated. The offence attracts a minimum sentence of three years.²⁷³ Further, the Germany's Soldiers' Manual (1991) prohibits the use of means or methods of warfare that may cause widespread, long-term and severe damage to the natural environment.²⁷⁴ A wider prohibition is stated in Germany's Military Manual (1992) which captures both the damage by means of warfare under the 1977 Additional Protocol I as well as weaponization of the natural environment under the ENMOD Convention.²⁷⁵ Similar

²⁷⁰ Germany, ZDv 15/1, *Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze*, DSK VV230120023, Bundesministerium der Verteidigung, June 1996, § 701.

²⁷¹ Germany, *Druckschrift Einsatz Nr. 03, Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze, Erarbeitet nach ZDv 15/2, Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, DSK SF009320187, Bundesministerium der Verteidigung, R II 3, August 2006, p. 8.

²⁷² Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, § 1209.

²⁷³ Germany, *Law Introducing the International Crimes Code*, 2002, Article 1, § 12(3).

²⁷⁴ Germany, *Taschenkarte, Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze, Bearbeitet nach ZDv 15/2, Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, Zentrum Innere Führung, June 1991, p. 5.

²⁷⁵ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, §§ 401 and 403; see also § 1020 (naval warfare).

protections are present in Germany's IHL Manual (1996),²⁷⁶ and Germany's Soldiers' Manual (2006).²⁷⁷

3.2.2. National Practices of IHL in the United States of America

The United States of America is of special interest to this study based on its involvement in World War II and Vietnam war. Like in the preceding analysis, this part will look at the incorporation of some of the IHL principles into the national laws and military manuals of the USA. The principle regarding the distinction between civilian objects and military objectives also forms part of US national practices. The US Air Force Pamphlet (1976) provides that all parties are obliged to respect the distinctions during armed conflicts.²⁷⁸ The same is provided for in the US Naval Handbook(2007).²⁷⁹ The US Air Force Pamphlet (1976) further explains the restrictions of attacks to military objectives by referring to the prohibitions under the Hague Regulations against destruction of enemy property.²⁸⁰ Other military directives limiting attack

²⁷⁶ Germany, ZDv 15/1, *Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze*, DSK VV230120023, Bundesministerium der Verteidigung, June 1996, § 302.

²⁷⁷ Germany, *Druckschrift Einsatz Nr. 03, Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze, Erarbeitet nach ZDv 15/2, Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, DSK SF009320187, Bundesministerium der Verteidigung, R II 3, August 2006, p. 5.

²⁷⁸ United States, *Air Force Pamphlet 110-31, International Law – The Conduct of Armed Conflict and Air Operations*, US Department of the Air Force, 1976, § 5-3(b).

²⁷⁹ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-12.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Homeland Security, US Coast Guard, July 2007, § 5.3.2.

²⁸⁰ United States, *Air Force Pamphlet 110-31, International Law – The Conduct of Armed Conflict and Air Operations*, US Department of the Air Force, 1976, § 5-3(b)(2); see also Field Manual 27-10, *The Law of Land Warfare*, US Department of the Army, 18 July 1956, as modified by Change No. 1, 15 July 1976, § 56.

to military objectives are included in; the US Rules of Engagement for Operation Desert Storm (1991),²⁸¹ the US Naval Handbook (1995),²⁸² and the US Naval Handbook (2007).²⁸³

Rule 36 of the ICRC Guidelines provides for the prohibition against attacking demilitarized zones. The US Air Force Pamphlet (1976) recognizes the creation of demilitarized zones in line with both the 1923 Draft Hague Rules [of Air Warfare] and the 1949 Geneva Conventions.²⁸⁴ However, American rules slightly differ on the recognition of such zones. The US Air Force Commander's Handbook (1980) states that the United States is not bound to respect any demilitarized zone where the USA did not participate or agree to its establishment.²⁸⁵ This practice to recognize only those agreements that the US is part of is in line with the rules and conditions that are provided for under Article 60 of the 1977 Additional Protocol I.²⁸⁶

Further, the US Field Manual (1956) replicates Article 27 of the 1907 Hague Regulations which prohibits attack against property.²⁸⁷ The manual equally recognizes the obligations of the USA under the 1935 Roerich Pact which requires that property be accorded a neutralized and protected status during war.²⁸⁸ In the Vietnam war, the US Rules of

²⁸¹ United States, *Desert Storm – Rules of Engagement*, Pocket Card, US Central Command, January 1991, reprinted in *Operational Law Handbook*, International and Operational Law Department, The Judge Advocate General's School, United States Army, Charlottesville, Virginia, 1995, pp. 8-7 and 8-8, § 2.

²⁸² United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-2.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Transportation, US Coast Guard, October 1995 (formerly NWP 9 (Rev. A)/FMFM 1-10, October 1989), § 8.1.1.

²⁸³ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-12.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Homeland Security, US Coast Guard, July 2007, § 8.2.

²⁸⁴ United States, *Air Force Pamphlet 110-31, International Law – The Conduct of Armed Conflict and Air Operations*, US Department of the Air Force, 1976, § 5-4(c).

²⁸⁵ United States, *Air Force Pamphlet 110-34, Commander's Handbook on the Law of Armed Conflict*, Judge Advocate General, US Department of the Air Force, 25 July 1980, § 3-6(b).

²⁸⁶ Report on US Practice, 1997, Chapter 1.8.

²⁸⁷ United States, *Field Manual 27-10, The Law of Land Warfare*, US Department of the Army, 18 July 1956, as modified by Change No. 1, 15 July 1976, § 45.

²⁸⁸ United States, *Field Manual 27-10, The Law of Land Warfare*, US Department of the Army, 18 July 1956, as modified by Change No. 1, 15 July 1976, § 57.

Engagement for the Vietnam War (1971) committed to protecting the property of Vietnamese. In particular, the US identified the palace compound in the Hue Citadel which the military were to take all necessary measures not to damage.²⁸⁹ Similar prohibitions against attacking property are enshrined in; the US Air Force Pamphlet (1976),²⁹⁰ the US Air Force Commander's Handbook (1980),²⁹¹ the US Soldier's Manual (1984),²⁹² the US Instructor's Guide (1985),²⁹³ the US Rules of Engagement for Operation Desert Storm (1991),²⁹⁴ the US Naval Handbook (1995),²⁹⁵ the Annotated Supplement to the US Naval Handbook (1997),²⁹⁶ and the US Manual for Military Commissions (2007)²⁹⁷ among others.²⁹⁸

Lastly, the principles of protection of the natural environment during war are provided in the national practices of the United States. The US Naval Handbook (1995) notes that the employment of methods and means of warfare should have due regard to the protection and

²⁸⁹ United States, *Rules of Engagement for the Employment of Firepower in the Republic of Viet-Nam*, US Military Assistance Command Viet-Nam, Directive No. 525-13, May 1971, unclassified contents reprinted in Eleanor C. McDowell, *Digest of United States Practice in International Law*, 1975, US Department of State Publication 8865, Washington, D.C., 1976, pp. 814–815, § 6(c).

²⁹⁰ United States, *Air Force Pamphlet 110-31, International Law – The Conduct of Armed Conflict and Air Operations*, US Department of the Air Force, 1976, § 5-5(c).

²⁹¹ United States, *Air Force Pamphlet 110-34, Commander's Handbook on the Law of Armed Conflict*, Judge Advocate General, US Department of the Air Force, 25 July 1980, § 3-5(a).

²⁹² United States, *Your Conduct in Combat under the Law of War*, Publication No. FM 27-2, Headquarters Department of the Army, Washington, November 1984, p. 9.

²⁹³ United States, *Instructor's Guide – The Law of War*, Headquarters Department of the Army, Washington, April 1985, p. 7 & 13.

²⁹⁴ United States, *Desert Storm – Rules of Engagement*, Pocket Card, US Central Command, January 1991, reprinted in *Operational Law Handbook*, International and Operational Law Department, The Judge Advocate General's School, United States Army, Charlottesville, Virginia, 1995, pp. 8-7 and 8-8, § C.

²⁹⁵ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-2.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Transportation, US Coast Guard, October 1995 (formerly NWP 9 (Rev. A)/FMFM 1-10, October 1989), § 8.5.1.6; see also § 8.6.2.2 (protected objects).

²⁹⁶ United States, *Annotated Supplement to the Commander's Handbook on the Law of Naval Operations*, prepared by the Oceans Law and Policy Department, Center for Naval Warfare Studies, Naval War College, Newport, Rhode Island, November 1997, § 8.5.1.6, footnote 122.

²⁹⁷ United States, *Manual for Military Commissions*, published in implementation of the Military Commissions Act of 2006, 10 U.S.C. §§ 948a, *et seq.*, 18 January 2007, Part IV, § 6(a)(3), p. IV-3.

²⁹⁸ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-12.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Homeland Security, US Coast Guard, July 2007, § 8.9.1.6; United States, *Military Commissions Act*, 2009, § 950 (4).

preservation of the natural environment.²⁹⁹ The US Naval Handbook (2007) makes it unlawful to collaterally damage the natural environment in the event of a legitimate military objective and emphasizes that means and methods of warfare should aim at protecting and preserving the natural environment.³⁰⁰ Similarly, the US Air Force Commander's Handbook (1980) prohibits weapons that may cause widespread, long-term, and severe damage to the natural environment.³⁰¹ The same provisions are reiterated in the US Operational Law Handbook (1993).³⁰²

3.2.3. National Practices of IHL in Bosnia and Herzegovina

There are no explicit provisions on principle of distinction in the military manuals of Bosnia and Herzegovina although reports on national practice suggest respect for civilian objects.³⁰³ Bosnia and Herzegovina's Criminal Code (2003) makes it a war crime to attack civilian settlement thereby imputing distinction from those settlements classified as military objectives.³⁰⁴ Similar provisions can also be found in the Federation of Bosnia and Herzegovina's Criminal Code (1998),³⁰⁵ and the Republika Srpska's Criminal Code (2000).³⁰⁶ Rule 36 of the ICRC Guidelines provides for respect of demilitarized zones which are not explicitly provided in any military manual associated with Bosnia and Herzegovina.

²⁹⁹ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-2.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Transportation, US Coast Guard, October 1995 (formerly NWP 9 (Rev. A)/FMFM 1-10, October 1989), § 8.1.3.

³⁰⁰ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-12.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Homeland Security, US Coast Guard, July 2007, § 8.4.

³⁰¹ United States, *Air Force Pamphlet 110-34, Commander's Handbook on the Law of Armed Conflict*, Judge Advocate General, US Department of the Air Force, 25 July 1980, § 6-2(c).

³⁰² United States, *Operational Law Handbook*, JA 422, Center for Law and Military Operations and International Law Division, The Judge Advocate General's School, United States Army, Charlottesville, Virginia 22903-1781, 1993, p. Q-182, § (i).

³⁰³ Report on the Practice of Bosnia and Herzegovina, 2000, Chapter 1.3.

³⁰⁴ Bosnia and Herzegovina, *Criminal Code*, 2003, Article 173(1)(a).

³⁰⁵ Bosnia and Herzegovina, Federation, *Criminal Code*, 1998, Article 154(1).

³⁰⁶ Bosnia and Herzegovina, Republika Srpska, *Criminal Code*, 2000, Article 433(1).

Nonetheless, the Federation of Bosnia and Herzegovina's Criminal Code (1998) provides that it is a war crime to indiscriminately attack demilitarized zones.³⁰⁷ Just like the jurisdictions captured earlier in this paper, demilitarized zones are also protected from attack by the law. The Republika Srpska's Criminal Code (2000)³⁰⁸ as well as Bosnia and Herzegovina's Criminal Code (2003) has provisions on the same.³⁰⁹

Regarding protection of property, the Bosnia and Herzegovina's Military Instructions (1992) prohibits hostilities towards property and any military exposure of such property that may cause damage or destruction.³¹⁰ Further, the Federation of Bosnia and Herzegovina's Criminal Code (1998) provides for severe punishment of anyone who destroys property during armed conflict.³¹¹ Similar prohibitions are contained in the Republika Srpska's Criminal Code (2000),³¹² and the Bosnia and Herzegovina's Criminal Code (2003).³¹³

Lastly, there are no express provisions on the principle against causing serious damage to the environment. However, the Federation of Bosnia and Herzegovina's Criminal Code (1998) makes it a war crime to order or commit "long-lasting and large-scale environmental devastation which may be detrimental to the health or survival of the population."³¹⁴ The same provision is replicated in the Republika Srpska's Criminal Code (2000),³¹⁵ and the Bosnia and Herzegovina's Criminal Code (2003) which prescribes a minimum punishment of ten years for any person who causes long-lasting and large-scale environmental damage.³¹⁶

³⁰⁷ Bosnia and Herzegovina, Federation, *Criminal Code*, 1998, Article 154(2).

³⁰⁸ Bosnia and Herzegovina, Republika Srpska, *Criminal Code*, 2000, Article 433(2).

³⁰⁹ Bosnia and Herzegovina, *Criminal Code*, 2003, Article 173(2)(b).

³¹⁰ Bosnia and Herzegovina, *Instructions on the Implementation of the International Law of War in the Armed Forces of the Republic of Bosnia and Herzegovina*, Official Gazette of ABiH, No. 2/92, 5 December 1992, Item 9, § 1.

³¹¹ Bosnia and Herzegovina, Federation, *Criminal Code*, 1998, Article 164.

³¹² Bosnia and Herzegovina, Republika Srpska, *Criminal Code*, 2000, Article 443.

³¹³ Bosnia and Herzegovina, *Criminal Code*, 2003, Article 183; see also Articles 173(2)(a) and (b) and 179(2)(d).

³¹⁴ Bosnia and Herzegovina, Federation, *Criminal Code*, 1998, Article 154(2).

³¹⁵ Bosnia and Herzegovina, Republika Srpska, *Criminal Code*, 2000, Article 433(2).

³¹⁶ Bosnia and Herzegovina, *Criminal Code*, 2003, Article 173(2)(c).

3.2.4. National Practices of IHL in the Syrian Arab Republic

There are no provisions in the military manuals of Syria regarding the principle of distinction. However, the Report on the Practice of the Syrian Arab Republic notes that Syria recognizes that Article 52(2) of the 1977 Additional Protocol I is part of customary international law.³¹⁷ Accepting the distinction as means that the Syrian military should respect and protect the natural environment as civilian object during armed conflicts especially the civil war. Secondly, there is no provision regarding demilitarized zones in military manuals of Syria. Nonetheless, the reports suggests that Syria regards the provisions of Article 60 of the 1977 Additional Protocol I to be part of customary international law.³¹⁸ Regarding the use of property, the Syrian Arab Republic's Antiquities Law (1950), as amended in 1999 prohibits the establishment of military installations within 500 meters of property.³¹⁹ Lastly, there are no provisions relating to attacks on the natural environment or any commitment by the Syrian government.

3.3. Implementation of Environmental Protection through National Laws

3.3.1. Major Axis States (Nazi) and Major Allied States Laws (Britain) during WWII

WWII was the most destructive war in recent history.³²⁰ Although there is some contestation as to when it started, there is no debate with respect to the antagonist. The main antagonists were Nazi Germany, Japan and Italy, who are also known as the Axis.³²¹ The main protagonists were Britain, Russia, France and the United States.³²² As it discussed in chapter 2

³¹⁷ Report on the Practice of the Syrian Arab Republic, 1997, Chapter 1.3, referring to Statement by the Syrian Minister of Foreign Affairs before the UN General Assembly, 1 October 1997.

³¹⁸ Report on the Practice of the Syrian Arab Republic, 1997, Chapter 1.8.

³¹⁹ Syrian Arab Republic, *Antiquities Law*, 1950, as amended in 1999, Article 26.

³²⁰ HistoryNet, World War II | HistoryNet HistoryNet (2015), <https://www.historynet.com/world-war-ii>.

³²¹ *Id.*

³²² *Id.*

this war was international, and involved many countries and various locations.³²³ In looking at WWII and the applicable domestic laws with regards to the war, this part will focus on both the major Axis players and the major Allied states, as well as other countries since this war involved many countries.

This part will start with the applicable laws for one major Axis state: Nazi Germany. At the time of the War, Nazi Germany was at the forefront of environmental protections, passing groundbreaking laws in that area. In 1935 the regime enacted the Reich Nature Protection Act³²⁴ and the Reich Conservation Act.³²⁵ The acts called for the protection of plant and animal species and provided for conservation areas dedicated to the protection of endangered species.³²⁶ Additionally, the Reich Nature Protection Act called for the protection of animals.³²⁷

In applying those laws, if the Nazis enforced the protections they had laid out in theory, they would have exercised great care within their own country, but would not have carried out minimum care in those countries that they conquered.³²⁸ Other than not actually putting in practice such legislation within his country, Hitler later tried to have all the German infrastructure destroyed as a last resort effort once he realized it was inevitable that he would lose the war.³²⁹ This decree known as the “Demolitions on Reich Territory Decree” ordered on

³²³ See chapter 4 *Infra*.

³²⁴New World Encyclopedia, Third Reich - New World Encyclopedia [www.newworldencyclopedia.org](http://www.newworldencyclopedia.org/entry/Third_Reich) (2020), https://www.newworldencyclopedia.org/entry/Third_Reich.

³²⁵Environment and Society Portal, Reichsnaturschutzgesetz (Reich Conservation Act) Environment & Society Portal (2020), <http://www.environmentandsociety.org/tools/keywords/reichsnaturschutzgesetz-reich-conservation-act>.

³²⁶*Id.*

³²⁷ Kevin Cranney, Blood over Soil: the Misconception of Nazi Environmentalism Blood over Soil: the Misconception of Nazi Environmentalism (2017), https://digitalcommons.providence.edu/cgi/viewcontent.cgi?article=1004&context=history_papers_proj

³²⁸ *Id.* at 7.

³²⁹ Michele Caimmi, Hitler’s Order to Destroy Germany Medium (2020), <https://historyofyesterday.com/hitlers-order-to-destroy-germany-92f532bee938>. (“It is a mistake to think that transport and communication facilities, industrial establishments and supply depots, which have not been destroyed, or have only been temporarily put out of action, can be used again for our own ends when the lost territory has been recovered. The enemy will leave us nothing but scorched earth when he withdraws, without paying the slightest regard to the population.... Therefore, I order: All military transport

March 19, 1945 by Hitler. The decree is also known as the “Nero Decree” and it entailed the destruction of all of the German infrastructure (including those countries under German control) and natural monuments.³³⁰

The Nuremberg Law made the laws that were meant to protect the environment not be deemed important during war times is because they obfuscated everything that was not connected to the main subject of these two pieces of legislation, which had nothing to do with the environment and its protection. The two laws passed collectively known as the Nuremberg laws in 1935 are: the Reich Citizenship Law and the Law for the Protection of German Blood and German Honor.³³¹ The Reich Citizenship Law basically stated that “only people of *German or kindred blood* could be citizens of Germany”.³³² The Law of Protection of German Blood and German Honor basically “banned marriage between Jews and non-Jewish Germans”.³³³ In

and communication facilities, industrial establishments and supply depots, as well as anything else of value within Reich territory, which could in any way be used by the enemy immediately or within the foreseeable future for the prosecution of the war, will be destroyed.”)

³³⁰ Kevin Cranney, *Blood over Soil: the Misconception of Nazi Environmentalism* (2017), https://digitalcommons.providence.edu/cgi/viewcontent.cgi?article=1004&context=history_papers_proj

³³¹ United States Holocaust Memorial Museum, *Nuremberg Race Laws* Ushmm.org (2019), <https://encyclopedia.ushmm.org/content/en/article/nuremberg-laws>.

³³² *Id* (“The Reichstag has unanimously enacted the following law, which is promulgated herewith: Article I 1. A subject of the state is a person who enjoys the protection of the German Reich and who in consequence has specific obligations toward it. 2. The status of subject of the state is acquired in accordance with the provisions of the Reich and the Reich Citizenship Law. Article III 1. A Reich citizen is a subject of the state who is of German or related blood and proves by his conduct that he is willing and fit to faithfully serve the German people and Reich. 2. Reich citizenship is acquired through the granting of a Reich citizenship certificate. 3. The Reich citizen is the sole bearer of full political rights in accordance with the law. Article III The Reich Minister of the Interior, in coordination with the Deputy of the Führer, will issue the legal and administrative orders required to implement and complete this law. Nuremberg, September 15, 1935.”)

