Review of the International Legal Frameworks for the Protection of the Natural Environment in Armed Conflict

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Abstract

The natural environment has over the years remained a silent victim of war, and yet a considerable number of legal provisions intended for environmental protection in times of war exist under international law. Acts perpetrated during the course of warfare have, through the ages, led to substantial environmental damage. These have comprised circumstances where the natural environment has deliberately been targeted as a 'victim', or has by some means been manipulated to serve as a 'weapon' of war. Environmental damage during warfare may further be an incidental effect of armed conflicts. In fact, armed conflicts (ACs) often extend beyond the borders of the national territories of the states that led to the ACs and causes substantial damage to the environment, lives and livelihoods of impacted communities and the natural resources they rely on for survival. Until lately, the acts of combatants which results to significant environmental damage were largely considered as an unfortunate but inevitable component of ACs, regardless of their potentially devastating effects. Nevertheless, as the importance of the environment has come to be more broadly understood and acknowledged, such intentional damage of the environment is no longer condoned, especially given the unending development of weapons capable of extensive and substantial destruction. This article, which adopted the doctrinal research methodology, reviews the existing international legal frameworks for the protection of the natural environment during ACs.

Keywords: Armed conflicts, international legal frameworks, effects of armed conflicts on the environment, protection of the environment

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1. Introduction

Inflicting damage on the environment in times of war, and abusing the environment as a tool of war, has been commonplace throughout the history of armed conflict. The Romans salted the soil at Carthage in the second century during the Punic Wars, the Union Army burnt thousands of farms and killed livestock in the Civil War, the United States defoliated Vietnamese forests with Agent Orange, the nuclear explosions irradiated Hiroshima and Nagasaki in the Second World War, and Iraq spilled millions of gallons of oil from Kuwaiti oil wells into the Persian Gulf during the Iraq-Kuwait war. Further, agricultural land was striped to force the removal of people in Rwanda during the Rwanda ACs.[1] During the Kosovo conflict in the 1990s, Serbian forces engaged in scorched-earth tactics, such as poisoning wells, in an attempt to drive Kosovar Albanians from their homes.[2] Also, the bombing of industrial sites and infrastructure during the Kosovo conflict caused the release of dangerous toxic chemical contaminants that polluted that air, water and soil.[3] The oil

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1 Mark A. Drumbl, *Accountability for Property Crimes and Environmental War Crimes: Prosecution, Litigation, and Development* (International Centre for Transitional Justice, November 2009) p.7; Jessica C. Lawrence & Kevin Jon Heller, The Limits of Article 8(2)(b)(iv) of the Rome Statute, the First Ecocentric Environmental War Crime (2007) 20 *Georgetown International Environmental Law Review*, p.3; Tara Weinstein, Prosecuting Attacks that Destroy the Environment: Environmental Crimes or Humanitarian Atrocities? (2005) 17(4) *Geo. Int'l Envtl. L. Rev.*, 700; Carl E. Bruch, All's Not Fair in (Civil) War: Criminal Liability for Environmental Damage in Internal Armed Conflict (2001) 25 *VT. L. Rev.*, 695,716; John Alan Cohan, Modes of Warfare and Evolving Standards of Environmental Protection under the International Law of War, (2003) 15 *Fla. J. Int'l L. 481,488*; See Bronwyn Leebaw, Scorched Earth: Environmental War Crimes and International Justice (2014) 12(4) *Perspectives on Politics*, 770; Nada Al-Duaij, Environmental Law of Armed Conflict (S.J.D. Thesis, Pace University School of Law, 2002)) p.12; Shilpi Gupta, Note, Iraq's Environmental Warfare in the Persian Gulf (1993) 6 *Geo. Int'l Envtl. L. Rev.*, 251,252.

2 Lawrence and Heller, ibid; See Michael N. Schmitt, Green War: An Assessment of the Environmental Law of International Armed Conflict (1997) 22 *YALE J. Int'l L.*, 1, 36-50; See Winston P. Nagan, Nuclear Arsenals, International Lawyers, and the Challenge of the Millennium (1999) 24 *YALE J. Int'l L.*, 485,486; See Herman Reinhold, Target Lists: A 1923 Idea with Applications for the Future (2002) 10 *Tulsa J. Comp. & Int'l L.*, 1,19; See Kevin J. Dalton, Gulf War Syndrome: Will the Injuries of Veterans and Their Families Be Redressed? (1996) 25 *U. Balt. L. Rev.*, 179,211; See John H. Cushman, Jr., 'Environmental Toll Mounting in Kuwait as Oil Fires Burn On' *New York Times* (New York, 25 June 1991); Matthew L. Wald, '*Kuwaitis, Having Survived Hussein, Now Find Their Environment Toxic*' *New York Times* (New York, 28 April 1991) 14.