³³³ *Id* (“Moved by the understanding that purity of German blood is the essential condition for the continued existence of the German people and inspired by the inflexible determination to ensure the existence of the German nation for all time, the Reichstag has unanimously adopted the following law, which is promulgated herewith: Article 1 [1. Marriages between Jews and citizens of German or related blood are forbidden. Marriages nevertheless concluded are invalid, even if concluded abroad to circumvent this law. 2. Annulment proceedings can be initiated only by the state prosecutor.] Article 2[Extramarital relations between Jews and citizens of German or related blood are forbidden.]Article 3 [Jews may not employ in their households’ female subjects of the state of Germany or related blood who are under 45 years old.] Article 4 [1. Jews are forbidden to fly the Reich or national flag or display Reich colors. 2. They are, on the other hand, permitted to display the Jewish colors. The exercise of this right is protected by the state.] Article 5 [1. Any person who violates the prohibition under Article 1 will be punished with a prison sentence with hard labor. 2. A male who violates the prohibition under Article 2 will be punished with a jail term or a prison sentence with hard labor. 3. Any person violating the provisions under Articles 3 or 4 will be punished with a jail term of up to one year and a fine, or with one or the other of these penalties.] Article 6 [The Reich Minister of the Interior, in coordination

addition, it criminalized sexual relations between Jewish and non-Jewish Germans.³³⁴ These relationships were considered “race defilement”.³³⁵ These two laws were the most important of all the Nazi Germany laws.³³⁶ The laws premised the identity of German people on purity of their blood above all else. This ideology and what the Nazis did to carry it out; eliminating the Jewish people and all other non-pure Germans is what helped to lead to WWII, in addition to the invasion and occupying of surrounding countries.³³⁷ However, their mentality that keeping the German pure race or pure blood was to be upheld beyond anything meant that in war and in upholding same that their environmental protections would be pushed to the periphery.³³⁸

Next, we will look at a major Ally country: Britain. During WWII English Common Law mostly dealt with the rights of individuals to sue and seek remedy. The only piece of common law that could have been applicable to environmental issues at this time was the tort of nuisance. Under English common law there are two types of nuisance private and public.³³⁹ A private nuisance action is “where the actions of the defendant are “causing a substantial and unreasonable interference with a [claimant]’s land or his use or enjoyment of that land”.³⁴⁰ A public nuisance on the other hand is “where the defendant’s actions “materially affects the reasonable comfort and convenience of life of a class of Her Majesty’s subjects and public nuisance is also a crime”.³⁴¹ Looking at this law, we can easily say that during WWII bombs falling on an owner’s property was a private nuisance or a public nuisance when a bomb hit

with the Deputy of the Führer and the Reich Minister of Justice, will issue the legal and administrative regulations required to implement and complete this law.] Article 7 [The law takes effect on the day following promulgation, except for Article 3, which goes into force on January 1, 1936.]”).

³³⁴ *Id.*

³³⁵ *Id.*

³³⁶ *Id.*

³³⁷ Kevin Cranney, *supra*, at 481.

³³⁸ *Id.* at 7-8.

³³⁹ Infogalactic, Planetary Knowledge Core, Nuisance In English Law infogalactic.com (2015), https://infogalactic.com/info/Nuisance_in_English_law.

³⁴⁰ *Id.*

³⁴¹ *Id.*

several persons property, the question becomes how would the party or parties sue under the common law? Would they be able to sue a country or Britain under the common law?

In an 1851 case of *Walter vs Selfe*, a brick maker was sued for manufacturing bricks on his property.³⁴² In this case his neighbor took him to court seeking injunctive relief to stop the burning process because “resulting smoke, vapor, and “floating substances” caused inconvenience and discomfort .³⁴³ The court in this case held that the plaintiffs were entitled to “unpolluted and untainted air,” which he described as “air not rendered to an important degree less compatible, or at least not rendered incompatible, with the physical comfort of human existence” – a phrase to be understood with reference to the climate and habits of England”.³⁴⁴ In an 1894 case *Shelfer v. City of London Electric Lighting Company*, the electric company purchased land adjacent to Waterman arms, put up some buildings and generators some less than 50 feet away.³⁴⁵ The generators caused steam clouds, the engines made noise and caused Waterman Arms to shake.³⁴⁶ This was a disturbance to the guest and caused some of them to get sick.³⁴⁷

They brought an action against them for injunctive relief and damages.³⁴⁸ The court noted that prior to the Lord Cairns’ Act, the plaintiff would be entitled to injunctive relief.³⁴⁹ Lord Cairns Act gave the authority to the courts to award money damages in lieu of injunctive relief.³⁵⁰ However, the three justices who decided this case decided to award injunctive relief noting that “refusing an injunction would “enable a company who could afford it to drive a neighboring proprietor to sell, whether he would or not, by continuing a nuisance, and simply

³⁴²Environment Probe International Org, Appendix B: Private Nuisance Case Summaries Environment Probe(2009), <https://environment.probeinternational.org/appendix-b-private-nuisance-case-summaries/>.

³⁴³*Id* at 1.

³⁴⁴*Id*.

³⁴⁵ *Id* at 30.

³⁴⁶ *Id*.

³⁴⁷*Id*.

³⁴⁸*Id*.

³⁴⁹*Id*.

³⁵⁰*Id*.

paying damages for its continuance”.³⁵¹ The court further set down guidelines for when substituting damages for an injunction would be acceptable”: 1) if the injury to the plaintiff’s legal rights is small; 2) and is one which is capable of being estimated in money; 3) and is one which can be adequately compensated by a small money payment; and 4) and the case is one in which it would be oppressive to the defendant to grant an injunction”.³⁵² At that point damages in substitution for an injunction may be used as the remedy.³⁵³

Looking at those cases it is clear that for private nuisance actions in general, injunction would be the remedy; but would that be enforceable during wartime? Take for instance a situation where Germany dropped a bomb and it damaged your soil in your garden. Would a British court grant an injunction against Germany to stop them from continuing to bomb? Let us say they bombing affected a larger number of people even if the court awarded damages to the plaintiffs how would that stop further bombing by Germany to stop the pollution? How would British Court obtain jurisdiction over Germany? Additionally, being granted an injunction would not reverse the damage of the bombing to the environment. f. All the damage would already be done to the environment and the money received could only go to repairing the damage. The challenges in both the laws for the Axis and the Ally, I would say are enforceability and the forum for enforceability. How can the laws be enforced? Would local tribunals be the best courts to enforce them? It seems that in the context of an ongoing war, an injunction is not a viable option, particularly where massive destruction may be the military strategy. Instead, states are likely relegated to seeking reparations after the war.

³⁵¹*Id.*

³⁵²*Id* at 30.

³⁵³*Id* at 30.

3.3.2. American Tort Law in the Vietnam War

At the time of the Vietnam War, the country had just come from under the control of France and Japan. Southern Vietnam had been a colony of France. However, before that, Vietnam was occupied by China for eleven hundred years until circa 038 A.D.³⁵⁴ At the time of the Vietnam war, the laws of South Vietnam were a mix of French Law and laws based on Confucianism, the Gia Long Code.³⁵⁵ Additionally, both North and South Vietnam were parties to the Geneva Convention of 1949.³⁵⁶ However, each felt the other was not guaranteed the rights under the Geneva Convention and did not comply with the protections afforded prisoners of war under the agreement.³⁵⁷ In South Vietnam, soldiers from the North were captured and labeled as terrorists before being killed..³⁵⁸ Gia Long Code, as noted above, is a set of codes or rules based on Confucianism.³⁵⁹

The code contained 398 articles arranged in 22 volumes.³⁶⁰ The first part of the code “Danh Le” prescribed the general principles on crimes, penalties and the last part “Ti Dan Dieu Liat” (citing provisions of Law), prescribed similar cases of application. The remaining articles of the code were classified into six types corresponding to six types of State affairs undertaken by six ministries in the royal court: “Luat Lai” (law governing the promotion, appointment, recruitment, training of mandarins): 27 articles; “Luat Ho”: (governing marriage, family, land property): 66 articles; “Laut Le” (law on a protocol, royal ceremony): 26 articles, “Luat Binh” (Military Law): 58 articles; “Luat Hinh” (criminal law): 166 articles and “Luat Cong” (law governing public facilities: irrigation works, construction of mausoleums, temples, shrines): 10

³⁵⁴Major General George S. Prugh, *Law at War: Vietnam, 1964-1973* Library of Congress 173 (2006), https://www.loc.gov/r/r/frd/Military_Law/pdf/law-at-war.pdf.

³⁵⁵ *Id.* at 20.

³⁵⁶ *Id.*

³⁵⁷ *Id.*

³⁵⁸ *Id.*

articles.³⁶¹ The Vietnam soldiers both in the South and North committed crimes against the Gia Cong. Looking at all the laws in place, there does not appear to be any direct one for the environment. However, there were strong laws against the destruction of property that could be applied to environmental protection.³⁶²

The Luat Ho included laws that related to land and property, including protections of land and property.³⁶³ The Luat Cong included laws that governed public facilities, irrigation, mausoleums, temples and shrines.³⁶⁴ In protecting those things a protection of the environment is implied complicitly. This is because you cannot generally have bombings and protect land or property, temples, mausoleums, irrigation and public facilities. The bombs could hit and destroy any of them and lead to environmental contamination. However, the penalties for breaking the laws of the Gia Long Code were more for individuals rather than nations. A major punishment for breaking the Gia Long Code was capital punishment which meant death either by beheading some other very harsh means including, garroting, cutting flesh piece by piece or taking eyeballs of the convicted who would suffer from slow death and chopping body of the convicted up into exceedingly small pieces.³⁶⁵

3.3.3. Holding Persons Accountable Under American Tort Law

After the Vietnam War, many lawsuits were brought under International Law in the United States against the United States and the manufacturers of Agent Orange. Those cases brought by Vietnamese nationals were dismissed. On January 30, 2004 the first-ever legal attempt by Vietnamese citizens to seek compensation for the effects of Agent Orange was filed representing millions of alleged Vietnamese Agent Orange victims, in accusing United States

³⁶¹ *Id.*

³⁶² *Id.*

³⁶³ *Id.*

³⁶⁴ *Id.*

³⁶⁵ *Id.*

chemical companies of war crimes for producing and supplying the toxic defoliants used by the United States military in Vietnam.³⁶⁶ Among the United States and international laws they cited were: the War Crimes Act, the 1949 Geneva Convention on the Protection of Civilian Persons in the Time of War and the Geneva Protocol.³⁶⁷ On March 10, 2005, Judge Weinstein of the United States Federal Court in Brooklyn, New York, dismissed the lawsuit by the Vietnamese litigants. He found that the companies were not in violation of international conventions on chemical warfare and, in any event, they were shielded from liability because they were contractors following military orders. Moreover, the United States Government had not banned the use of Agent Orange prior to its use in the Vietnam War and had not been a signatory to any international convention relating to its use.

However, manufacturers of Agent Orange did settle with the American Vietnam War Veterans.³⁶⁸ Looking at the case, on 10 September 2004 the *Vietnam Association for Victims of Agent Orange vs. Dow Chemical*, the plaintiffs brought the action under an alien tort claim rather than a violation of International Law.³⁶⁹ The plaintiffs sought money damages for personal injuries, wrongful death and birth defects and injunctive relief for environmental contamination and disgorgement of profits.³⁷⁰ The District Court determined that Plaintiffs had failed to prove a violation of international law because Agent Orange was used to protect United States troops against ambush and not as a weapon of war against human populations.³⁷¹ Additionally, they noted that the United States implemented the use of herbicides for a defoliation program so that by fighting the war, there would be fewer civilian casualties and

³⁶⁶ Cedric Dawkins, *Dow Chemical and Agent Orange in Vietnam*, 4 *The CASE Journal* 153–165 (2008).

³⁶⁷ Malcolm Gladwell, *Measuring Chemicals' Dangers: Too Much Guesswork?*, *Washington Post*, March 26, 1990, <https://www.washingtonpost.com/archive/politics/1990/03/26/measuring-chemicals-dangers-too-much-guesswork/f53e5c05-0c72-4e0e-b804-162c262c1b0e/>.

³⁶⁸ Reuters Staff, *Supreme Court won't Review "Agent Orange" Lawsuits*, *Reuters*, March 2, 2009, <https://www.reuters.com/article/us-agentorange-lawsuit-idUSTRE5213N120090302> (last visited Aug 13, 2021).

³⁶⁹ *Vietnam Association for Victims of Agent Orange vs. Dow Chemical Co.*, No. 05-1953 (2d. Cir. 2008).

³⁷⁰ *Vietnam Association for Victims of Agent Orange*, No. 05-1953 at 5.

³⁷¹ No. 05-1953 at 7.

more excellent safety for their soldiers and allies, not for purposes of chemical warfare.³⁷² The court stated that Secretary of State Dean Rusk advised President Kennedy in 1961 that “the use of defoliant does not violate any rule of international law concerning -the conduct of chemical warfare and is an accepted tactic of war .”³⁷³

It is important to note that Dow Chemical lost a critical decision abroad in 2006 to a high court in South Korea.³⁷⁴ As a result, Dow and Monsanto had to pay \$62 million in compensation to South Korean veterans of the Vietnam War for medical problems associated with Agent Orange exposure.³⁷⁵ “The court ruled that product design errors by the companies led to higher amounts of dioxin in the defoliants than were necessary and that there was a causal relationship between Agent Orange and the medical problems of South Korean veterans and their families. Dow and Monsanto vowed to appeal the decision.”³⁷⁶

Additionally, after the war ended, some years passed and a new President Clinton settled relations with Vietnam including the Vietnam War 1995 Agreement. Neither did a 2002 Memorandum of Understanding make such provisions.³⁷⁷ The plaintiffs argued that under the Hague Convention and the Geneva Convention the United States actions were destructive.³⁷⁸ However, the U.S Court of Appeals Second Circuit relied on the *Sosa v. Alvarez- Machain* case

³⁷²*Id* at 7. “Herbicides were effective in meeting important United States and allied military objectives in Vietnam. As Assistant Secretary of Defense William Lemos explained: “[O]ne of the most difficult problems of military operations in South Vietnam is the inability to observe the enemy in the dense forest and jungle.” After summarizing the military’s herbicide operations, Admiral Lemos then concluded: “The result is that our forces have been better able to accomplish their mission with significantly reduced U.S. and Vietnamese casualties.” Another Assistant Secretary later explained that the “use of . . . herbicides [in Vietnam] was appropriate and had one purpose — to [s]ave the lives of Americans and our allies.” The record in this case reveals that the policy of the Department of Defense at that time was to “carefully select[]” crop destruction targets “so as to attack only those crops known to be grown by or from the [Viet Cong] or [North Vietnamese Army],” and the Department “ha[d] issued instructions to the Joint Chiefs of Staff to reemphasize the already existing policy that [chemical herbicides] be utilized only in areas remote from population.” Admiral Lemos also stressed that the military had instituted policies intended to ensure that the herbicides were applied only to targets of military significance.”

³⁷³ David Zierler, *The Invention of Ecocide : Agent orange, Vietnam, and the Scientists Who Changed the Way We Think about the Environment* 63–205 (2011).

³⁷⁴ Cedric Dawkins, *Dow Chemical and Agent Orange in Vietnam*, 4 *The CASE Journal* 153–165 (2008).

³⁷⁵*Id* at 7.

³⁷⁶*Id* at 7-8.

³⁷⁷*Id*.

³⁷⁸ *Id*.

to determine the existence of a violation of customary international law and the subsequent application of Alien Tort Law.³⁷⁹ The court found that the defendants did not violate any International Law affirming the lower court's dismissal of their claim.³⁸⁰ The court did not do any analysis of any law based on harm to the environment, and that is because the International Laws at that time did not have adequate International Law that called for the Protection of the Environment during War and Conflict. This is the gap in the Law in times of conflict. States, other actors and even private individuals cannot be held liable since there was no legislation at the time of the war.

The laws that were in place at the time of the Vietnam war that may have governed the war were both the laws of the Vietnam people and American Tort Law. Nevertheless, looking at all the laws in place, there seems not to be any laws that can directly apply to the environment.³⁸¹ For example, there were no solid local laws against the destruction of property that could apply to environmental protection.³⁸² Although it is settled that the soldiers in both North and South Vietnam committed offenses against the Gia Cong, there is no actual forum to enforce the laws.³⁸³ During this civil war, it does not seem that it would be possible to

³⁷⁹ Violation of any well-defined and universally-accepted rule of international law as required by *Sosa v. Alvarez-Machain*, 542 U.S. 692, 124 S. Ct. 2739, 159 L. Ed. 2D 718 (2004). In *Sosa*, the Supreme Court further cautioned courts to be careful in deciding whether an alleged violation of the law of nations could support an Alien Tort Statute (ATS) claimant particular, *Sosa* held that "courts should require any claim based on the present-day law of nations to rest on a norm of international character accepted by the civilized world and defined with a specificity comparable to the features of the 18th-century paradigms" that informed the legislation. *Id.* at 725, 124 S. Ct. 2739. Moreover, these "paradigms" encompassed only "those torts corresponding to Blackstone's three primary offenses: violation of safe conducts, infringement of the rights of ambassadors, and piracy." *Id.* at 724, 124 S. Ct. 2739. Although the Court did not circumscribe ATS claims to include only these offenses, it concluded that any claim must reflect the same degree of "definite content and acceptance among civilized nations" as these historical antecedents. *Id.* at 732, 124 S. Ct. 2739. Whether an alleged norm of international law can form the basis of an ATS claim will depend upon whether it is (1) defined with a specificity comparable to these familiar paradigms; and (2) based upon a norm of international character accepted by the civilized world. *Id.* at 725, 738, 124 S. Ct. 2739

³⁸⁰ *Sosa*, 542 U.S. 692 at 7.

³⁸¹ *Id.* at 19.

³⁸² *Id.*

³⁸³ *Id.*

enforce any local laws against either side as neither side's administration would be in a position to stop and enforce any laws or remedies during the war.

The laws that were enacted as a result of Agent Orange are numerous. Besides the change in International Law, which will be discussed in Chapter 4, there were changes to the laws of the United States, both based on case law and statute. Although the laws of the United States are not wholly relevant, they are discussed as an example of how the United States failed to create adequate laws to shield the environment from harm during war and conflict, just like the Islamic states also were not successful in protecting their environment during the wars in the Middle East. Post-Vietnam war reforms ignored the true atrocities and focused on things that were inconsequential on the large scale. Laws came about for impairing free speech, but none that was to stop the use of such chemical warfare nor for direct protection of the environment.³⁸⁴

There were numerous cases brought against the manufacturers of Agent Orange in the United States.³⁸⁵ Vietnam citizens have been unsuccessful with cases against Agent Orange manufacturers for the damages caused by Agent Orange; however, United States Vietnam Veterans have had significant successes. In 1984 a settlement fund of \$180 million was created for Vietnam Veterans and their families for injuries sustained due to the use of Agent Orange in the Vietnam War.³⁸⁶ The claims were based on health-related issues due to exposure to agent orange during the War.³⁸⁷ The defenses that prevented the Vietnam nationals from succeeding was the government contractor defense.³⁸⁸ It shielded the manufacturers from being sued by the Vietnamese. The settlement eventually paid by manufacturers of Agent Orange

³⁸⁴ Jacob Hillesheim, *How Today's Laws Were Shaped by the Vietnam War Rewire* (2017), <https://www.rewire.org/laws-shaped-vietnam-war/>.

³⁸⁵ See *Supra* Chapter 3.

³⁸⁶ *Id*

³⁸⁷ *Id.*

³⁸⁸ *Id.*

after the lawsuit was mainly to avoid paying for extensive litigation.³⁸⁹ Lastly, the truth that remains throughout the ages Vietnam is still suffering the after-effects of Agent Orange.

3.3.4. National Laws during the Bosnian War

In Bosnia, some laws regulate and seek to protect the environment. However, it does not seem clear that those laws were in place during the war that went from 1992.³⁹⁰ Additionally, the laws are under their criminal code, with the most often charged crime being theft of trees from the forest or illegally chopping down trees.³⁹¹ There are two categories of environmental laws³⁹² The criminal acts being treated differently; some are deemed criminal acts against the environment, which can be punishable with jail time, and there are environmental infractions that fall under misdemeanors which carry other penalties.³⁹³ Those types of laws while they would be effective against individuals would not likely be effective against militant groups during the war unless they were able to capture the leaders and charge them with the offenses and imprison them, as the decision-makers, even though the average soldier may be carrying out the task. It should be noted though, that NATO carried out a lot of airstrikes that damaged the environment as part of a defensive effort.³⁹⁴ All these acts have not been accounted for and no single individual has been charged

³⁸⁹ *Id*

³⁹⁰ Themis Network, Standard Operating Procedure (SOP) Bosnia and Herzegovina: Legal and Judicial Environmental Protection in BiH Themis Network (2020), <http://themisnetwork.rec.org/tools/standard-operating-procedures/bosnia-and-herzegovina-english/bosnia-and-herzegovina/introduction-6/legal-and-judicial-environmental-protection-in-bih.html>.

³⁹¹ *Id.*

³⁹² *Id.*

³⁹³ *Id a.*

³⁹⁴ Michael Beale, *Bombs over Bosnia: the Role of Airpower in Bosnia-Herzegovina*, 1997, pages 1–59, https://media.defense.gov/2017/Dec/27/2001861494/-1/-/1/0/T_0013_BEALE_BOMBS_OVER_BOSNIA.PDF.

3.4. Islamic Laws governing the Environment in times of War

The Middle East is governed by Islamic law and possibly IHL. The IHL is generally inapplicable to internal conflict or civil war. However, the introduction of outside actors like militaries from other countries such as the bombings by the Turks in Syria could open the conflict to International Law jurisdiction. Few works compare the application both Islamic and International law as it applies to war and the environment. The scholar Karima Bennouna who wrote *As-SalamuAlaykum: International Humanitarian Law and Islamic Jurisprudence*, covered many aspects such as the status of war and the fundamental sources of Islamic Law.³⁹⁵

Bennouna assesses basic warfare principles as proposed by the Shari'ah, explaining the fundamental grounds of the Shari'ah law, namely the Quran and the Sunnah. She assessed Islam's peaceful nature through examples of the commands and interpretations, speeches (hadith) of the Prophet Mohammed and his companions.³⁹⁶ Bennouna argued in her work that the current IHL system is based on Western beliefs and, therefore, not truly international.³⁹⁷ She argues thus that this current system should be revised.³⁹⁸ In her work, she writes, “however, that the principles of other cultures are not less valuable and that the current system can indeed learn and take lessons from other cultures, such as the Islamic.”³⁹⁹ The argument that Bennouna “develops in her work is thus that the Islamic jurisprudence consists of principles covering warfare in Islamic ways, which implies that:

- 1) Islamic jurisprudence renders the conduct obligatory and;

³⁹⁵Aida Hadzic, *International Humanitarian Law vs. Shari'ah: the Compatibility of the International Humanitarian Law and the Islamic Jurisprudence*, Academia 73 (2017), https://www.academia.edu/42204105/IHL_v_Shariah.

³⁹⁶*Id.*

³⁹⁷*Id.*

³⁹⁸*Id.* at 14

³⁹⁹*Id.*

2) those sets of rules and norms are not incompatible with the existing rules of International Humanitarian Law.”⁴⁰⁰

Other authors and works focus on related topics, like issues of human rights and Islam.⁴⁰¹ Some argue that comparisons of the laws of human rights on the international sphere with the rights of Islamic law have proved that the human rights of both legal systems are in full harmony; they are compatible and protect the same values and rights.”⁴⁰²

Additionally, it has been noted that "modernist scholars look at the actions of the Prophet as well as at early Muslim conduct of the State when discussing matters of war. Shahi gives numerous examples of the Prophet when he was acting as a peacemaker and concluding treaties.”⁴⁰³ “Some other authors assessed the basic principles of war in Islam. First, an Islamic state is generally obliged to refrain from conducting wars due to differences in religious belief or for the exploitation of other people's resources.”⁴⁰⁴ Those authors note that “war is permitted in order to “defend the faith, the territorial integrity of the state, to defend the oppressed and persecuted of the world, to protect the honor, dignity, and freedom of man, and to preserve peace in the world.”⁴⁰⁵

Another scholar named Munir also assesses some unfounded interpretations of war and warriors, refuting the perpetual war theory, which claims that Muslims are under a continuous state of war against non-Muslims.⁴⁰⁶ He asserts that “hostile relations between the Muslims and non-Muslim communities are an exception to the normal relations that are peace,” and finds contradictions in the jihad theory explained in some classical treaties of Islamic law.⁴⁰⁷

⁴⁰⁰*Id* at 15.

⁴⁰¹*Id.*

⁴⁰²*Id* at 16.

⁴⁰³*Id.*

⁴⁰⁴*Id* at 17.

⁴⁰⁵*Id*

⁴⁰⁶*Id* at 18.

⁴⁰⁷*Id.*

Author and scholar Aida Hadzic note in her publication that Islamic law and International Humanitarian law are “mutually compatible.”⁴⁰⁸ Hadzic evaluated the international humanitarian laws and compared them to Islamic law.⁴⁰⁹ She notes that “both legal systems follow the principles of proportionality and necessity; both legal systems adhere to humanity and general provisions as proscribed by Maritime law.”⁴¹⁰ Maritime law is concerned with the law of the ocean environment and naval ships. She believes that “international humanitarian law may contribute to the Islamic law in its systematization; Islamic law may be able to have a complementary relation to international humanitarian law because it is not contradictory to the main aims and principles.”⁴¹¹ Hadzic feels that the means and methods of warfare are also compatible and she points out that

“international humanitarian law and Islamic law tend to prefer peace over war; both put restrictions on methods of warfare to prevent unnecessary harm; provisions on the right and duties of combatants are compatible with the Islamic law; combatants are not equally treated in the two legal systems because Islam differentiates only between Muslims and non-Muslims, perpetrators and non-perpetrators; non-combatants are protected by international humanitarian law and Islamic law. Human rights, in general, are protected by international humanitarian law and Islamic law; both protect the rights of POWs; international humanitarian law is compatible with the Shari’ah in the case of protection of private and public property (non – military objects); they both seek environmental protection.”⁴¹²

Hadzic says that the existing gap between these two systems is the need for “Islamic legislators and authorities to establish a judicial court, a committee and a system for positive legal obligations binding on Muslim countries and groups. Countries following Sharia’h laws should establish separate systems for prosecuting war-related matters.”⁴¹³

⁴⁰⁸*Id* at 19.

⁴⁰⁹*Id*

⁴¹⁰*Id*

⁴¹¹*Id* at 18.

⁴¹² *Id* at 19-20.

⁴¹³*Id* at 57

Other scholars feel there are weaknesses in some of the laws and not just the system, as Hadzic does. The Sowers Team analysed International Law and its effectiveness with respect to protecting the environment in times of war and conflict. They note that many of the laws in place today result from the aftermath of wars like the Vietnam war.⁴¹⁴ They note that they are a starting point “for analysing the existent legal framework that applies to targeting environmental infrastructure.”⁴¹⁵ However, they feel that the weakness in those laws is the “distinction between military and civilian objects,” which they feel “becomes muddled with dual-use objects, which have greater salience in urban centres. Widespread attacks on dual-use infrastructure systems, e.g., electricity and telecommunications that are used by military and civilian personnel alike put large numbers of civilians at risk and deny them legal protection.”⁴¹⁶

The Sowers Team further argues that “with both international and sub-national actors targeting environmental infrastructures, collateral damage has been extensive in these areas. International law typically deals with collateral damage issues under the principle of proportionality, whereby military decision-makers are expected to consider the potential damage to environmental and civilian infrastructure when making targeting decisions. However, military considerations of collateral damage often do not adequately consider coupled infrastructure effects, such as when a power plant is bombed, and consequently, water and sanitation systems shut down, affecting the health and survival of civilians.”⁴¹⁷ The Sowers Team suggests International Criminal law as an alternative but notes that it is rarely used.⁴¹⁸

⁴¹⁴ Jeannie L Sowers, Erika Weinthal & Neda Zawahri, *Targeting Environmental infrastructures, International law, and Civilians in the New Middle Eastern Wars*, 48 Security Dialogue 410–430 (2017).

⁴¹⁵ *Id.* at 10.

⁴¹⁶ *Id.*

⁴¹⁷ *Id.*

⁴¹⁸ *Id.*

3.4.1. Environment protection under Islamic Law

The domestic law that protects the environment is the Islamic law.⁴¹⁹ These laws offer broad environmental protection, including, but not limited to, the animals, plants, trees, earth and water.⁴²⁰ The principle that protects the environment under Islamic law is called the Prophetic Declaration which essentially confers “that any action which leads to prevention or impairment of the biological and social functions of these elements, whether by devastating or contaminating them with any substances that would make it an unsuitable environment for living things or otherwise reduce its function as the basis of life are prohibited.”⁴²¹

If the environmental protection conferred by Islamic law had been applied to the conflict in Syria, being respected by the government, rebels, and all allies, much environmental damage could have been reduced if not prevented. There is evidence that the Syrian government used chemical weapons during this war.⁴²² Undoubtedly those chemical weapons would contaminate the water, plants, and nature. If this is true, it is in clear violation of Islamic law. In addition, the Syrian government and Russia have allegedly targeted airstrikes against civilian infrastructure.⁴²³ Again, Syrian government activity would be in opposition to Islamic law and cause great harm to the environment and displacement for many Syrians.

The Islamic laws protect the environment and encourage people to protect it in general. In addition, it forbids corruption, vandalism, and prevents the contamination of waters: The Quran states that- “Eat and drink from the provision of Allah, and do not commit abuse on the earth, spreading corruption.”⁴²⁴ Another Ayah states: “do not cause corruption upon the earth

⁴¹⁹See *Supra*, Chapter 3.

⁴²⁰*Id.*

⁴²¹*Id.*

⁴²²See, *supra*-Chapter 4.

⁴²³ “Targeting Life in Idlib” Syrian and Russian Strikes on Civilian Infrastructure, Retrieved December 16, 2020 from <https://www.hrw.org/report/2020/10/15/targeting-life-idlib/syrian-and-russian-strikes-civilian-infrastructure#>

⁴²⁴Surah *Al-Bagarah*, Ayh 60

after its reformation.”⁴²⁵ Also, in different positions of the Quran, Allah Almighty made it clear that corruption or spoilers on earth are not acceptable.⁴²⁶ The Quran highlights the need to preserve the earth from any corruption inflicted in peace or war. An example would be what have written in Surah Al- Bagarah Ayah 205:

“When humankind goes away, he strives throughout the land to cause corruption therein and destroy crops and animals. Therefore, those who believe in Allah remember that Allah does not like corruption, do not forget your share of the world, do good as Allah has done well to your desire, not corrupt in the land. Indeed, Allah does not like corrupters.”⁴²⁷

Also, Islamic law has forbidden the destruction of nature’s elements and blessings in war and fighting. This is derived from the commandment from the father of the son of Abi Sufyan the Messenger of Allah said: “Do not kill sheep or camels except for eating, and do not burn palm and do not flood it.”⁴²⁸ Also, Islam encourages planting until the last second of men's life. Prophet Muhammad (POBH) said: “If the Final Hour comes while you have a palm-cutting in your hands and it is possible to plant it before the Hour comes, you should plant it.”⁴²⁹ So, it is clear that Islam is keen to preserve nature even during the last hour of the end of the world by inviting humankind to keep planting until the last second of life.⁴³⁰

Under Islamic law, destruction of any species of plants or animals cannot be justified: “nor should any be harvested at a rate over its natural regeneration.”⁴³¹ Besides, Allah Almighty created the universe and created the creatures in all its forms, humans, animals, earth,

⁴²⁵ Surah Al- A'raaf, Ayh 56

⁴²⁶ Surah Al- Bagarah Ayh 205

⁴²⁷ *Id.*

⁴²⁸ Cited by al-Bayhaqi, the chapter book of do not fight non-fighting, Classified Ibn Abi Shaybah.

⁴²⁹ صحيح الأدب المفرد 1، محمد ناصر الدين، الباني، Muhammad Nasir Al-Din Albani & Muhammad Ibn Isma'il Bukhari, 1 صحيح الأدب المفرد / للإمام البخاري / Sahih al-adab al-mufrad lil-Imam al-Bukhari 383 (2007).

⁴³⁰ Djamel Ghernaou, (PDF) *Environmental Principles in the Holy Koran and the Sayings of the Prophet Muhammad*, 6 American Journal of Environmental Protection (2017), https://www.researchgate.net/publication/320425124_Environmental_Principles_in_the_Holy_Koran_and_the_Sayings_of_the_Prophet_Muhammad (last visited Nov 18, 2020).

⁴³¹ Abubakr Bagader, Environmental protection in Islam = [La protection de l'environnement en Islam] = [حماية البيئة في الإسلام] / Environmental protection in Islam 150 (2 ed. 1994), <https://portals.iucn.org/library/sites/library/files/documents/EPLP-020-rev.pdf>.

mountains, trees, seas, oceans, and rivers.⁴³² Allah Almighty has made water the basis and origin of life. He says, “We made from water every living thing.”⁴³³ Air is no less important than water for the perpetuation and preservation of life. Nearly all terrestrial creatures are utterly dependent on the air they breathe. Allah Almighty has described the function of the air in the Holy Quran, such as the vitally important role of the winds in pollination, “and we send the fertilizing winds.”⁴³⁴ Once more, whatever is essential to satisfy this necessary commitment is itself mandatory⁴³⁵.

In this manner, any movement which dirties it and ruins or debilitates its capacity is an endeavor to foil and impede God’s shrewdness toward His creation.⁴³⁶ There is no uncertainty that the protection of these essential components is necessary to the conservation and continuation of life in its different structures, plant, creature, and human. It is in this way mandatory, for in Islamic law, whatever is essential to fulfilling the imperative obligation of preserving life is itself obligatory. All are entitled to use it without monopoly, usurpation, despoilment, wastage, or abuse.⁴³⁷

If Islam along these lines is ground-breaking in its insurance of the essential components of nature for the benefit of present and future generations, it is equally earnest in protecting the environment from the harmful impacts of that outcome from activities of human beings. For example, chemical products, wastes, and destruction of wars.⁴³⁸ Damage to all forms and kinds is prohibited in Islam.

⁴³²*Id.*

⁴³³ Surat al-Anbiya' (21), Ayh 30.

⁴³⁴Surah Al- Hajir, Ayh 22.

⁴³⁵Mishkah, Al- Qawa'id Al-Fiqhiyyah “English Legal Maxims of Islamic Jurisprudence” Muslim-library.com 168 (2013), http://www.muslim-library.com/dl/books/English_Legal_Maxims_of_Islamic_Jurisprudence.pdf (last visited Aug 18, 2019).

⁴³⁶AbubakrBagader, *supra* at 683.

⁴³⁷Mishkah, *supra* at 642- 8.

⁴³⁸ *Id.*

It is not only the provisions of the Qur'an that pay attention to the environment but also the Prophetic declarations. One of the fundamental principles of Islamic law, take environmental protection into its consideration. One of the Prophetic declarations is that "there is to be no harm and no reciprocating harm, or harm must be eliminated"⁴³⁹ This code states that humankind must not hurt others by creating harm, and others should not produce harm for revenge.⁴⁴⁰ Another of the most important juristic rules is, "avoiding detriment takes precedence over bringing about benefit."⁴⁴¹ Therefore, any destruction or harm to the environment that directly impacts humans and life in general is prohibited. . "What leads to the prohibited is itself prohibited" Under Islamic principles⁴⁴²

According to the Islamic Code, "A private injury is accepted to avert a general injury to the public"⁴⁴³ Islam aims to preserve the environment as much as possible even though this preserve or prohibition may affect the interests of some individuals.⁴⁴⁴ According to this juristic principle, Islamic law recognizes that all necessary precautions should be taken to protect and minimize the devastation to the environment and human beings.

The Syrian civil war is considered a form of corruption in the environment, which targets and destroys industrial and critical infrastructure and creates hotspots of contamination due to the large quantities of hazardous materials by military bases. Also, civil war cause contamination of the essential elements of the environment, water, air, and food contaminants by chemical weapons and bombing of entire oil refineries. The dilemma here is which tribunal would enforce Islamic law during an internal conflict or civil war? It goes without saying that when a country like Syria is divided by internal conflict, the enforcement of any decisions by

⁴³⁹*Id.*

⁴⁴⁰*Id.*

⁴⁴¹*Id.*

⁴⁴²*Id.*

⁴⁴³*Id.*

⁴⁴⁴ *Id.*

a local court would be almost null. Since it seems unlikely that corrupt administration will apply such laws at the conflict time. In the case of the Syrian war, it is doubtful that if the rebels made applications to the Syrian courts for injunctive relief against the Syrian government, they would hear it and judge it fairly. Additionally, if we say the government is corrupt, who is to say that the court system itself is not corrupt as well? Therefore, how could the court enforce an order?

3.5. Conclusion on the Enforcement Gap

In this section we have mentioned several legislation national pieces on how the environment could have been spared and protected during the studies wars or which could have provided some form of reparation to the damaged caused to the environment. However, like most rules of law, environmental law rules have an enforcement issue and need, most of all, a common and respected authority to implement them. To the relevant conflicts that we have analysed, the belligerents are considered the enforcing authority over the time the conflict lasts, but it can be expected that once the conflict is finished, such enforcement can be forgotten.⁴⁴⁵

In conclusion, during the analysis of wars, national laws have provided some, protections for the environment though limited. However, the absence of enforcement and forums under the domestic laws essentially nullified these protections. In addition, the exceptions contained in the laws further reduced their ability to sustain belligerent conflict that injures the environment. The literature review shows that even with the rightful interpretation of Islamic law, there are still gaps in its writing interpretation as well as in the current body of international laws. Additionally, some countries like Syria have direct laws that cover internal conflict and the environment but there is an issue with its enforcement. The scholar Hadzic is

⁴⁴⁵ Harry H. Almond Jr., *Weapons, War and the Environment*, 3 GEO. INT'L ENVTL. L. REV. 117 (1990).

correct in stating that some sort of legal forum or court system is needed for the Islamic States where parties can be held accountable under the laws would help fill the gaps in the Islamic and International laws. At the very least, the new principles drafted by the United Nations should also be adopted by the Islamic States, which would definitely propel the applicability of it to internal conflicts, such as the international laws apply to external conflicts. However, in many of the civil wars in the Middle East, there are third-parties who have interests at stake. As there is no distinction under Islamic law between internal and external conflict, scholars suggest that Islamic law can fill the gap where needed in legislation as it offers many of the same protections as international law. Is it possible for international environmental law to provide a consistent and enforceable body of law that fills those gaps? This will be seen and analyzed in the following sections.

CHAPTER FOUR: ANALYSIS OF INTERNATIONAL LAWS AND GAPS WITHIN EXISTING LEGISLATION

4.1. Introduction

There are no specific laws aimed at curbing the destruction of the environment and as such the environment has suffered during war time. Such destruction is only partly addressed by International Environmental Law (IEL) and human rights to the environment to a limited extent.⁴⁴⁶ Besides, states have environmental laws that safeguard the environment during peace time which are not very strong in deterring harmful practices.⁴⁴⁷ Moreover, the traditional understanding of military advantage makes these countries to permit environmental degradation as long as it is necessitated by the dictates of war.⁴⁴⁸ Nevertheless, many countries have incorporated IHL principles into their domestic laws and military manuals thus signify a positive development in safeguarding the environment at war time.⁴⁴⁹ However, it is doubtful that the military will have any regard for environmental effects while conducting military assaults or defenses in civil conflicts like that in Bosnia.

Even though countries (all countries not just signatories) are supposed to comply with the Hague Convention, and other treaties in civil conflicts and international conflict, clarity and enforcement remain debatable to date.⁴⁵⁰ Without any precise mechanism for enforcement, it is not likely that the Hague Convention would be routinely complied with.⁴⁵¹ Additionally, it is often part of the military strategy to target infrastructure and destroy it without directly

⁴⁴⁶ International Law Commission, Chapter Vi Protection of the Environment in Relation to Armed Conflict, <https://legal.un.org/ilc/reports/2019/english/chp6.pdf>.

⁴⁴⁷ *Id* at 1.

⁴⁴⁸ Ringdal Gerd Inger, Kristen Ringda & Albert Simkus Simkus, War Experiences and War-related Distress in Bosnia and Herzegovina Eight Years after War www.prio.org (2008), <https://www.prio.org/Publications/Publication/?x=4034>.

⁴⁴⁹ *Id* at 21.

⁴⁵⁰ Adam Roberts, *the Laws of War: Problems of Implementation in Contemporary Conflicts*, 6 *Duke Journal of Comparative & International Law* 11–78 (1995), <https://scholarship.law.duke.edu/djcil/vol6/iss1/3/> (last visited Aug 19, 2021).

⁴⁵¹ *Id* at 21.

targeting the environment yet the buildings and other infrastructure form part of the environment.. Until treaties or laws in place unambiguously address this with exact mechanisms for enforcement, it is unlikely to curb the deliberate and unintentional environmental harms brought by conflict and war. Countries may also want to investigate creating a plan for war times or infrastructure that can withstand war; however, many of these countries are in constant conflict, so this may not be feasible.

This chapter discusses the specific and general treaty law relevant to protecting the environment during armed conflict. The first part of the discussion focuses on the ENMOD Convention, the Geneva Conventions and its Additional Protocol I, the Hague Convention IV and protection of property, the ILC Draft Articles, and the ICRC Guidelines. The following discussion focuses on the principles and rules of war, such as the due regard principle and the military necessity doctrine. Also, this chapter considers the relevant international tribunals responsible for enforcing international obligations such as the ICC and the ICJ. The main objective of this chapter is to answer the thesis question that the existing international laws of war do not cover non-international conflict. Secondly, this chapter seeks to fulfill the research objective, which was to demonstrate the efficiency of the IHL provisions and whether they are direct and specific in the protection they seek to offer. The discussions of this chapter borrow from the history of war already covered under Chapter two, to test the effectiveness of laws to the specific wars. This chapter also demonstrates the response of the international actors to try and address gaps in the legal framework, especially after the Vietnam war and the Arabic Gulf War. Finally, based on the international conflicts and the existing legal framework, this chapter seeks to explain to what extent the same rules and principles could best apply in the Syrian conflict.

4.2. International Humanitarian Law Conventions

4.2.1. Convention on the Prohibition of Military or any Hostile Use of Environmental Modification Techniques (ENMOD Convention) 1976

The ENMOD Convention⁴⁵² is a direct result of the Vietnam war. The Convention aims at establishing a disarmament law that protects the environment during armed conflicts. Ideally, the Convention outlaws using the environment as a means of warfare. The scope of the Convention is on armed conflict especially international armed conflict. The Convention covers the hostilities to the environment. Article 1(2) prohibits states from encouraging or inducing any State, group of States or international organization from committing hostilities to the environment in the context of war. Article 1(2) does not prohibit states from encouraging non-state actors such as belligerent groups, political dissidents and other groups engaging in military and paramilitary activities within the definition of non-international armed conflict. In this sense, Article 1 of the Convention prohibits manipulation of the environment which can cause “widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party.”

Article 2 of the Convention explains the term “environmental modification techniques” to mean all means of intentional alteration of the natural ways, composition and dynamics of the earth including its living organisms, plants, earth surface, water, atmosphere and outer space. This definition can be interpreted to include destruction of plant cover such as the one used in the Vietnam war by the United States as well as oil spillage on water to deny opponents access or food. It is important to note that the Convention was first ratified by the Arab Republic

⁴⁵² Convention on the Prohibition of Military or any Hostile Use of Environmental Modification Techniques, 1979. <http://www.sussex.ac.uk/Units/spru/hsp/documents/ENMOD.pdf>

of Yemen signifying the importance of Middle East Countries to take concrete measures in protecting the environment during war time.⁴⁵³

The ENMOD Convention is limited in a number of aspects and of particular importance to this thesis is the scope of the Convention. However, the first limitation before discussing the scope is the fact that it concerns modification techniques rather than immediate military targets that have damaging environmental impact such as targeting oil facilities. Most of the Middle East countries are oil producing and many at times, internal conflicts may target oil facilities or damage them as collaterals. According to Dinstein (2001), attacks during war time can have severe environmental impact especially when oil facilities are involved.⁴⁵⁴ Unfortunately, the ENMOD Convention does not deal directly with any and all attacks that have direct and indirect environmental impact but instead limits the use of techniques that can cause modification of environment. This means that it is okay for state parties to attack other military targets using arms that are not directed at modifying the environment.⁴⁵⁵

Perhaps the general language of the text is as a result of the disagreements between the then superpowers, the United States and the Soviet Union.⁴⁵⁶ Nonetheless, such evasive language and limitation to modification alone makes it difficult to protect the environment during armed conflicts. The modifications envisaged under the Convention include "earthquakes; tsunamis; an upset in the ecological balance of a region; changes in weather patterns (clouds, precipitation, cyclones of various types and tornadic storms); changes in climate patterns; changes in ocean currents; changes in the state of the ozone layer; and changes

⁴⁵³ Juda, Lawrence. "Negotiating a treaty on environmental modification warfare: the convention on environmental warfare and its impact upon arms control negotiations." *International Organization* 32.4 (1978): 975-991.

⁴⁵⁴ Dinstein, Yoram. "Protection of the environment in international armed conflict." *Max Planck Yearbook of United Nations Law* 5.3 (2001): p. 523.

⁴⁵⁵ Herndon, JM, M. Whiteside, and I. Baldwin. "The ENMOD treaty and the sanctioned assault on agriculture and human and environmental health." *Agrotechnology* 9 (2020): 191.

⁴⁵⁶ Juda, Lawrence. "Negotiating a treaty on environmental modification warfare: the convention on environmental warfare and its impact upon arms control negotiations." *International Organization* 32.4 (1978): 975-991.

in the state of the ionosphere."⁴⁵⁷ None of these are common place and in any event, most of them can be caused by indirect methods and means of war including chemical weapons and weapons that cause earth tremors and massive destruction of places, buildings and other things attached to earth.

Secondly, the EDMOD Convention's scope answers the objective of this thesis which was to demonstrate that the existing laws do not adequately cover environmental damage caused during internal armed conflict. The negotiations of the Convention betrayed any meaningful consideration on the impact of the Convention for two reasons. First, the Convention was as a result of an international conflict in Vietnam. As already seen in Chapter 2 of this thesis, the Vietnam War involved the United States intervening in South Vietnam consequently changing the character of the conflict between the south and the north Vietnam.⁴⁵⁸ The Convention was equally motivated by the technological development at the time which posed a threat of modification of the environment as a weapon in war.⁴⁵⁹

Nonetheless, even in its limited form, the Convention has gained recognition in a number of military manuals and even the guidelines of non-state parties. Roman (2006) traces the prohibition against modification of environment to a number of military manuals including those of Israel, South Korea, and New Zealand.⁴⁶⁰ The same principles are captured in the military manuals of non-state parties to the Convention such as Indonesia thereby signifying general acceptance of the principles as forming part of customary international law.⁴⁶¹ Additionally, the ENMOD rule is reflected in the ICRC Guidelines on the Protection of the

⁴⁵⁷ Dinstein, Yoram. *The conduct of hostilities under the law of international armed conflict*. Cambridge University Press, 2016.

⁴⁵⁸ Reyhani, Roman. "Protection of the environment during armed conflict." *Mo. Env'tl. L. & Pol'y Rev.* 14 (2006): p. 324.

⁴⁵⁹ Ibid.

⁴⁶⁰ Reyhani, Roman. "Protection of the environment during armed conflict." *Mo. Env'tl. L. & Pol'y Rev.* 14 (2006): p. 326; Henckaerts, Jean-Marie. *Customary international humanitarian law: Volume 1, Rules*. Vol. 1. Cambridge University Press, 2005.

⁴⁶¹ Reyhani, Roman. "Protection of the environment during armed conflict." *Mo. Env'tl. L. & Pol'y Rev.* 14 (2006): p. 326.

Environment in Times of Armed Conflict. These guidelines will be discussed later in this chapter as forming part of the international law principles.⁴⁶²

The inclusion of the Convention's rules in the military manuals answers this thesis partially. At the initial stage, this research investigated the effectiveness of international environment law of armed conflict to non-international armed conflicts. The answer is partial because military manuals will be applicable where one of the actors to a non-international armed conflict is the state against a non-state organization. Although the ENMOD Convention would not have applied to the internal conflict, its principles will be binding on the military personnel. Even then, there is a debate on who enforces the military manuals where they are breached.⁴⁶³ A breach of the Convention would lead to accountability at the international courts, tribunals and even actions of the United Nations Security Council. However, disregard of military manuals forbidding weaponization of the environment will be subject to national laws unless such conducts are classified by the UN Security Council as constituting a threat or breach of international peace and security. Consequently, the inclusion of ENMOD rules in military manuals does not guarantee effective implementation of the Convention to non-international armed conflict involving state actors.

The second bit and which was left out on the scope of ENMOD Convention is non-international armed conflicts involving non-state actors. First, although state actors were to some extent bound by their manuals, non-state actors may or may not have manuals. Even if they had manuals, they are not bound by international law to incorporate treaty law into their operations. Although, non-state actors are bound by international customs of war such as the treatment to civilians and other categories of persons protected under the Geneva Conventions. However, customs of war are not the core focus of this thesis and weaponization of

⁴⁶² Ibid.

⁴⁶³ Kelly, Katherine M. "Declaring War on the Environment: The Failure of International Environmental Treaties During the Persian Gulf War." *Am. UJ Int'l L. & Pol'y* 7 (1991): 921.

environment is yet to gain the status of customary law in international humanitarian law. Consequently, it is inevitable to conclude that ENMOD Convention is ineffective in hindering environmental destruction during non-international armed conflicts.

4.2.2. Geneva Conventions of 1949

The Geneva Conventions was a series of international meetings among diplomats that gave birth to a number of agreements, including the Humanitarian Law of Armed Conflicts, a group of international laws for the humane treatment of wounded or captured soldiers, medical personnel and non-military civilians during war or armed conflicts.⁴⁶⁴ The first agreements came about in 1864.⁴⁶⁵ Due to a great effort of Henry Dunant, who was a businessman.⁴⁶⁶ He had traveled to Italy on business and by chance witnessed the “Battle of Solferino, a gory battle in the Second War of Italian Independence”.⁴⁶⁷ This affected him so much that he wrote an account of what he had seen and proposed a solution that ” [a]ll nations come together to create trained, volunteer relief groups to treat the battlefield wounded and offer humanitarian assistance to those affected by war”.⁴⁶⁸ In October 1863 delegates from sixteen countries along with military medical personnel met in Geneva to discuss a wartime humanitarian agreement.⁴⁶⁹ This meeting and the resulting treaty signed by twelve nations is known as the

⁴⁶⁴ History.com Editors, Geneva Convention HISTORY (2018), <https://www.history.com/topics/world-war-ii/geneva-convention>.

⁴⁶⁵ *Id* at 1.

⁴⁶⁶ *Id.*

⁴⁶⁷ *Id.*

⁴⁶⁸ *Id.*

⁴⁶⁹ *Id* at 2.

First Geneva Convention.⁴⁷⁰ It was updated in 1906⁴⁷¹ and 1929⁴⁷². Those were the last updates before World War II.

The Geneva Convention of 1929 covered: medical personnel, facilities and equipment; wounded and sick civilians accompanying military forces; military chaplains; and civilians who take up arms to fight invading forces.⁴⁷³ Article 9 of the Convention specified the Red Cross has the right to assist the wounded and sick and provide humanitarian aid.⁴⁷⁴ Article 12 stipulated the wounded and sick must not be murdered, tortured, exterminated or exposed to biological experiments.⁴⁷⁵ There are no clear provisions in the Geneva Convention of 1929 that would have afforded extra protections based upon crimes against humanity from an environmental standpoint, with maybe the exception of Germany.⁴⁷⁶ Germany defied the Geneva Convention of 1929 committing tremendous crimes against humanity, from its concentration camps, where they exterminated populations of innocent civilians, labor camps, prisoners of war, and other atrocities against civilians.⁴⁷⁷ Germany conducted experiments on civilians and used gas chambers to exterminate them. The argument that Germany's acts against humanity also covered environmental atrocities is a strong one. It can be argued that bombings by Germans in London during World War II repeatedly from 1939 to 1945 caused

⁴⁷⁰ *Id.*

⁴⁷¹ *Id.* at 3. ("The amendments extended protections for those wounded or captured in battle as well as volunteer agencies and medical personnel tasked with treating, transporting and removing the wounded and killed. It also made the repatriation of captured belligerents a recommendation instead of mandatory. The 1906 Convention replaced the First Geneva Convention of 1864.")

⁴⁷² *Id.* at 3. ("The new updates stated all prisoners must be treated with compassion and live-in humane conditions. It also laid out rules for the daily lives of prisoners and established the International Red Cross as the main neutral organization responsible for collecting and transmitting data about prisoners of war and the wounded or killed.")

⁴⁷³ ICRC, Geneva Convention of 27 July 1929 Relative to the Treatment of Prisoners of War - ICRC [Icrc.org\(1998\), https://www.icrc.org/en/doc/resources/documents/misc/57jnws.htm](https://www.icrc.org/en/doc/resources/documents/misc/57jnws.htm).

⁴⁷⁴ *Id.*

⁴⁷⁵ *Id.*

⁴⁷⁶ *Id.*

⁴⁷⁷ Jennifer Rosenberg, *Essential Facts about the Holocaust*, Thought Co, 2020, <https://www.thoughtco.com/holocaust-facts-1779663>.

direct and indirect environmental harm.⁴⁷⁸ Not only were many civilians killed but more than 70,000 buildings were demolished, and another 1.7 million were damaged causing damage to the environment as well.⁴⁷⁹ This is arguably a war crime in the same way as in Palmyra in 2015 in Syria.

The Geneva Convention had rules governing wars that had some protection during wars such as the Vietnam. Unfortunately, the laws in place in both Vietnam and the international laws were not effective.⁴⁸⁰ The failure to comply with the existing laws then could be attributed to a number of factors. First the international laws arguably may not have applied because this was an internal civil war among Vietnamese.⁴⁸¹ Although the United States was involved with the South and very instrumental to South Vietnam, that in and of itself may not trigger international law.⁴⁸² Both North and South Vietnam were parties to the 1949 Geneva Convention.⁴⁸³ The 1949 Geneva Convention protections arguably could have protected people from agent orange in the Vietnam war. However, it would depend greatly upon the circumstances, and the question again becomes that of enforceability. In the circumstances of the Vietnam war, immediate action such as injunctive reliefs were ideal. But then, myriad questions remain to be addressed; could an application for injunctive relief be heard, and if so, when and which forum? It is not clear under the articles of the Geneva Convention if such applications are viable and enforceable by domestic courts without the sanctions of the UN Security Council. Let us say during the Vietnam war, civilians, medical personnel, or volunteers were being exposed to agent orange and sought injunctive relief to prevent its use

⁴⁷⁸ Betsy Mason, Bomb-Damage Maps Reveal London's World War II Devastation Nationalgeographic.com(2016), <https://www.nationalgeographic.com/science/article/bomb-damage-maps-reveal-londons-world-war-ii-devastation#close> (last visited Jan 20, 2021).

⁴⁷⁹ *Id.*

⁴⁸⁰ *Id.* at 20.

⁴⁸¹ *Id.*

⁴⁸² *Id.*

⁴⁸³ *See, Supra* Chapter 4 page 92.

by the United States. Such a claim could be brought under the Geneva Convention as harm to civilians or medical personnel or other non-military people. In such an event, how would they go about making that application during the war? Would it even be possible? Let us further say that the forum was available, and the civilians won the injunction; how could it be enforced against the United States in wartime? What would be the penalty if the United States failed to comply? All these rhetorical questions point to the fact that even with the existing laws, it is still nearly impossible to fully protect the environment from military activities.

The second weakness to the existing law is the fact that the Geneva Convention is more about helping the wounded and treating the soldiers and other military people humanely as opposed to protecting the environment.⁴⁸⁴ However, one could treat the wounded humanely and protect wounded soldiers and people and still cause harm to the environment without directly violating the treaty. For example, one could bomb the forest where they could be no people or civilians but cause significant harm to the environment and ecosystem. Based on this analysis, this research posts that if the Geneva Convention applied to WWII, it would do nothing to change the fate of the environment or even offer any restitution after the harm took place. However, there were many crimes against humanity, and those interested in protecting the environment could push that argument to bring in the environment another factor of crimes against humanity. Besides, there would be need to define attacks towards the environment as a crime against humanity before any such arguments can be made. As it stands, the Geneva Convention has no such provisions.

Equally, the Geneva Convention provides no straightforward remedy for failure to adhere to its provisions.⁴⁸⁵ Although it provides the prohibitions and notes some possible remedies, in the Vietnam case, there is no straightforward remedy for the violations.

⁴⁸⁴ *See, Supra* pages 92-94

⁴⁸⁵ *Id.*

Importantly, there was no clear path to a remedy in the 1949 Geneva Convention.⁴⁸⁶ Again, there is the question of why the court could not grant injunctive remedy to Vietnam? The best answer is that the Vietnam war was an internal conflict, not an international conflict, according to the Geneva Convention 1949.⁴⁸⁷ Similarly, although the United States was an indirect party to the war as an ally to South Vietnam, it necessarily brought the Vietnam war into an international conflict. Again, Geneva Convention 1949 answers the objective of this thesis. One of the objectives was to demonstrate that the existing laws do not adequately cover environmental damage caused during internal armed conflicts like Vietnam civil war. It should be noted that additional protocols took effect in 1977 which would make the Geneva Convention of 1949 applicable to internal conflicts this was however after the end of the Vietnam War.⁴⁸⁸

4.2.3. Additional Protocol I to the Geneva Conventions 1949

Some of the international laws were amended to add in protections for civil wars or internal conflicts, including the Geneva Convention of 1949 which was amended in 1977 after the Vietnam war, known as Additional Protocol I. It directly protects the environment in the Geneva Convention 1949 Additional Protocol 1, Article 35, it provides that “[i]t 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”.⁴⁸⁹ It did however

⁴⁸⁶ *Id.*

⁴⁸⁷ *Id.* at 92.

⁴⁸⁸ *Id.*

⁴⁸⁹ OHCHR, Protocol II Additional to the Geneva Conventions of 12 August 1949 Ohchr.org (1949), <https://www.ohchr.org/EN/ProfessionalInterest/Pages/ProtocolII.aspx>. *See* Article 1 of the Additional Protocol II (Article 1 of Additional Protocol II states that “This Protocol, which develops and supplements Article 3 common to the Geneva Conventions of 12 August 1949 without modifying its existing conditions of application, shall apply to all armed conflicts which are not covered by Article 1 of the Protocol Additional to the Geneva Conventions of 12 August 1949, and relating to the Protection of Victims of International Armed Conflicts (Protocol I) and which take place in the territory of a High Contracting Party between its armed forces and dissident armed forces or other organized armed groups which, under responsible command, exercise such control over a part of its territory as to enable them to carry out sustained and concerted military operations and to implement this Protocol.”).

excluded things like riots and other tensions or sporadic acts similar but not related to armed conflict.⁴⁹⁰ The additional protocol added most of the same protections to internal conflicts as were applicable to the international wars including: humane treatment; protections for the wounded, sick or ship wrecked; and protections for the civilian population.⁴⁹¹ By means of the additional protocols I and II the Geneva Convention was definitely applicable to the Bosnia War.

Based on the analysis of the additional protocols I laws that were in place there are several gaps in the laws that must be pointed out. The first gap has to do with proof. Under the Geneva Convention Protocol I, there is a requirement of proof of intent or expectation.⁴⁹² This requirement alone puts a great burden on the injured party to demonstrate the intentions or expectations of the offending party. Future laws should remove the requirement of showing intent. For example, in the Bosnia case we have discussed in chapter 3⁴⁹³ the court in its holding noted that Bosnia could not make prima facie case showing of a violation of the Geneva Convention of 1949 or prima facie case showing of a violation of the Hague Convention of 1899 and 1907.⁴⁹⁴ The court found that only a prima facie showing of a violation of the Genocide Convention had been demonstrated, and the court did not go into a more in-depth analysis because it needed further evidence.⁴⁹⁵ Obviously, if there is no prima facie showing of a violation of the Genocide Convention, Bosnia may not have been granted any relief under Article 35 protocol I. Although the relief was not sufficient, it was something to begin with.

⁴⁹⁰ *Id* at Article 1(2).

⁴⁹¹ *Id* at Articles 4 through 18.

⁴⁹² *See supra*, Chapter 3.

⁴⁹³ *Id*.

⁴⁹⁴ United Nation, Case Concerning Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina V. Yugoslavia (Serbia and Montenegro)) (Provisional Measures) Un.org(1993), <https://www.un.org/law/icjsum/9328.htm>.

⁴⁹⁵ *Id* at page 6.

This research suggests that a big reason why Bosnia could not make prima facie showing of violation to Article 35 was because of the requirement of a showing of intent or expectation.

There are steps to be taken in order to break down Article 35⁴⁹⁶ of Additional Protocol 1 to the Geneva Convention 1949 to build prima facie case for Syria. First step is to establish that the act constituted a method or means of warfare. Secondly, one has to establish intention or an expectation on the offender's part to cause widespread, long-term, and severe damage. Thirdly, one must demonstrate that the provisions of the said Article apply to the alleged bombing of civilian infrastructure committed by the Syrian government. The first element we could easily demonstrate because bombs are undeniably tools of warfare. Nevertheless, looking at the next element of intent or expectation may be complicated and not easily proven. It would depend on the evidence presumptively if we had a testimony or an affidavit from someone who had firsthand knowledge of the intentions of the Syrian government or discussions they had before the bombing. However, speculation on their intent or expectations may not be enough to make out a prima facie case. Additionally, the intent or expectations must be for widespread, long-term, and severe damage to all three elements, not just one, and this is also a high burden to approve.

Another gap noted in the laws is that except for the Geneva Convention 1949 Additional Protocol 1 Article 35, the laws are not straightforward in protecting the environment during the war. The laws should be specific and direct in their protection to the environment during armed conflicts. Also, states should take precautions to keep our environment safe by training military and officers in command to avoid violating the law. Moreover, Article 35 of Protocol 1 should specify the penalties for violating its provisions.

⁴⁹⁶ OHCH, *supra*, at 688.

Similarly, Article 55(1) of the 1977 Additional Protocol I prohibit use of methods or means of war that can cause damage to the natural environment. Although Article 55 repeats most of the contents of Article 35, it equally adds another scope. The protection includes those acts that cause harm to both the environment and also affect the health or survival of the population.⁴⁹⁷ As already stated, the provisions of the Protocol were drafted in too general terms. The initial test on the methods and means of warfare that are prohibited include widespread, long-term and severe damage. It seems that beyond establishing that a means is employed in a large area covering hundreds of square kilometers. It must equally be established that the means of warfare will last for a season or many months and that the effects of such methods and means are serious.⁴⁹⁸ The last part of Article 55(1) on causing prejudice to the health or survival of the population only seems to elaborate on severity of the means of warfare to the natural environment.

The Additional Protocol I was a result of the Vietnam war just like the ENMOD Convention. The Protocol treats the environment as a victim and prohibits causing environmental damage as a consequence of war. The provisions of this Protocol slightly differ with that of the ENMOD Convention in the sense that the Convention covers acts that target to modify the natural environment rather than those that affect the natural environment. The main difference therefore is that the Protocol treats the environment as a victim of armed conflict while the Convention prohibits using the environment as a method of war.⁴⁹⁹ The two are also similar in their standard of widespread and largescale destruction to the environment. Their scope touches on international armed conflict rather than non-international armed conflict.

⁴⁹⁷ Reyhani, Roman. "Protection of the environment during armed conflict." *Mo. Env'tl. L. & Pol'y Rev.* 14 (2006): p. 328.

⁴⁹⁸ Kelly, Katherine M. "Declaring War on the Environment: The Failure of International Environmental Treaties During the Persian Gulf War." *Am. UJ Int'l L. & Pol'y* 7 (1991): 921.

⁴⁹⁹ Reyhani, Roman. "Protection of the environment during armed conflict." *Mo. Env'tl. L. & Pol'y Rev.* 14 (2006): p. 330- 331.

Hence, it is important at this point to note that the Additional Protocol satisfies the objective of this thesis in demonstrating that the existing body of laws inadequately cover non-international armed conflict.

Furthermore, the Protocol only binds state parties who have ratified it leaving out signatories to cause widespread and largescale damage to the environment. Of particular concern to this thesis was the destruction of environment in the Middle East. The Protocol has achieved less in ensuring compliance with its dictates on environmental harm during armed conflict. The Arabic Gulf war is a demonstration of how both the ENMOD Convention and the Additional Protocol I failed to stop destruction of Kuwait's environment and the Arabic Gulf by Iraq.⁵⁰⁰ Iraq was a signatory to the Protocol but had not ratified the Protocol hence it was not bound to observe the principles against environmental harm on the oil facilities.⁵⁰¹ Iraq targeted oil installations in Kuwait and caused severe environmental harm. Some of the methods employed by Iraq directly targeted the environment as a means and method of warfare thereby invoking the application of the ENMOD Convention. Other acts such as the burning of oil and targeted spillage into the Arabic Gulf creating a slick at least nine miles long was within the realm of Additional Protocol I.⁵⁰²

The Arabic Gulf war was not non-international armed conflict which is the subject of this thesis but it offers useful insights into the discussion on effectiveness of the existing laws. Ideally, international law provisions on laws of war are implemented in military manuals. Under ENMOD Convention, the idea about customary status of protection of environment had

⁵⁰⁰ Szasz, Paul C. "Comment: The Existing Legal Framework, Protecting the Environment During International Armed Conflict." *International Law Studies* 69.1 (1996): 27; Hulme, Karen. "Armed Conflict, Wanton Ecological Devastation and Scorched Earth Policies: How the 1990-91 Gulf Conflict Revealed the Inadequacies of the Current Laws to Ensure Effective Protection and Preservation of the Natural Environment." *Journal of Armed Conflict Law* 2.1 (1997): 45-81.

⁵⁰¹ Kelly, Katherine M. "Declaring War on the Environment: The Failure of International Environmental Treaties During the Persian Gulf War." *Am. UJ Int'l L. & Pol'y* 7 (1991): 921.

⁵⁰² Lara, Blake. "The Failure of Environmental International Law During Times of War." *University of Baltimore Journal of Land and Development* 4.2 (2015): 3.

been mooted. However, the events during the Arabic Gulf War negate any argument that non-state parties may be bound by environmental protection merely because some provisions in their military manuals reflect principles of environmental protection. As already stated earlier, there is no mechanism to ensure compliance with manuals or accountability for breach of such military manuals. In the case of Iraq, even if they had breached the principles against use of environment as a means of warfare, no one could hold them accountable.

Similarly, the Arabic Gulf war provides insights into what would have happened were it a non-international armed conflict between Iraq and a non-state actor. First, there would have been no sufficient deterrence of Iraq such as legal sanctions. Secondly, non-state actors just like Iraq would have acted in a similar fashion. This leaves us with a doubt on the effectiveness of the protection offered under Additional Protocol I not only in the context of international armed conflict but more particularly, non-international armed conflicts. It suffices at this point to answer the thesis question on the negative, that is to say that Additional Protocol I is inefficient in ensuring adequate environmental protection during internal conflicts based on three reasons. First, the Protocol has not attained customary law status. Secondly, the Protocol only applies to state parties and international armed conflict by extension. Lastly, there is no implementation mechanism to ensure compliance by states where non-international conflict involves a state as one of the actors.

4.2.4. Convention (IV) respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 18 October 1907 (Hague IV Convention)

The Hague Conventions are a product of a series of peace conferences that sought to determine customs of war through treaty law. The centrepiece of these conferences was the Hague IV Convention, which is particularly significant in this thesis because it touches on

belligerents.⁵⁰³ Secondly, the Regulations annexed to Hague Convention IV apply to the destruction of the environment during armed conflicts. However, some countries like Italy, one of seventeen countries that did not ratify the 1907 convention, were still bound by the Convention of 1899.⁵⁰⁴ However, it noted that since “[T]he provisions of the two Conventions on land warfare, like most of the substantive provisions of the Hague Conventions of 1899 and 1907, are considered as embodying rules of customary international law. As such, they are also binding on states which are not formally parties to them”.⁵⁰⁵

It is of interest considering that Article 2 of the Hague Convention 1907 at that time stated that “The provisions contained in the Regulations mentioned Article I are only binding on the Contracting Powers, in case of war between two or more of them. These provisions shall cease to be binding from the time when, in a war between Contracting Powers, a non-Contracting Power joins one of the belligerents”.⁵⁰⁶

This provision would make one think that the Convention of 1907 does not apply to countries that were not part of the agreement. Article 3 on the land warfare provides for combatants/soldiers and non-combatants/civilians or possibly medical persons captured to be treated as prisoners of war.⁵⁰⁷ Article 4 provides that the prisoners of war must be humanely treated.⁵⁰⁸ The Hague convention covers numerous more regulations regarding the treatment of prisoners of war.⁵⁰⁹

Article 22 notes that the belligerents have a right to choose the means of war directed towards their enemies. However, this right is not absolute, especially regarding the effect of

⁵⁰³ Terry, James P. "The environment and the laws of war: the impact of desert storm." *Naval War College Review* 45.1 (1992): p. 62.

⁵⁰⁴ *d.*

⁵⁰⁵ *Id.*

⁵⁰⁶ *Id* Article 2.

⁵⁰⁷ *Id* at 4. Annex to the Convention: Regulations Respecting the Laws and Customs of War on Land #Section I : on Belligerents #Chapter I : on The Qualifications of Belligerents - Art. 3.

⁵⁰⁸ *Id* at 5. Annex to the Convention: Regulations Respecting the Laws and Customs of War on Land #Section I : on Belligerents #Chapter I : on Prisoners of War - Art. 4.

⁵⁰⁹ *Id* at 6 through 17.

such wars on the environment. Article 22 is somewhat peripheral in protecting the environment, especially in non-international armed conflict, which concerns non-state actors. There is no guarantee that belligerents will always comply with their manuals. Furthermore, there is the preeminence of the right to arms which gives belligerent entitlements to employ means that are dangerous to the environment in the guise of military necessity. This research argues that prescriptive laws such as Article 22 are largely redundant when deterring non-state actors and no better in holding states accountable. As a result, the environment has remained a victim of belligerent groups that seek advantage over their enemies.

Further, Article 23 is pertinent in part because it states that “Besides the prohibitions provided by special Conventions, it is especially prohibited (a) to employ poison or poisoned arms... (e) to employ arms, projectiles, or material of a nature to cause superfluous injury; (g) to destroy or seize the enemy’s property unless such destruction or seizure be imperatively demanded by the necessities of war.”⁵¹⁰ These articles seem to have some possible bearing on environmental protections. Hence, Article 23(g) limits the destruction of the enemy’s property imperatively to military necessity. Like almost all other related provisions in other conventions, this provision limits the destruction of the property only to the extent necessary for military advantage. It is imperative that belligerents cannot claim military necessity or advantage where they aim to destroy the natural environment or where the effects of the means of war cause severe environmental harm. However, the prescription of this norm is not enough without enforcement.⁵¹¹ In the Arabic Gulf War, the Iraqi forces were prohibited from releasing high volumes of oil into the Arabic Gulf on several fronts. First, although the Iraqi forces had the inherent right to adopt the methods and means of war as necessitated by that war, such right

⁵¹⁰ *Id* at 25- Art. 23.

⁵¹¹ Schmitt, Michael N. "War and the environment: fault lines in the prescriptive landscape." *Archiv des Völkerrechts* 37.1 (1999): 25-67.

was limited to military necessity.⁵¹² Secondly, Iraq issued threats of deliberately attacking the environment, thereby making indiscriminate attacks against conventional military objects. Lastly, the effects of their attack on the oil facilities on the environment outweighed any military advantage.

Moreover, Article 27 states, “[I]n sieges and bombardments all necessary steps should be taken to spare as far as possible edifices devoted to religion, art, science, and charity, hospitals, and places where the sick and wounded are collected, provided they are not used at the same time for military purposes. The besieged should indicate these buildings or places by some particular and visible signs, which should previously be notified to the assailants”.⁵¹³ Article 27 would protect those things from war, which is a positive step to protecting infrastructure and the environment.

The Hague Convention of 1899 and 1907 did not specifically mention any environmental protections. However, some may be implied based on at least two articles, of which are article 23 and article 27.⁵¹⁴ Were the laws of war under the Hague Convention 1907 applied to the Vietnam War? A strong argument could be made that “agent orange” constituted a poison or poisoned weapon in opposition to Article 23. If recognized at the inception of its use, the question is, what would the remedy be? The Hague Convention clearly states that poison or poisonous arms are prohibited, but there is no straightforward remedy of injunctive relief that would stop the party from using the same during the war.⁵¹⁵ Additionally, as noted prior, there is an exception for “unless the necessities of war imperatively demand such

⁵¹² Terry, James P. "The environment and the laws of war: the impact of desert storm." *Naval War College Review* 45.1 (1992): p. 62.

⁵¹³ *Id* at 29 - Art. 27.

⁵¹⁴ *See, Supra* Chapter 5

⁵¹⁵ International Committee on the Red Cross, *supra* at 712.

destruction or seizure of property.”⁵¹⁶ This exception leaves an opening where the United States could say that removal of the forest is imperative or a necessity for war.

Further, Article 3 of the Hague Convention 1907 would also likely be applicable. Scholars debate over whether Article 3 of the Hague Convention, which states that the Convention applies to combatants and non-combatants, can be interpreted to cover civil wars and internal conflicts.⁵¹⁷ The Hague Convention in its Preamble clearly states that only those states that are a party to the agreement are bound by it. However, it also implies that countries still need to comply with those specific customary war provisions. Thus, the Hague Convention applied to the war in Bosnia because it applies to all wars as an aspect of the customary international laws of war.⁵¹⁸ If the laws provided were applied and enforced by the Geneva Convention of 1949 as amended with the additional protocols and the Hague Convention 1907 to the Bosnia war, the outcome for the environment might have been different.

As already noted, the Serbian’s did many bombings and may have even used poisonous gases on civilians.⁵¹⁹ Those actions also caused harm to the environment, and both were in direct violation of both Conventions.⁵²⁰ Bosnia brought a lawsuit seeking injunctive relief against Yugoslavia concerning the Bosnia war before an international tribunal.⁵²¹ It was the second application that Bosnia made, with the first application being made on March 20, 1993, and the order coming down on April 8, 1993.⁵²²

⁵¹⁶ See, *Supra* Chapter 5

⁵¹⁷ James Bond, Application of the Law of War to Internal Conflicts digitalcommons.law.uga.edu 40 (1973), <https://digitalcommons.law.uga.edu/cgi/viewcontent.cgi?article=2203&context=gjicl>.

⁵¹⁸ See, US Committee of the Blue Shield, Convention with Respect to the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 29 July 1899, and Convention respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land. The Hague, 18 October 1907, U.S. Committee of the Blue Shield, Laws and Treaties Protecting Cultural Property 1899 & 1907 Hague Conventions Uschs.org (2019), <https://www.uschs.org/1899---1907-hague-conventions.html>.

⁵¹⁹ See *Supra*, Chapter 3.

⁵²⁰ *Id.*

⁵²¹ United Nation, Case concerning Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina V. Yugoslavia (Serbia and Montenegro)) (Provisional Measures) Un.org(1993), <https://www.un.org/law/icjsum/9328.htm>.

⁵²² *Id* at 1.

Bosnia further requested that the court find that Yugoslavia had violated several other customary international laws and the United Nations Charter.⁵²³ Bosnia asserted that Yugoslavia had committed violations such as; killing, murdering, wounding, raping, robbing, torturing, kidnapping, illegally detaining, and exterminating the citizens of Bosnia and Herzegovina, and was continuing to do so. Besides, Yugoslavia had committed armed attacks against Bosnia and Herzegovina by air and land; had committed aerial trespass into Bosnian airspace, and made efforts by direct and indirect means to coerce and intimidate the Government of Bosnia and Herzegovina.⁵²⁴

In an order dated September 13, 1993, the court held that April 8, 1993's prior order needed to be enforced, but no further provisional measures were indicated.⁵²⁵ Interestingly, the court found no prima facie evidence of jurisdiction based on any other international laws other than the Genocide Convention.⁵²⁶ It was also troubling that the court would not put in place any additional provisional measures when it conceded that new facts and further evidence were presented. Additionally, it was unsettling that the court did not indicate how the provisional measures would or could be enforced.

The decisive argument demonstrates that the Bosnia case lack of efficacy of this tribunal to remedy disputes of this sort in war. Even if there were violations of international laws, this case shows that there are barriers first with international tribunals obtaining jurisdiction and remedy and enforcement issues. Here, Bosnia made applications under the applicable international laws to the international court for relief in 1995, but it took until 1995 before NATO finally intervened. Had that intervention come earlier, maybe lives and the environment could have been saved.

⁵²³ *Id* at.

⁵²⁴ *Id* at 3 - 4.

⁵²⁵ *Id* at 4 - 5.

⁵²⁶ *Id*.

Although this NATO intervention could be interpreted as implying environmental protections, it could be up to interpretation by the forum. The Hague Convention also provides very general protections for warfare on land. However, articles 23 and 27, in a way, arguably offer some slight protections for the environment. As noted above, article 23's reference to prohibitions against poisons and poisoned armed and prohibition against destruction of the enemy property could be interpreted to cover environmental harm.⁵²⁷ Article 27, with its protections for "edifices devoted to religion, art, science, and charity, hospitals," could also encompass environmental harms that would destroy those things.⁵²⁸ If Articles 23 and 27 had been complied with during WWII, there would have been some protection to the environment as they prohibit "employment of poison or poisoned arms... (e) To employ arms, projectiles, or material of a nature to cause superfluous injury; ... (g) To destroy or seize the enemy's property" and "edifices devoted to religion, art, science, and charity, hospitals."⁵²⁹ Also, it could protect against bombings which would cause injury or result in edifices, as mentioned being destroyed possibly and destruction of forest with poisons.

However, although they seem promising, those two Articles have exceptions for "unless such destruction or seizure be imperatively demanded by the necessities of war."⁵³⁰ This exception renders the protections null and void if necessities demand the actions of war which would, of course, be argued for any harm done to the environment. Another provision that directly impacts the protection of the environment during armed conflicts is Article 55. Article 55 obligates belligerents to protect the forests, public buildings, real estates, and agricultural estates in conformity with the rules of usufruct. This principle allows for sustainable usage by occupying forces and, by extension, any fighters who can use but not

⁵²⁷ *Id* at 9.

⁵²⁸ *Id* at 9.

⁵²⁹ United Nation, , *Supra* at 731.

⁵³⁰ *Id*.

destroy the natural environment of the enemy. Whether this provision can be extended to non-international armed conflict is up to debate, although if one of the actors is a state party, they are automatically bound. However, even where states are bound, their tendency to uphold this provision is not guaranteed. The Arabic Gulf war is a good place to start; had state compliance been guaranteed, Iraq would not have destroyed the oil fields in Kuwait. Instead, Iraq was only permitted to exploit the oil facilities in their natural state but not alter them as they did.

Having failed to regulate state action in an international armed conflict context, can Article 55 be said to be more deterring to non-state actors like those in the Syrian civil war? Yes, because the civil war involves the Syrian government, which qualifies as a state actor bound by international law. However, so far, there has been no accountability for those acts committed by government forces that have a devastating effect on the environment. As a result, there is neither any guarantee of deterrence for non-state actors in the Syrian conflict nor to hold them accountable for acts that destroy forests and the natural environment. As a result, the Syrian war has been marked by destructive forest fires and tactical deforestation.⁵³¹

It seems that the international laws, namely the Geneva Convention and the Hague Convention, leave extraordinarily little support for environmental protections during war times. There were charges brought against individual offenders in the Nuremberg Trials, even that was a stretch, and those trials were for violations against humanity and criminal even though there was clear evidence of atrocious acts.⁵³² The Hague Convention prohibits using poisonous arms. Although it is believed that Syria used chemicals against their people, there was no

⁵³¹ Gaafar, Roba. "The Environmental Impact of Syria's Conflict: A Preliminary Survey of Issues." *Arab Reform Initiative* (2021).

⁵³² Tove Rosen, The Influence of the Nuremberg Trial on International Criminal Law - Robert H Jackson CenterRoberthjackson.org (2015), <https://www.roberthjackson.org/speech-and-writing/the-influence-of-the-nuremberg-trial-on-international-criminal-law/>. "As the Nuremberg judges pointed out in 1946, 'The Hague Convention nowhere designates such practices [methods of waging war] as criminal, nor is any sentence prescribed, nor any mention made of a court to try and punish offenders.'"

conclusive evidence; all the reports say it was alleged⁵³³, which means that there could be an issue making out a case that there was a violation of the Hague Convention based on that. Even if a prima facie case could be made out under both the Geneva Convention and the Hague Convention, unless there is a way to enforce the law, it could wind up with environmental harms if the offending party fails to comply with the international tribunal's order as what we saw happened in Bosnia. This research finds that despite the existence of prescriptive norms such as Article 55 of the Hague IV Convention, environmental protection during the Syrian civil war has not been guaranteed due to the limited scope of the Convention's application and the lack of enforcement mechanisms.

4.2.5. UN International Law Commission's Draft Principles on Protection of the Environment in Relation to Armed Conflicts

The ILC draft principles are not binding on any state or belligerent but they reflect the current development in the area of protection of environment in armed conflicts. These principles reflect a more enhanced protective approach towards the environment unlike the treaties. The treaties as has been shown above were largely compromised in favour of states right to adopt the means and methods of war as long as it was necessary to gain military advantage over the enemy. The purposes of the ILC principles are; first, to enhance the protection of the environment in relation to armed conflicts through preventive and restorative measures. Secondly, the principles are intended at reducing victimization of environment by keeping collateral damage during armed conflict to a minimal level.⁵³⁴ The preamble to the Draft Principles provides insightful description that is relevant in understanding the need for protecting the environment. Principle 1 of the preamble classifies the environment as a civilian

⁵³³ Council on Foreign Relations, Civil War in Syria Global Conflict Tracker (2019), <https://www.cfr.org/global-conflict-tracker/conflict/civil-war-syria>.

⁵³⁴ The text proposed by the Special Rapporteur, in her second report (A/CN.4/685).

object which cannot be attacked by states or non-state actors unless it becomes a military objective. The provisions adds that the environment is to be respected and protected in a manner consisted with international law and in particular, international humanitarian law.

Principle 2 of the preamble make reference to the fundamental principles and rules of international humanitarian law such as the principles of precautions in attack, distinction and proportionality and the rules on military necessity as applicable in the protection of the environment. Some of these principles and rules will be discussing later in this Chapter 4. The preamble is important because of its characterization of the environment as a civilian object. The treaties that have so far been discussed in this Chapter lack precision on what description to give to environment in the context of armed conflict. As such, the ENMOD Convention only concerns its modification as a method or means of weapon. Secondly, the Additional Protocol I to the Geneva Conventions treats the environment as a victim of war rather than civilian object. The essence of classifying the environment as civilian is that it is easier to hold individuals accountable for crimes against civilian objects such as the environment.

Principle 4 of the preamble notes that attacks against the natural environment by way of reprisals are prohibited. This means that both state and no-state actors must never use the environment to revenge against their enemy. In other words, the correct military objects would be the combatants themselves rather than forests, buildings and the natural environment. In the Arabic Gulf War, Iraq took revenge by bombing and burning oil facilities in Kuwait and spilling lots of barrels on the Arabic Gulf as a retaliation for the intervention of UN forces. This was a clear breach of this principle against attacking the natural environment in revenge. More particular to this thesis is the destruction of agricultural land, crops and burning of forests in the Syrian conflict. The damages to forests and target on food crops and fields are done to retaliate against the enemies and impose suffering on civilians rather than to gain any military

mileage. It constitutes a direct attack on the environment and the Syrian conflict is a perfect example of when Principle 4 should apply.

Principle 5 notes that states should designate areas of major ecological importance as demilitarized zones before the commencement of an armed conflict, or at least at its outset. Whereas this provision seems important, it is superfluous at the onset because the environment is indivisible and an attack at the areas of least ecological importance may have severe impact everywhere including those demilitarized regions. Again, whereas states have the advantage of demilitarizing some areas, the same is not applicable to non-state actors. The use indiscriminate attacks by belligerents has devastating harm on the environment as can be seen in the Syrian conflict. Consequently, Principle 5 would be difficult to achieve even where states are part of civil wars. In any event and like all other provisions, the accountability and deterrence of harm to the environment is never guaranteed.

The main body of the Draft Principles reiterate most of the provisions that have already been discussed under the preamble. For instance, Draft Principle I-(x) provides the designation of protected zones in similar terms as under the preamble. Draft Principle II-1 protects the environment in similar terms as Principle 1 above, save that it adds that the protection should be against widespread, long-term and severe damage. This second paragraph of Draft Principle II-1 is reflective of the acceptable standard when it comes to analyzing harm to the environment in the context of armed conflict. Similarly, Draft Principle II-2 reiterate the application of the principles and rules on distinction, proportionality, military necessity, and precautions in attack in the protection of the environment during armed conflicts. Finally, draft Principle II-4 prohibits attacks against the natural environment by way of reprisals in similar terms as the preamble.

The Draft Principles largely mirror the provisions of both the ENMOD Convention and the Additional Protocol I. However, the scope of the principles seems to stretch to civil wars

especially in defining the environment under the preamble. The definition of armed conflict in the Draft Principles include a situation in which there is resort to armed force between States or protracted resort to armed force between governmental authorities and organized armed groups or between such groups within a State. By analogy, it can be implied that the principles aim at addressing environmental harm arising during internal armed conflicts rather than international armed conflict which is often stated in treaties including the ENMOD Convention. Nonetheless, it cannot be concluded that the Draft principles sufficiently deter belligerents in non-international conflicts from causing serious harm to the environment. Similarly, it is debatable whether all the principles can be lumped into one treaty. Well, at face value, it is possible to include all the principles and some IHL treaty provisions into one comprehensive treaty document. The first challenge however will be getting all states to agree to all the principle. It can be argued that most states that have in the past conducted military operations may water down the language of such a treaty, enter reservations or fail to ratify it all together.

4.2.6. ICRC 2020 Guidelines on the Protection of the Natural Environment in Armed Conflict

These ICRC Principles have already been referred to above under the ENMOD discussion as showing a tendency of states to embrace environmental protection principles during armed conflicts. This section discusses the 2020 Guidelines noting that there have been improvements since 1994. Like the ILC Draft Articles discussed above, the ICRC Guidelines introduce the vital aspect of natural environment as a civilian object. The Guidelines characterise the natural environment as civilian in nature. Although the guidelines peg the civilian nature of the environment on state practice, the ILC's work on the protection of the environment in relation to armed conflicts and works of scholars, nothing shows that states have ever treated this characterization seriously. The only lip service that states have given is

the non-enforceable manuals and the General Assembly discussions. When it comes to the actual observance of this rule of treating the natural environment, states have disregarded it. The actions of the United States in the Vietnam war and the conduct of Syrian war are just but the tip of the problem of arguing for state practice. Although Vietnam ended in 1975 almost twenty years before the first series of ICRC Guidelines, it is still arguable that the 1994 Guidelines must have considered state practice stretching past the Vietnam war.

Constantly, the question remains that where states are unbowed in harming the environment during international armed conflict, can they behave better in civil wars against non-state actors. Even more pressing issue is the fact that these rules do not bind non-state actors during non-international armed conflicts. This research found that both the state and non-state actors were not bound in practice by the requirement to treat the environment as a civilian object. The guidelines argue that the treaty provisions ought to apply during armed conflict which can be construed as the correct position. However, how does a treaty ensure compliance and accountability first to non-state parties and by extension non-state actors. This research argues that the existence of the rules alone is not sufficient to deter causing harm to the environment during armed conflict. Equally, this research argues that the failure to pronounce the civilian character of the environment as towards all undermines all other provisions aimed to protect the environment.

Rule 1 of the Guidelines provides for the due regard principle which necessitates that the means and methods of war have due regards to the protection of the environment. This rule which appears in almost all the environmental law conventions as well as IHL conventions and treaties is overly broad and has no punitive or redress mechanism where it is disregarded. Secondly, Rule 2 reiterates the prohibition against widespread, long-term and severe damage to the environment. This rule focuses on the means and methods that cause environmental harm and seems to merge similar provisions of the ENMOD and Additional Protocol I. The

Guidelines argue that this rule establishes a norm of customary international law applicable in international and note that it also applies to non-international conflicts. Notably, paragraph 49 of the Guidelines claims that the rule offers an absolute prohibition and thus acts as a powerful constraint against harming the environment.⁵³⁵ However, this rule which has already been discussed above is superfluous and does not provide specific and direct protection as the Guidelines claim. The requirement that the harm must be widespread, long-term and severe means that there is permissible damage. What constitutes widespread and long-term remains undefined as well. This research argues that environmental harm need not be widespread nor long-term in order to gain protection of IHL and therefore the Guidelines just like treaty law fails to offer adequate protection to the environment.

The provisions in the Guidelines are a summary of the existing laws of war and the protection that they offer for the environment. The Guidelines are state centered and offer the least in terms of restraint towards non-state actors in the context of non-international armed conflict. The approach towards reinforcing the civilian nature of the environment is laudable and there is need to include this in the Geneva and Hague Conventions. There is also a need for the Guidelines to move away from arguing the existence of customary international law where past wars have shown that nothing much happens during war to either restrain or hold states accountable.

4.3. Principles on the Protection of Civilian Objects

4.3.1. Limitations of the ‘military necessity’ concept

⁵³⁵ United States Army, Operational Law Handbook, 2015, p. 333.

Military necessity is one of the essential principles of the international law of armed conflict. However, most are misunderstood and misrepresented.⁵³⁶ Military workers have invoked these principles to defend any violent measures believed necessary to succeed in a given battle.⁵³⁷ It has also been dismissed by human rights groups, non-states actors, and other critics of the armed forces as a typical military justification to explain away terrible collateral damage in modern military operations.⁵³⁸ The doctrine of military necessity underlines the legal norms that define the circumstances in which states can make use of force are restricted, and the limits and restraints on the use of force fail.⁵³⁹ Historically, it did impose residual constraints upon the scope of lawful destruction during wartime. Modern application of the principle of necessity is restricted to using force in self-defence. Additionally, use of force permissible under the collective security system established under the United Nations Charter and aims to maintain international peace and security.⁵⁴⁰ While the goal of conflict is to achieve the enemy's capitulation, this should be performed in a way that does not cause unnecessary damage. This limitation is not necessarily humanitarian since it has political and economic considerations.⁵⁴¹ Accordingly, such restraints on the necessity doctrine have been codified, and rules have been written on how armed forces should be internally controlled and disciplined. It could be seen in Article 14 of the Lieber Code, which states that "Military necessity, as understood by modern civilized nations, consists in the necessity of those

⁵³⁶ David Turns, *Military Necessity* Oxford Bibliographies (2017), <https://www.oxfordbibliographies.com/view/document/obo-9780199796953/obo-9780199796953-0008.xml>.

⁵³⁷ *Id.*

⁵³⁸ *Id.*

⁵³⁹ Judith Gardam, *Necessity Proportionality and the Use of Force by States* 288 (2004).

⁵⁴⁰ UNESCO, *Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention* United Nations Educational, Scientific and Cultural Organization (1954), http://portal.unesco.org/en/ev.php-URL_ID=13637&URL_DO=DO_TOPIC&URL_SECTION=201.html.

⁵⁴¹ Chris Af Jochnick & Roger Normand, *The Legitimation of Violence: a Critical History of the Laws of War* teachers.colonelby.com 1–55 (1994), <http://teachers.colonelby.com/krichardson/Grade%2012/Carleton%20-%20Int%20Law%20Course/Week%202/LegitimationViolence.pdf>.

measures which are indispensable for securing the ends of the war, and which are lawful according to the modern law and usages of war.”⁵⁴²

Nowadays, excessive force is limited to specific rules of law. However, in practice, “the principles of military necessity and humanity are unlikely to restrict the use of force against legitimate military targets beyond what is already required by specific provisions of IHL.”⁵⁴³ The task of the law of armed conflict is to balance the demands of military necessity against humanitarian concerns. The necessity enthralled in this concept means that a forceful response has to be proportionate to the legitimate aims. It has the legal function of being both an enabling and constraining principle regarding military strength in armed conflicts.

However, what has proven to be an issue in limiting the military necessity when attempting to reach an agreement is the large number of States that have different military capabilities. These end up privileging military needs instead of humanitarian and environmental considerations. Additionally, the military necessity doctrine has been suffering from a growing number of limitations on the means and strategies of waging war. Means of war varied from the bombings in WWII to agent orange in Vietnam, and the perception that rules are too strict becomes an issue when the military is asked to adhere to such limitations.⁵⁴⁴

Also, what is interesting to note regarding the limitations of said doctrine is that:

“There are certain rules of international warfare so firmly established that no employment of the doctrine of necessity will excuse their violation unless the rule itself contains a more or less definitive statement of the circumstances under which violations because of this plea will be excused. This theory holds, in other words, that the doctrine of necessity should be limited to those circumstances in which the law has in advance given an express sanction for its use.”⁵⁴⁵

⁵⁴² The Editors of Encyclopaedia Britannica, Francis Lieber | American Philosopher and Jurist Encyclopedia Britannica (2021), <https://www.britannica.com/biography/Francis-Lieber>.

⁵⁴³ Nils Melzer Melzer, *Interpretive Guidance on the Notion of Direct Participation in Hostilities under International Humanitarian Law*, 90 International Review of the Red Cross 991–1047 (2008).

⁵⁴⁴ Onita Das, *Environmental Protection in Armed Conflict: Filling the Gaps with Sustainable Development*, 82 Nordic Journal of International Law 103–128 (2013).

⁵⁴⁵ Dietrich Schindler & Jiri Toman, *The Laws of Armed Conflicts*, 22 International Review of the Red Cross 310 (1982).

Therefore, one may note that if a recommendation of international environmental law and tribunal is formed, such as the one we discuss further in this thesis. The military necessity doctrine, which has served to bypass the humanitarian and environmental aspects of conflicts, should be sturdy and straightforward, with not too many elements to it, strengthening its position in the international community. Also, make it easier for different States, with their military, to adapt and embrace such recommendations.

4.3.2. ‘Due Regard’ Principle and Discrimination

This principle has played a significant part in ensuring that environmental law continues to be of relevance in times of armed conflict. According to a study conducted by the International Committee of the Red Cross, the due regard principle means the methods and means of warfare should be employed to protect and preserve the natural environment. Unfortunately, nowadays, there is a considerable fragmentation of how to put in practice this fundamental principle, which encompasses the precautionary principle. The difficulty arises mainly because of the different sources of environmental law and the definitions that such principles carry in national and international legislation. Additionally, due regard covers the environmental damage that arises as collateral to a military target and the indirect and long-term damage done to the surroundings. However, as pointed before, the problem with the said principle is that it also lacks enforceability.

The ICRC Study on Customary International Humanitarian Law (CIHL) in its Rule 44 uses a ‘due regard’ formula to put in the context of precautions in the conduct of military operations.⁵⁴⁶ Due regard should be understood as an obligation to show concern for their

⁵⁴⁶ Dieter Fleck, *The Protection of the Environment in Armed Conflict: Legal Obligations in the Absence of Specific Rules*, 82 Nordic Journal of International Law 7–20 (2013).

military operations' environmental effects and minimize such effects, which takes considerable planning and knowledge of the environment where the military operation will occur.

During armed conflicts, harm should be limited to the combatants and military targets only. Civilians or civilian objects should be shielded from being harmed by any involved parties. Accordingly, Richard Falk says that "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."⁵⁴⁷ Unfortunately, it is not easy to apply this principle when in war. Much like the due regard principle seen above, its lack of uniformity in international law and enforceability makes it hard to put it into practice.

4.4. International Tribunals and Enforcement of IHL

. There are several international tribunals; however, most international courts are specialized. Therefore, we will be only looking at the most appropriate tribunals that would answer the thesis questions. One of them is International Criminal Court ICC, and the other is the International Court of Justice ICJ.

a) International Criminal Court

The International Criminal Court was created to conduct trials of the perpetrators of the most severe crimes of concern to the international community.⁵⁴⁸ The court's founding treaty, called the Rome Statute, grants the ICC jurisdiction over four significant crimes.⁵⁴⁹ They are

⁵⁴⁷ Glen Plant, Environmental Protection and the Law of war: a Fifth Geneva Convention on the Protection of the Environment in the Time of Armed conflict? Open WorldCat (1992), <https://www.worldcat.org/title/environmental-protection-and-the-law-of-war-a-fifth-geneva-convention-on-the-protection-of-the-environment-in-the-time-of-armed-conflict/oclc/24503759>.

⁵⁴⁸ Stephen Wiles, Research Guides: International Courts and Tribunals: International Criminal Courtguides.library.harvard.edu Retrieved Jul-21-2021, from <https://guides.library.harvard.edu/c.php?g=309935&p=2070207>.

⁵⁴⁹ The International Criminal Court (ICC), Trying Individuals for genocide, War crimes, Crimes against humanity, and Aggression [icc-cpi.int](https://www.icc-cpi.int/about/Pages/default.aspx), Retrieved Des 18-2020 from <https://www.icc-cpi.int/about/Pages/default.aspx>.

genocide, crimes against humanity; war crimes; and crimes of aggression.⁵⁵⁰ In addition, the court brings to trial individuals who have committed or are accused of committing one of the crimes.⁵⁵¹ This court seeks to complement, not replace, national courts.⁵⁵² The complementarity principle is seen where issues of admissibility are concerned. The ICC will not take up issues that have already been tried or that are actively being tried at the national courts. This brings forth the first challenge to try environmental matters before the ICC if at all they are to be classified under any of those four crimes.

The issue of admissibility would be an interesting way to deny the court of jurisdiction because parties will claim that the national courts and agencies are seized of the claims. Article 17 requires this court to declare a case inadmissible where there have been investigations at the national level of a state party.⁵⁵³ Article 17(1) (b) notes that the court shall determine the case inadmissible where the case has been investigated by a State which has jurisdiction over it and the State has decided not to prosecute the person concerned, unless the decision resulted from the unwillingness or inability of the State genuinely to prosecute. The ICC held in *Prosecutor v. Muthaura et al*, that any reference to a case under Article 17 mean that the person before the court was the same one charged or under investigations in a state of competent jurisdiction.⁵⁵⁴ A similar position was expressed by the Pre-Trial Chamber I in *Prosecutor v. Thomas Lubanga Dyilo* where this court noted that the court while only determine a case as inadmissible where the national proceedings were similar to that before the ICC in terms of the person being investigated and the conduct that they are being investigated for.⁵⁵⁵

⁵⁵⁰ *Id* at 1.

⁵⁵¹ *Id*.

⁵⁵² *Id*.

⁵⁵³ ICC Statute, Article 17(1) (b).

⁵⁵⁴ ICC, *Prosecutor v. Francis Kirihi Muthaura, Uhuru Muigai Kenyatta and Mohammed Hussein Ali*, ICC-01/09-02/11- 274, Decision on the Application by the Government of Kenya, Challenging the Admissibility of the Case Pursuant to Article 19(2)(b) of the Statute, 30 August 2011.

⁵⁵⁵ ICC, *Prosecutor v. Thomas Lubanga Dyilo*, ICC-01/04-01/06-8-Corr, "Decision on the Prosecutor's Application for a warrant of arrest. Article 58", paras 31 and 37-39.

Taking the example of the law suits that were instituted in the United States after the Vietnam war, it is almost obvious that even if the ICC were to exercise jurisdiction supposing the war happened after the Rome Statute came into force, the claims in the national courts of the United States would have barred any claims before the ICC. Nonetheless, it would be an important counter argument to state that the national suits did not charge specific people with criminal responsibility but rather concerned the liability of the companies that manufactured Agent Orange. The Appeals Chamber in the Muthaura et al case stated that when the Court has issued a warrant of arrest or a summons to appear, for a case to be inadmissible under Article 17 (1) (a) of the Statute, national investigations must cover the same individual and substantially the same conduct as alleged in the proceedings before the Court. At this point, it could be argued that holding the US commanders responsible for the spraying of Agent Orange in the ICC would not have been blocked by the national proceedings.

However, it is equally significant to note that even with the environmental arm in other wars, the issue of admissibility of such cases is not obvious despite the existence of some general rules. Each case must be considered withing its specific circumstances and this may require political goodwill to admit that environmental harm resulting during war be subjected to ICC. The ICC in *Prosecutor v. Saifal-Islam Gaddafi and Abdullah Al-Senussi* held that a determination of admissibility is case-specific, the constituent elements of a case before the Court being the "person" and the alleged "conduct". The court went further and stated that for the Chamber to be satisfied that the domestic investigation covers the same "case" as that before the Court, it must be demonstrated that: a) the person subject to the domestic proceedings is the same person against whom the proceedings before the Court are being conducted; and b)

the conduct that is subject to the national investigation is substantially the same conduct that is alleged in the proceedings before the Court.⁵⁵⁶

The ICC works with prosecutors. Upon referrals by States Parties or on its initiative and with the judges' authorization, the prosecutor's office conducts investigations by gathering and examining evidence, questioning persons under investigation, and questioning victims and witnesses, to find evidence of a suspect's innocence or guilt.⁵⁵⁷ The office of the prosecutor must investigate incriminating and exonerating circumstances equally.⁵⁵⁸ The prosecutor's office requests cooperation and assistance from states and international organizations and sends investigators to areas where the alleged crimes occurred to gather evidence.⁵⁵⁹ Investigators must be careful not to create any risk to the victims and witnesses.⁵⁶⁰ The ICC would get involved with an environmental case if a country's dictator wanted to eliminate a group hostile to the adversary and used bombs with high chemical concentrations in the area where maybe they are camped. There are 100,000 civilians also hit by those bombs, and he kills them plus innocent civilians at the same time destroying the environment. That dictator could be tried in the ICC.

The Rome Statute is applicable to individuals whether as state actors or as private non-state actors.⁵⁶¹ Unlike other conventions that mostly apply to states and international conflicts only, the Rome Statute applies to internal conflicts that happen within a state party's territory. Article 5 of the Statute lists war crimes among the crimes that are within the jurisdiction of the court. Article 8(2)(b) (iv) describes war crime "to include intentionally launching an attack in

⁵⁵⁶ ICC, *Prosecutor v. Saifal-Islam Gaddafi and Abdullah Al-Senussi*, ICC-01/11-01/11, "Decision on the admissibility of the case against Abdullah Al-Senussi of 11 October 2013, para. 66.

⁵⁵⁷ *Id.*

⁵⁵⁸ *Id.*

⁵⁵⁹ *Id.*

⁵⁶⁰ *Id.*

⁵⁶¹ UN General Assembly, *Rome Statute of the International Criminal Court (last amended 2010)*, 17 July 1998, ISBN No. 92-9227-227-6.

the knowledge that such attack will cause ... widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.”⁵⁶² The responsibility for violating the prohibition against the environment is born by both the commanders under Article 28 as read with Article 25 as well as all other individuals including subordinates who contribute to the environmental damage whether directly or indirectly.

The ingredients of this war crime against the environment as contained in the ICC Elements of Crimes lists five constituent elements. First, there should be an attack as is applicable to most of the offences within the jurisdiction of the court. Secondly, the attack must be targeted at causing widespread, long-term and severe damage to the natural environment and that such damage is excessive in the circumstances. Thirdly, the effect of the attack must be disproportionate to the military advantage sought. The second element captures the ‘gravity factor which distinguishes crimes before the court and those before the national courts. First, before advocating for environmental harm resulting from war to be adjudicated before the ICC, one must deal with the issue of gravity. Only grave offenses may be admissible before the court.

Article 17(1) (d) requires that only cases that are sufficiently grave can be admitted by the court. The ICC noted in the *Gaddafi Admissibility Decision* that the fact that the crimes targeted a particular group of individuals by reason of the identity of the group "is an aggravating factor which is taken into account in sentencing under articles 27 and 28 of the Libyan Criminal Code".⁵⁶³ Further, the Pre-Trial Chamber II noted in the *Yekatom and Ngaïssona* case that gravity must be proved for crimes charged under Article 7.⁵⁶⁴ The Pre-

⁵⁶² *Id.*

⁵⁶³ ICC, *Prosecutor v. Saifal-Islam Gaddafi and Abdullah Al-Senussi*, ICC-01/11-01/11, “Decision on the admissibility of the case against Abdullah Al-Senussi of 11 October 2013, para. 166.

⁵⁶⁴ ICC, *Prosecutor v. Alfred Yekatom and Patrice-Edouard Ngaïssona*, ICC-01/14-01/18, ‘Decision on the confirmation of charges against Alfred Yekatom and Patrice-Edouard Ngaïssona’, paras. 23-32.

Trial Chamber, in that case, declined to confirm charges relating to Count 14 – imprisonment, citing insufficient gravity in alleged offences. Referring to the ICTR Trial Chamber’s decision in the *Ntagerura* case,⁵⁶⁵ the Chamber reiterated that not every minor infringement qualifies as a crime against humanity. Therefore, in order for an act to qualify as a crime against humanity, it must be of similar gravity and seriousness as the other crimes enumerated as crimes against humanity. Moreover, even acts that constitute a denial of human rights must meet the requisite gravity like other crimes.⁵⁶⁶

In this particular instance, we are dealing with environmental crimes that do not enjoy deeper recognition as other crimes that are enumerated by the Statute. There could be analogous analysis of environmental crimes with crimes such as genocide. In this regard, some scholars talk of ecocide as the environmental equivalent to genocide. The only challenge is that in order to prove gravity of environmental damage, the prosecution need to have investigated the ecological damage for some long period. This is because the environmental conventions applicable during war requires a ‘widespread’ damage to the environment. Equally, the damage must be long term and severe. This standard reflects the gravity of such environmental harm but would be realistically be impossible to prove. Other commentators would liken the environmental damage during war to crimes against humanity. In this sense, it could be possible to prove the gravity using the tests that the court has laid down under the category of crimes against humanity. Despite some of the challenges when it comes to admissibility of the offence of environmental damage during war, the ICC remains the best forum to enforce IHL norms against belligerents.

⁵⁶⁵ ICTR, *Prosecutor v. Ntagerura et al.*, Case No. ICTR-99-46-T, Judgement and Sentence, 25 February 2004, para. 702.

⁵⁶⁶ ICTY, *Prosecutor v. Milutinović et al.*, Case No. IT-05-87-T, Judgement (volume 1), 26 February 2009, para. 178.

For the non-state actors and even the commanders of the national militaries to be held accountable under the ICC Statute, we must move the discussion from admissibility to criminal responsibility. Environmental crimes during armed conflicts are committed by individuals who must bear personal responsibilities. Individual criminal responsibility at the international level forms the basis of the jurisdiction of most ad hoc tribunals and the International Criminal Court (ICC). Unlike the International Court of Justice (ICJ), the International Criminal Court deals directly with individuals. The ICC has brought private citizens into the realm of international law. Traditionally, the states were the only subjects of international law. In this sense, a subject of international law could be defined as an actor whose conduct influence the relations of states. State sovereignty was most valued and such autonomy of states barred any attempts of attribution of criminality to the state. The norm then became that the war victors were impeccable for the atrocities that they committed during war. However, the Holocaust of Nazi Germany redefined what the Treaty of Versailles failed to achieve, that is, enforcing international law against those who perpetrate international crimes. The Nuremberg Military Tribunal had to deal with two difficult concepts at once; first, treating private actors as subjects of international law, and secondly, dealing with corporate responsibility in international criminal law. Although the Nazi party, the SS and SD were more like corporate organizations, the Nuremberg court chose to go with individual criminal responsibility rather than collective responsibility.⁵⁶⁷

Although many people may be involved in commission of international crimes, only few may have direct control of the crime. This rationale for individualization of crimes frowns at the notion of crimes by association. Similarly, neither the state nor abstract organization can themselves be charged in a criminal court. Crimes are committed by humans

⁵⁶⁷ Stahn, C. (2019) *A Critical Introduction to International Criminal Law*, New York: Cambridge University Press.

and not organization hence only humans may be charged for their conduct. Individualization of crimes targets those who seek to hide behind state sovereignty to commit atrocities. Although organizations may participate or sanction criminal acts, the planning and commission must be done by specific individuals hence the justification of individual responsibility.

Nonetheless, individual criminal responsibility differs in terms of participation and contributions. There is direct perpetration where individuals are directly involved in the commission of some crimes. Secondly, there is joint responsibility of co-perpetrators who work with a common purpose. Thirdly, there are those who aid, abet or procure the commission of crimes. All these scenarios of direct and indirect perpetration are reduced to individual rather than collective responsibility. The reason behind individual criminal responsibility can also be attributed to practical challenges in investigation and punishment. Crimes generally comprise of two major parts. The first one is the commission of the act constituting the offense. The second part is the *mens rea* which seeks to prove intention and knowledge of the offender. Thus, investigating each for an entire ethnic or religious group may not be practically possible. Equally such a trial even where investigations were possible may take longer than necessary.

The intention of criminal trial is not to vilify a community which may then expose the entire group to revenge but to punish those who bear the greatest responsibility. This individualization of punishment is based on the context of the crime. International crimes such as war crimes, crimes against humanity and even genocide are usually committed as part of a state sanctioned policy. These crimes enjoy the blessing of most members of the society. The justice system may not then punish the members for mere affiliation. On the flip side, the justice system cannot leave victims without any remedy. Therefore, the few who are chosen as the most responsible serve as an example to the rest who may have championed the

perpetration of atrocities without full knowledge of the impact of their association. Besides, punishment of individuals deters further perpetration and future commission of such crimes. In terms of crimes against the environment, individual responsibility would be problematic. Although the ICC Statute offer other forms of responsibility such as ordering, aiding and abetting, co-perpetration in directly or indirectly causing long term harm to the environment would be difficult to apportion to different members of the belligerent groups. This difficulty thus adds to the already diminishing chances of successfully trying state and non-state actors for any crimes leading to widespread, long-term and severe environmental harm.

b) International Court of Justice

The International Court of Justice (ICJ) is the United Nations judicial organ based at the Hague.⁵⁶⁸ The mandate of the ICJ is in two parts: first is the contentious jurisdiction. This is the jurisdiction that ICJ enjoys to settle international disputes that are submitted to it by states and in accordance with international law. The second limb is the advisory jurisdiction to answer questions on interpretation of international law upon the request of the organs of the UN. So far, the ICJ is the only world court that has jurisdiction to settle international disputes involving states. Therefore, only states can be parties before the court as opposed to non-state actors such as belligerent groups.

The Permanent Court of International Justice (PCIJ) is the predecessor of the ICJ; it was established in 1920 by the League of Nations; after the II World War, the ICJ replaced the PCIJ.⁵⁶⁹ The Statute of the ICJ, which sets forth its purposes, draws heavily from that of its predecessor, whose decisions remain valid.⁵⁷⁰ All United Nations member states are party to

⁵⁶⁸ Posner, Eric A., and Miguel FP De Figueiredo. "Is the international court of justice biased?." *The Journal of Legal Studies* 34.2 (2005): 599-630.

⁵⁶⁹ *Id.*

⁵⁷⁰ *Id.*

the ICJ and may initiate contentious cases; however, advisory proceedings may only be submitted by specific United Nations organs and agencies.⁵⁷¹

However, a state can bring a proceeding against a non-state.⁵⁷² For example, in cases of “diplomatic protection,” a State may bring a case on behalf of one of its nationals or corporations.⁵⁷³ Jurisdiction for the ICJ is based on consent.⁵⁷⁴ There are four ways that the ICJ obtains jurisdiction (1) the parties may refer cases to the court, which characterizes explicit consent (2) matters specifically provided for in treaties and conventions (3) States can make an optional clause declaration accepting the court's jurisdiction (4) and by declarations made under the PCIJ.⁵⁷⁵

One significant case recently brought before the ICJ is the first case awarded compensation for environmental harm involving Costa Rica and Nicaragua.⁵⁷⁶ The ICJ handed down its judgment in the joint cases of specific activities carried out by Nicaragua in the border area and construction of a road in Costa Rica along the San Juan River.⁵⁷⁷ The court noted that “damage to the environment, and the consequent impairment or loss of the ability of the environment to provide goods and services, is compensable under international law [and] such compensation may include indemnification for the impairment or loss of environmental goods and services in the period prior to recovery and payment for the restoration of the damaged environment.”⁵⁷⁸ The fact that the court referenced damage to ecosystem goods and services is

⁵⁷¹ Thirlway, Hugh. "The Law and Procedure of the International Court of Justice 1960-1989." *The British Year Book of International Law* 66.1 (1996): 1.

⁵⁷² *Id.*

⁵⁷³ *Id.*

⁵⁷⁴ *Id.*

⁵⁷⁵ *Id.*

⁵⁷⁶ James Harrison, *Significant International Environmental Law Cases: 2017–18*, 30 *Journal of Environmental Law* 527–541 (2018), <https://academic.oup.com/jel/article-abstract/30/3/527/5094965>.

⁵⁷⁷ *Id.* at 528.

⁵⁷⁸ Bjorge, Eirik. "I. INTERNATIONAL COURT OF JUSTICE, CASE CONCERNING THE DISPUTE REGARDING NAVIGATIONAL AND RELATED RIGHTS (COSTA RICA V NICARAGUA) JUDGMENT OF 13 JULY 2009." *International & Comparative Law Quarterly* 60.1 (2011): 271-279.

an important one because it potentially covers a broad range of environmental harm.⁵⁷⁹ Thus, in some environmental cases, the ICJ is quite effective. It just may not be the best forum for conflict involving ongoing wars.

One reason why international tribunals are not effective with war crimes according to one set of scholars is that the way the international system is set up to seek justice without regard to politics and history when often politics plays a large role.⁵⁸⁰ Some cases are successful, such as in 2016 the ICC sentenced Mahdi, to 9 years in prison for the destruction of monuments in Timbuktu, Mali.⁵⁸¹ Then there was Bosnian Serb leader Radovan Karadzic who was convicted of genocide and crimes against humanity by a UN tribunal in 2016 for his role in atrocities during the Bosnian civil war.⁵⁸² Karadzic was the leader of the Bosnian Serbs who ordered the siege of Sarajevo; twenty-six years ago where his men murdered 8,000 Muslim men and boys at Srebrenica.⁵⁸³ What is worse is that Srebrenica was supposed to be under the protection of the United Nations who took away their weapons and left them unprotected.⁵⁸⁴

The ICJ obtains jurisdiction by way of States consenting by being a party⁵⁸⁵ and the ICC obtains jurisdiction by means of States being a member of the Rome Statute so if a State is a party and that individual is a national of that State or if the individual commits a crime

⁵⁷⁹ *Id.*

⁵⁸⁰ Elizabeth Peet, Why Is the International Criminal Court so Bad at Prosecuting War criminals? *www.wilsonquarterly.com* (2015), <https://www.wilsonquarterly.com/stories/why-is-the-international-criminal-court-so-bad-at-prosecuting-war-criminals/>.

⁵⁸¹ Deutsche Welle, International Criminal Court Sentences Mali Jihadist to 9 Years for Destroying Timbuktu's Cultural Heritage | DW | 27.09.2016 *DW.COM* (2016), <https://www.dw.com/en/international-criminal-court-sentences-mali-jihadist-to-9-years-for-destroying-timbuktus-cultural-heritage/a-35899688> (last visited Jun 21, 2021).

⁵⁸² PBS, Why the War Crimes Conviction of Radovan Karadzic Matters PBS NewsHour (2016), <https://www.pbs.org/newshour/show/why-the-war-crimes-conviction-of-radovan-karadzic-matters> (last visited Apr 9, 2021).

⁵⁸³ *Id.*

⁵⁸⁴ *Id.*

⁵⁸⁵ Stanimir A. Alexandrov, *The Compulsory Jurisdiction of the International Court of Justice: How Compulsory Is It?*, 5 *Chinese Journal of International Law* 29–38 (2006), <https://academic.oup.com/chinesejil/article/5/1/29/294422> (last visited Nov 19, 2019).

within a member State the ICC can obtain jurisdiction over that individual.⁵⁸⁶ In order for the ICC to physically obtain the person for trial it issues a warrant of arrest or an order to appear to the State of nationality or other State but it relies on the State to cooperate as the ICC does not have its own police so instead local police in the State arrest the individual.⁵⁸⁷ It is up to the States to enforce the arrest warrant.⁵⁸⁸

The problem is, there have been too few prosecutions, and even the recent conviction was a case where the defendant pleaded guilty. In the nearly 20 years it has existed, the ICC has only had a limited number of cases on the docket, and a meager record of nine convictions and four acquittals.⁵⁸⁹ The problem is that many cases are going without prosecution.⁵⁹⁰ This is not all ICC's fault; it depends upon the States to enforce the arrest warrants.⁵⁹¹ The court currently has 15 outstanding arrest warrants, and enforcement of these is lacking.⁵⁹² Without full cooperation of the States the ICC cannot fully serve its purpose.

⁵⁸⁶ International Criminal Court, *Understanding the International Criminal Court* (2013), <https://www.icc-cpi.int/iccdocs/pids/publications/uicceng.pdf>.

⁵⁸⁷ *Id.* at 19.

⁵⁸⁸ *Id.*

⁵⁸⁹ Stef Blok, *Opinion | the International Criminal Court Must Do better. Reforms Are Urgently needed.*, Washington Post, 2019, <https://www.washingtonpost.com/opinions/2019/12/02/international-criminal-court-must-do-better-reforms-are-urgently-needed/> (last visited Jun 24, 2021).

⁵⁹⁰ *Id.*

⁵⁹¹ *Id.*

⁵⁹² *Id.*

CHAPTER FIVE – ANALYSIS OF GAPS WITHIN EXISTING LEGISLATION AND SUGGESTIONS ON HOW TO RESOLVE THEM

5.1. Findings and Analysis of Research Questions

5.1.1. Inadequacies of Articles 35 and 55 of Additional Protocol I to the 1949 Geneva Conventions

This study found that the protection of the natural environment under Articles 35 and 55 of Additional Protocol I to the 1949 Geneva Conventions are insufficient and ineffective both during international and non-international armed conflicts.⁵⁹³ This finding responds to the first research question which sought to answer whether the existing International Humanitarian Law sufficiently protects the natural environment during armed conflict. Article 35 prohibits the employment of methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment. Besides, Article 55 prohibits use of methods or means of war that can cause damage to the natural environment. Although Article 55 repeats most of the contents of Article 35, it equally adds another scope. The protection includes those acts that cause harm to both the environment and also affect the health or survival of the population.⁵⁹⁴ This study found that these two articles have a direct protection to the natural environment in international armed conflict and partial application to non- international armed conflict where one of the parties is a state.

⁵⁹³ Mrema, Elizabeth, Carl Bruch, and Jordan Diamond. *Protecting the environment during armed conflict: an inventory and analysis of international law*. UNEP/Earthprint, 2009.

⁵⁹⁴ Reyhani, Roman. "Protection of the environment during armed conflict." *Mo. Env'tl. L. & Pol'y Rev.* 14 (2006): p. 328.

However, the provisions were inefficient because they adopted a higher threshold which makes it almost impossible to prove any violation by a state.⁵⁹⁵ The two provisions condemn “widespread, long-term and severe” damage to the environment thereby creating a mandatory three-tier standard of proof. This triple cumulative standard is impossible to establish when holding any state accountable. The standard would require that any damage not only occurs on a largescale but also have long term effects that have serious implication on human health, livelihood and survival of those who are affected by the conflict. The situation is further complicated by the fact that the definition of the terms ‘widespread, long-term and severe’ are superfluous.⁵⁹⁶

This study also found that the implementation of the prohibitions created in Articles 35 and 55 in the military manuals of different states replicated the triple cumulative standard. There were no definitions of this cumulative standard in most military manuals that were studied. For instance, Germany’s Law Introducing the International Crimes Code (2002) makes it an offense to cause widespread, long-term and severe damage to the natural environment which could be excessive in relation to the overall concrete and direct military advantage anticipated with a minimum sentence of three years.⁵⁹⁷ Similar wording is found in Germany’s Soldiers’ Manual (1991) which prohibits the use of means or methods of warfare that may cause widespread, long-term and severe damage to the natural environment.⁵⁹⁸ Additionally, Germany’s Military Manual (1992) captures both the damage by means of warfare under the

⁵⁹⁵ Bothe, Michael, et al. "International law protecting the environment during armed conflict: gaps and opportunities." *International Review of the Red Cross* 92.879 (2010): 569-592.

⁵⁹⁶ Mrema, Elizabeth, Carl Bruch, and Jordan Diamond. *Protecting the environment during armed conflict: an inventory and analysis of international law*. UNEP/Earthprint, 2009.

⁵⁹⁷ Germany, *Law Introducing the International Crimes Code*, 2002, Article 1, § 12(3).

⁵⁹⁸ Germany, *Taschenkarte, Humanitäres Völkerrecht in bewaffneten Konflikten – Grundsätze*, Bearbeitet nach ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, Zentrum Innere Führung, June 1991, p. 5.

1977 Additional Protocol I as well as weaponization of the natural environment under the ENMOD Convention but still maintains the triple cumulative standard.⁵⁹⁹

The standard means that even in the hypothetical scenario that Articles 35 and 55 of the 1977 Additional Protocol I was applicable to WWII, Germany would still not be held accountable for any damage to the natural environment. In WWII, the Germans used a lot of weapons that were detrimental to the environment. German soldiers loaded a new type of armament into their artillery and began bombarding enemy lines near Ypres in Belgium.⁶⁰⁰ The shells, each emblazoned with a bright yellow cross, made a strange sound as their contents partly vaporized and showered on oily liquid over the Allied trenches.⁶⁰¹ Moreover, the Germans used many weapons that were detrimental to the environment such as destroying everything that they did not need and flooding farms with salty water in Netherlands to hinder farming by enemy forces.⁶⁰² All these damages to the environment by the Germans during WWII may not be sufficiently proved under the triple cumulative standard despite evidence of damage to the natural environment by a state.

A similar case can be made to the implementation of Articles 35 and 55 of the 1977 Additional Protocol I by the United States of America. First, the US Naval Handbook (1995) notes that the employment of methods and means of warfare should have due regard to the protection and preservation of the natural environment.⁶⁰³ The US Naval Handbook (2007)

⁵⁹⁹ Germany, *Humanitarian Law in Armed Conflicts – Manual*, DSK VV207320067, edited by The Federal Ministry of Defence of the Federal Republic of Germany, VR II 3, August 1992, English translation of ZDv 15/2, *Humanitäres Völkerrecht in bewaffneten Konflikten – Handbuch*, August 1992, §§ 401 and 403; see also § 1020 (naval warfare).

⁶⁰⁰ *Id*; Szinicz, Ladislaus. "History of chemical and biological warfare agents." *Toxicology* 214.3 (2005): 167-181; Michelle McFadyen, Environmental Impact of World War Two Prezi.com (2019), at 4-9 <https://prezi.com/rbxejzsmpl1l/environmental-impact-of-world-war-two/>; Weinberg, Gerhard L. *A world at arms: A global history of World War II*. Cambridge University Press, 1994.

⁶⁰¹ Borak, Jonathan, and Frederick R. Sidell. "Agents of chemical warfare: sulfur mustard." *Annals of emergency medicine* 21.3 (1992): 303-308; Duchovic, Ronald J., and Joel A. Vilensky. "Mustard gas: its pre-World War I history." *Journal of chemical education* 84.6 (2007): 944.

⁶⁰² Lanier-Graham, Susan D. *The Ecology of War: Environmental Impacts of Weaponry and Warfare*. New York: Walker Publishing Company, Inc., 1993: 24.

⁶⁰³ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-2.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations

makes it unlawful to collaterally damage the natural environment in the event of a legitimate military objective. The handbook emphasizes that means and methods of warfare should aim at protecting and preserving the natural environment.⁶⁰⁴ Similarly, the US Air Force Commander's Handbook (1980) prohibits weapons that may cause widespread, long-term, and severe damage to the natural environment.⁶⁰⁵ The same provisions are reiterated in the US Operational Law Handbook (1993).⁶⁰⁶

Like the provisions in the Germany's Military manuals, the US Military manuals retain the cause widespread, long-term, and severe damage test to environmental protection. The manuals were ineffective in the Vietnam war where the United States caused irreparable environmental damage using agent orange. Although the damage is evident, culpability of the US military would be based on a cumulative test which will have to show how widespread, long-term and severe the effects of agent orange were. This study thus argues that the cumulative test envisaged under the 1977 Additional Protocol I to the Geneva Conventions establish a stringent threshold that end up denying any protection to the natural environment during armed conflict.

In terms of civil wars and non-international armed conflict, the provisions will only apply partially to those conflicts where there is a state as an actor. In analyzing the Syrian conflict, this study researched on how the Syrian government had implemented the prohibitions of Articles 35 and 55 of the Additional Protocol I. The government of Syria had no explicit

and Headquarters, US Marine Corps, and Department of Transportation, US Coast Guard, October 1995 (formerly NWP 9 (Rev. A)/FMFM 1-10, October 1989), § 8.1.3.

⁶⁰⁴ United States, *The Commander's Handbook on the Law of Naval Operations*, NWP 1-14M/MCWP 5-12.1/COMDTPUB P5800.7, issued by the Department of the Navy, Office of the Chief of Naval Operations and Headquarters, US Marine Corps, and Department of Homeland Security, US Coast Guard, July 2007, § 8.4.

⁶⁰⁵ United States, *Air Force Pamphlet 110-34, Commander's Handbook on the Law of Armed Conflict*, Judge Advocate General, US Department of the Air Force, 25 July 1980, § 6-2(c).

⁶⁰⁶ United States, *Operational Law Handbook*, JA 422, Center for Law and Military Operations and International Law Division, The Judge Advocate General's School, United States Army, Charlottesville, Virginia 22903-1781, 1993, p. Q-182, § (i).

provisions adopting the prohibitions against causing widespread, long-lasting and severe damage to the environment. This gap means that it is impossible to hold state actors to account for the environmental damages that have been witnessed during the Syrian civil war. In contrast, it is hypothetically possible to hold state actors in the Bosnian war accountable since there are some provisions in the military manuals that offer protection to the natural environment. For instance, the Federation of Bosnia and Herzegovina's Criminal Code (1998) makes it a war crime to order or commit "long-lasting and large-scale environmental devastation which may be detrimental to the health or survival of the population."⁶⁰⁷ The same provision is replicated in the Republika Srpska's Criminal Code (2000),⁶⁰⁸ and the Bosnia and Herzegovina's Criminal Code (2003) which prescribes a minimum punishment of ten years for any person who causes long-lasting and large-scale environmental damage.⁶⁰⁹

5.1.2. IHL Provisions Regulating Civilian Property and Objects

Indirectly Protect the Environment

This study found that the principle of distinction between civilian objects and military objectives indirectly protect the natural environment where the natural environment is treated as civilian. Secondly, the study established that the provisions regarding demilitarized zones also provided indirect protection to the natural environment during armed conflict. Lastly, this study found that the provisions relating to the destruction of property also offer indirect protection to the natural environment during armed conflict. These findings answer the third research question which aimed to demonstrate whether the existing IHL provisions directly or indirectly protects the environment. The UN International Law Commission Draft Principles on the Protection of the Environment in Relation to Armed Conflicts (ILC Draft Articles) offer

⁶⁰⁷ Bosnia and Herzegovina, Federation, *Criminal Code*, 1998, Article 154(2).

⁶⁰⁸ Bosnia and Herzegovina, Republika Srpska, *Criminal Code*, 2000, Article 433(2).

⁶⁰⁹ Bosnia and Herzegovina, *Criminal Code*, 2003, Article 173(2)(c).

insightful provisions on the IHL norms regarding civilian objects. Principle 1 of the preamble classifies the environment as a civilian object which cannot be attacked by states or non-state actors unless it becomes a military objective. Besides, Principle 4 of the preamble notes that attacks against the natural environment by way of reprisals are prohibited. Additionally, Principle 5 notes that states should designate areas of major ecological importance as demilitarized zones before the commencement of an armed conflict, or at least at its outset. These rules appear in the military manuals of states such as the United States and Germany as was seen in Chapter 3 of this thesis.

Equally, this study analyzed the protection property under the Hague Convention 1907 in the Event of Armed Conflict and the inclusion of such protection in the military manuals of states. In the Vietnam war for instance, this study found that the United States recognized the protection that IHL grants to property of Vietnamese. The study established that the US Field Manual (1956) replicates Article 27 of the 1907 Hague Regulations which prohibits attack against property.⁶¹⁰ The manual equally recognizes the obligations of the USA under the 1935 Roerich Pact which requires that property be accorded a neutralized and protected status during war.⁶¹¹ More importantly, the US Rules of Engagement for the Vietnam War (1971) committed to protecting the property of Vietnamese.

Nonetheless, this study argues that despite the numerous prohibitions of IHL on civilian objects, demilitarization of ecologically important zones and protection of property, no direct protection to the natural environment is guaranteed. Further, it is not explicit whether intentional attacks on civilian objects would constitute a crime against the environment other than a war crime as contemplated under the different treaties and criminal codes. This therefore

⁶¹⁰ United States, *Field Manual 27-10, The Law of Land Warfare*, US Department of the Army, 18 July 1956, as modified by Change No. 1, 15 July 1976, § 45.

⁶¹¹ United States, *Field Manual 27-10, The Law of Land Warfare*, US Department of the Army, 18 July 1956, as modified by Change No. 1, 15 July 1976, § 57.

mean that the protection is more on the civilian object more than the environment generally. In any event, those areas not covered by these objects would still be prone to damage and lack protection under these norms.

5.1.3. Current Existing IHL Norms Do not Protect the Environment During Civil Wars

This paper found that majority of the existing positive law on the protection of the natural environment did not cover non-international armed conflicts. This is explained by the fact that most of the legal provisions are contained in treaties where only states are signatories. It is however possible to hold individuals liable for war crimes that touch on the destruction of the environment. Nonetheless it is not possible to expect non-state actors to develop manuals that implement these IHL principles in the same way as military manuals. This finding answers the second research question as to whether the existing IHL applies to non-international armed conflict. The finding implies that the Syrian civil war is not covered by the international law on armed conflict thereby exposing the Syrian environment to more destruction by both the state and non-state actors. The partial protection that most IHL norms guarantee to the environment where a state is an actor in civil wars do not apply to the Syrian war since the government has not implemented most of the protection of the environment in its military manuals as was seen in Chapter 3 of this thesis.

5.1.4. No International Mechanism to Monitor Implementation of Military Manuals

This study aimed at establishing whether the inclusion of IHL norms in the military manuals guarantees sufficient protection to the natural environment during armed conflict. The research found that there are no mechanisms in ensuring implementation of these norms under

the military manuals hence such protections are inefficient. This finding goes to answer the fourth research question. As was seen with the Vietnam war, the United States established the Rules of Engagement for the Vietnam War (1971) which could have guaranteed protection the environment. However, the United States still went ahead to develop Agent Orange which caused severe harm to the environment. This study also found that military manuals are not the best way to implement IHL norms in non-international conflicts such as the Syrian civil war. One such reason is that it is almost impossible to get the non-state actors to develop manuals that implement IHL norms. In the Syrian civil war, the government lack provisions protecting the environment in their military manuals and it will thus be difficult to hold the state accountable if at all the standard was that of military manuals.

5.1.5. Principles of Distinction, Military Necessity, and Proportionality are not Sufficient

This research studied the principle of distinction between civilian objectives and military objects. It was established that the distinction does not offer adequate protection to the environment since the current law does not explicitly categorize the natural environment as civilian in nature save for the ILC Draft Articles. Secondly, treaty provisions pegged environmental protection on the principles of necessity and proportionality which means that where harm was proportionate and there existed a military necessity to gain advantage over the adversary then any destruction is merited. The conditioning of environmental protection on military necessity downplays the intrinsic civil nature of the environment and therefore offers no protection to the natural environment. Similarly, there are no internationally agreed

standards for establishing these principles which makes it practically impossible to enforce accountability for violations.⁶¹²

5.1.6. Environmental Damage Constitutes Crimes Against Humanity

This study researched the role of enforcement tribunals such as the International Criminal Court and found that destruction of the environment was only classified as a war crime under Article 8 of the Rome Statute. However, it is notable that environmental destruction and depletion of natural resources may comprise a material element of crimes against humanity under Article 7 of the Rome Statute.⁶¹³ Article 7 requires that an act be widespread or systemic and that it should constitute an attack against a civilian population. Classifying environmental harm as a crime against humanity would break the cumulative test of widespread, long-term and severe effects and instead focus on the fact that the destruction was either widespread or systemic. Further, the attack on environment can be viewed as attacking civilian objects which may be equivalent to civilian population that is envisaged under the Rome Statute. Thirdly, the inclusion of environmental destruction as a crime against humanity ensures that even actors in civil wars such as the Syrian situation are criminally held liable unlike other regimes that deal only with state actors. This research therefore recommends amendments to the Rome Statute that shall include environmental damage as a crime against humanity.

⁶¹² Mrema, Elizabeth, Carl Bruch, and Jordan Diamond. *Protecting the environment during armed conflict: an inventory and analysis of international law*. UNEP/Earthprint, 2009.

⁶¹³ Mrema, Elizabeth, Carl Bruch, and Jordan Diamond. *Protecting the environment during armed conflict: an inventory and analysis of international law*. UNEP/Earthprint, 2009.

5.2. Comprehensive Suggestions and Improvements on the Identified Gaps

This thesis would propose a new convention or treaty dedicated to protecting the environment during war and conflict. It would also place those laws into three categories that apply to international wars and internal conflicts. The first category would be the laws that cover offending states. For example, concerning agent orange usage in the Vietnam war, the United States would be the offending state. Those laws would set penalties for the offending state for failure to follow an injunction order. Further, the laws will make the offending state responsible for monetary damages for any reparations needed due to the offense. Equally, the laws will subject the offending state to sanctions if they failed to comply with the oversight tribunals order.

The second category would be laws that apply to the offending corporation. For the most part, those laws would subject offending corporations to monetary damages due to injury caused to the environment or people due to products manufactured by them and used by any state party during the war or conflict. Those laws would be for protection from another situation like Vietnam with the agent orange where the environment, forest, soil, and water were all contaminated, and civilians and soldiers were gravely injured from the aftermaths. Those laws will hold the manufacturers accountable monetarily both at the national and international level.

The third category would be laws covering rebels or non-state parties involved in internal conflicts or civil wars. The laws for those offenders would be like state offenders, except that the leaders will also be subject to criminal penalties for offenses and violations of environmental protection during internal conflicts. By extension the leaders will be liable if they fail to comply with any tribunal overseeing order for injunctive relief. This research

suggests that if there is direct law that could be applicable to both international and non-international armed conflicts then environmental protection can be guaranteed.

i. Suggested Tribunal

Without disregarding the ICJ, which handles violations of the conventions and treaties worldwide, creating a specific environmental international tribunal would limit the environmental crises during the war and armed conflict. Therefore, this thesis recommends having a new international tribunal handling issues related to any violation of a convention or treaty that protects the environment during the conflict and has jurisdiction for any party, not just states that cause massive injury to the environment during the conflict. This tribunal would be separate, which could help implement injunctive relief against states and other non-states or, in extreme cases, to order injunctive relief sanctions, penalties or even get NATO involved. The tribunal will need to hear cases quickly if there is an ongoing war or conflict like Syrian war. This tribunal could issue injunctions stopping the offender from the continued offense during the war, and if the offender continued, sanctions could be issued through the United Nations and, if that failed, possible involvement by NATO.

Additionally, the offenders could be held accountable by this tribunal for repaying all damages to the environment they caused. It would be a worldwide tribunal where its jurisdiction would not be limited to just those that agree to it or treaties or conventions. The offender state would come under the tribunal's jurisdiction for an act that violates international laws that protect the environment during war or conflict. This research recommends that such a tribunal should be an organ of the United Nations. The tribunal should also have forum branches. There should be a branch of a forum that handles those cases that arise in the Middle East, Europe, and Asia to handle any environmental disputes that arise during and after war/conflict or other environmental issues. Moreover, the judges of the tribunal can be elected by the states in the region where the tribunal is situated. The judges should serve a term of two

years each. Each case should be heard by a panel of judges, one from each state and elected by the states. Judges should also be required to have served as judges in the states' government before being elected. States who are not a party to the convention or treaty would still be under the tribunal's jurisdiction if they were a party to the internal conflict or war. States and non-states would be able to apply to this court for immediate relief, and the court would have to issue orders within five days when a party is seeking injunctive relief during a time of conflict or war. If the new tribunals are not feasible, the thesis would also suggest that the ICJ create a branch or a special court that is a small part of the ICJ that exclusively handles those cases. This branch court would use the UN and NATO to help enforce those cases.

ii. Islamic Law as an Environment Protection Starting Point

Wars and armed conflicts have destroyed the environment and threatened all living species on land and sea. No longer are people or countries far away from this destruction; everyone is affected by the wars. Unfortunately, states seem unaware of the danger of this environmental catastrophe that hit our planet arising from military activities that threaten everyone. Ruining the environment reflects an imbalance in the relationship between the environment and humankind. The destruction has caused many scholars to believe that human behaviour is the fundamental problem causing impairment of the environment by visible widespread demolition.⁶¹⁴

First and foremost, the Islamic da'wah promotes all sharia purposes and values in protecting the environment from all harm. In that sense, the environment can be regarded in Islamic da'wah as the:

“Islamic humanitarian da'wah activity which makes individuals aware of the environment and the relationships between components, and composition of

⁶¹⁴ Moustafa Hassan Mohamed El Khayat et al., *Environmental Protection in the Light of Islamic Da'Wah: Purposes and Values*, 9 International Journal of Academic Research in Business and Social Sciences 12 (2019).

environmental values and skills through their development based on the principles and notions of Islam about the purpose for which Allah created man, and balanced human progress demands.”⁶¹⁵

Additionally, per the judicial doctrine of Islam, the rules set by the Quran and Prophet (PBUH) embody the necessary instructions to solve all legal and moral questions, providing the basis for Islamic law. Both judicial doctrines instructed Muslims to protect the environment and emphasize not to cause any damage to it. Therefore, this instruction holds people accountable for keeping the environment safe. Furthermore, one of the fundamental principles of Islamic law is the declaration made by the Prophet, which states that “there shall be no damage and no infliction of damage.”⁶¹⁶ Hence, according to Islamic law, it is mandatory to perform what is necessary to preserve life and the environment, and damage in all forms is forbidden in Islam.

Recommendations based on the analysis of Islamic law in order to influence international environmental law are, amongst others, the necessity to employ da’wah approach in environmental protection in agreement with Islamic laws Chapter. Secondly, there is need for the development of an Islamic international association in order to organize and promote the rules already established by the Islamic da’wah. They should form committees comprising of specialists in Islamic law and environmental law, in order to balance and specify the scope of applicability and enforceability of these new rules, based on Islamic law and jurisprudence.

In order to respect Islamic law teachings, the enactment of legislation should be aimed towards the conservation of the shared environment through the preservation of resources. Therefore, the most important point regarding the thesis recommendations is the regulation of the laws that preserve the environment during times of conflict that derive from Islamic law

⁶¹⁵ Sulaiman, A.A. *Manhaj al-Islam fi himayah al-Bay’ah wa al-Muhafazah ‘alayha: Al-Maa’ namuzajan*. Damam: Dar Kuliah al-Adab. (2011).

⁶¹⁶ Qur’an: Surat al-Qamar (54), ayah 49.

against all other forms of degradation. Particularly in the Middle East, Islamic legislation can deter all parties by enforcing these laws deriving from the Quran and the teachings of the Prophet.⁶¹⁷

Therefore, the force of law and political authority is indispensable to bring about justice and equity. Accordingly, the caliph ‘Uthmān ibn ‘Affān declared that “The evils that God curbs through the sultān (the one in authority) are more than those He curbs through the Qur’an.”⁶¹⁸ Likewise, Ibn Taymīyah declared that government is one of the most essential requirements of Islam since one of the pillars obligation to command the right and forbid the wrong cannot be discharged without power and authority.⁶¹⁹ Following this line of thought, one of the main areas of the world currently affected by conflict and war, as discussed in this thesis, is the Middle East, and more specifically, Syria. Despite international efforts to reconstruct the environment around this hugely affected area and a general aim to reconcile human rights and the rule of law principles with environmental issues, a significant barrier faced by the international community is local legal traditions. When legislation and regulation can reflect local attitudes and beliefs, they enjoy a higher degree of acceptance and credibility.⁶²⁰ Therefore, local legislation could be a significant breakthrough in the enforcement of extremist groups.

⁶¹⁷ Omar A. Bakhashab, *Islamic Law and the Environment: Some Basic Principles*, 3 Arab Law Quarterly 287–298 (1988).

⁶¹⁸ Mālik ibn Anas, *Al-Muwatta of Imam Malik Ibn Anas: the First Formulation of Islamic Law* Open WorldCat 143–465 (Aisha A Bewley tran., 29 ed. 2016), <https://www.worldcat.org/title/al-muwatta-of-imam-malik-ibn-anas-the-first-formulation-of-islamic-law/oclc/958352369?referer=di&ht=edition>.

⁶¹⁹ Othman Abd-Ar- & Rahman Llewellyn, *The Basis for a Discipline of Islamic Environmental Law*, in *Islam and Ecology* 52 (Richard C. Foltz et ed., 2003), https://static1.squarespace.com/static/54e6208ee4b05860a4600103/t/594580c69f7456d2faec3f93/1497727181981/O-Llewellyn_Islamic-Env-Law_no-diacritics-rev_corrected.pdf. Also, see Erwin I J Rosenthal, *Political Thought in Medieval Islam : an Introductory Outline* 340 (2009), <https://www.cambridge.org/core/books/political-thought-in-medieval-islam/5BE20952E8B6A1AEF19F1963E02B0FF4>.

⁶²⁰ Christoph Schwarte, *Environmental Protection in Islamic law: an Overview on Potential Influences for Legal Developments in Iraq*, 8 Local Environment 567–576 (2003), <https://www.tandfonline.com/doi/abs/10.1080/1354983032000143725>.

The concept of protecting the natural environment as ordained by Islam legislation can be seen in the final speech the successor of the Prophet of Allah, Abu Bakr al-Siddiq, gave to the Muslim army when he ordered the army not to destroy any trees by cutting or burning or by taking their fruit unnecessarily and unlawfully, except for food.⁶²¹ Abu Bakr al-Siddiq order is proof of a genuine desire to preserve the integrity of nature and is a demonstration of how focused Islamic law and its faith is on safeguarding and protecting the environment. That demonstrates why, after all, Islamic law is a tremendous and meaningful starting point to create new guidelines of protection of the environment during times of conflict and war that can be applicable and enforceable through military activities.

5.3. Conclusion

War and conflict have caused devastating consequences for the environment. Going back to World War II, the Vietnam war, the Bosnian war, and the Syrian war that have been discussed in this thesis have illustrated the devastation caused to the environment. The Middle East is a region that has been in conflict for many years and the conflict continues. This has had massive effects on the environment, infrastructure, and displacement of people.⁶²² That can be seen from the result from the thesis studied, which shows the injury caused to the environment by Syrian civil war like depletion and exploitation of natural resources, burning forests and bombing pipelines and oil wells.

As this study noted, many years can pass, and the injured territory could still be feeling the effects. Chapter two has demonstrated from a 2019 study on the long-term effects of Agent

⁶²¹ Ṭabarī, Mahmud Muhammad Shakir & Ahmad Muhammad Shakir, *Tafsir al-Tabari: Jami` al-bayan `an ta'wil Ay al-Qur'an* Open WorldCat (1954), <https://www.worldcat.org/title/tafsir-al-tabari-jami-al-bayan-an-tawil-ay-al-quran/oclc/969711410?referer=di&ht=edition>.

⁶²² Shalmali Guttal, *The Politics of Post-war/post-Conflict Reconstruction*, 48 *Development* 73–81 (2005), https://pomeps.org/wp-content/uploads/2019/07/POMEPS_Studies_30.pdf (last visited Oct 8, 2019).

Orange on the environment in Vietnam which found that there was still soil contaminated with dioxin TCDD in several hotspots around the country.⁶²³ That war took place nearly 50 years ago yet the soil was still contaminated. Similarly, there has been chemical warfare, bombing with massive air strikes, D.U., exposure, and blasting infrastructure in the Middle East.⁶²⁴ As the study of the effects of these wars shows, there comes a tremendous environmental impact that has lasting effects.⁶²⁵ With the Middle East always in conflict, there need to be domestic and international protections put in place to protect the environment. Those protections need to apply to not just the Middle East but to all the countries of the world. A safe, clean environment with safe drinking water, soil that is not toxic, and air that is not polluted is vital to human survival. In order to ensure those protections are applied across the world, there must be a world convention of laws that are made specifically to protect the environment and civilian objects.

Those laws need to address the specific acts that the convention would prohibit. There need to be laws directed at internal conflicts and those directed at international conflict. Additionally, the convention must outline the remedy for the injured party, whether the offender would remediate the condition or pay monetary damages. The laws should also create a means by which the injured party could obtain injunctive relief during the war or conflict. Using Bosnia as an example, it sought injunctive relief against Yugoslavia, and the court noted that it did not make out a *prima facie* case under two of the conventions.⁶²⁶ Thus, the new convention needs to have laws in place to obtain injunctive relief during internal conflicts. Bosnia lost more than 100000 lives because the tribunal granted inadequate reliefs.⁶²⁷ It further

⁶²³ See *supra*-Chapter 2.

⁶²⁴ *Id*

⁶²⁵ *Id*

⁶²⁶ *Id*

⁶²⁷ See *Supra* Chapter 3.

suffered additional environmental damage due to bombings by NATO against the offender on its territory.

A new international court needs to be created explicitly for cases related to war or internal conflicts and the environment. The new tribunal should have branches in the different regions so that there would be a specific one in the Middle East that would handle current conflicts and future conflicts. The court should have the authority and the ability to grant injunctive relief quickly if needed. The court should have jurisdiction over all offenders, even those not member states to the UN or parties to the convention. The court would need to be able to use the strength of the United Nations or NATO, if necessary, to ensure that its orders are complied with, especially concerning injunctive relief.

In conclusion, there are many ongoing conflicts and wars nowadays, particularly in the Middle East. Unfortunately, those wars have caused severe damage and continue to destroy the environment; this damage can be lasting as what happened in Vietnam and Bosnia civil wars. There are laws in place that were studied in this thesis whose purpose is to protect the environment namely; ENMOD Conventions, 1976, Geneva convention, 1949 and its additional protocol I, 1977, Hague Convention, 1907, ILC's Draft Principles, ICRC Guidelines 2020, IHL principles and Rule and lastly the International Tribunals ICC and ICJ. However, those laws were inefficient because they adopted a higher threshold, making it almost impossible to prove any violation by a state.

Most provisions, if not all, condemn "widespread, long-term and severe" damage to the environment, thereby creating a mandatory three-tier standard of proof. This triple cumulative standard is impossible to establish when holding any state accountable. The standard would require that any damage not only occurs on a large scale but also has long-term effects that have serious implications on human health, livelihood, and survival of those affected by the conflict. Therefore, this thesis recommends that a new convention and a new tribunal be created

so that States worldwide have clear environmental protection during conflict and war. Lastly, humans need to know who is fighting, where they are fighting, and how they are fighting all these strongly influence a conflict's environmental impact. For this reason, certain actions are need to protect the environment in times of international and non-international conflicts by the international environmental armed conflicts.

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