3 Jessica Schaffer, Prosecution of Wartime Environmental Damage by Non-State Parties at the International Criminal Court (2020) 32(1) *Bond Law Review*, 181; Michael Schmitt, Green War (1997) 22(1) *Yale Journal of International Law*, 9-11,17-19; Tara Weinstein, Prosecuting Attacks that Destroy the Environment (2005) 17(4) *The Georgetown International Environmental Law Review*, 700; Laure Verheyen, War's Silent Victim: The Environment' E-

leak from the bombing campaign in the Mediterranean Sea during the Israel-Lebanon war resulted in an 87-mile long oil slick that covered the entirety of the Lebanese coastline. An estimated total of 35,000 tons of oil spilled into the Mediterranean coastal waters polluted the marine environment[4] causing one of the major environmental disasters experienced by Lebanon.[5] During the Russo-Georgian War of 2008, among the affected areas were the protected 5300 square kilometers Borjomi-Kharagauli National Park, known for its mountainous geography and distinctive flora.[6]

Environmental damage during ACs affects seriously, and often irreversibly, individuals, ecosystems and natural resources. In fact, their effects often extend into space and time, namely by overcoming the boundaries of the national territories of the states that led to the ACs and by affecting the next biological generations.[7] ACs has been

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International Relations, May 7, 2017, p.13 <https://www.e-ir.info/2017/05/07/wars-silent-victim-the-environment/> accessed 3 September 2023; See Ammar Bustami and Marie-Christine Hecken, Perspectives for a New International Crime Against the Environment: International Criminal Responsibility for Environmental Degradation under the Rome Statute (2021) 11 *Goettingen Journal of International Law*, 155; See Hough P., 'Defending Nature: The Evolution of the International Legal Restriction of Military Ecocide' in G.Z. Capaldo (ed.), *The Global Community Yearbook of International Law and Jurisprudence 2014* (Oxford, Oxford University Press, 2015) pp.137-139.

4 Elise Catera, ATCA: Closing the Gap in Corporate Liability for Environmental War Crimes (2008) 33(2) *Brooklyn Journal of International Law*, 632; Anthee Carassava, 'U.N. Pledges $64 Million for Clean-up of Oil Spill off Lebanon' *New York Times* (New York, 18 August 2006); Hassan M. Fattah, 'Casualties of War: Lebanon's Trees, Air and Sea' *New York Times* (New York, 29 July 2006); Richard Black, 'Environmental Crisis in Lebanon' *BBC News* (London, 31 July 2006); Matilda Lindén, Environmental Damage in Armed Conflict: To What Extent Do the Remedies Available for Environmental Damage in Armed Conflict Reflect the Polluter Pays Principle? The Cases of the Jiyeh Power Station and the Niger Delta Conflict (Masters' Thesis, Goteborgs University, 2017) p.3,21; UNEP, *Protecting the Environment During Armed Conflict: An Inventory and Analysis of International Law* (United Nations Environment Programme, Switzerland, 2009); See UN General Assembly Resolution 69/212 of 19 December 2014 'Oil Slick on Lebanese Shore', UN Doc.A/RES/69/212, 28 January 2015, preambular para 5; UNDP, *Report on the Measurement & Quantification of the Environmental Damage of the Oil Spill on Lebanon* (United Nations Development Programme Lebanon, 2014) para. 1; See Oeter S., 'Methods and Means of Combat', in D. Fleck (ed.), *The Handbook of International Humanitarian Law* (Oxford, Oxford University Press, 2013) p.212.

5 Lindén *ibid*, p.21; UNDP, *Lebanon Rapid Environmental Assessment for Greening Recovery Reconstruction and Reform* (United Nations Development Programme, Lebanon, 2007) p.xv.

6 ILPI, *Protection of the Natural Environment in Armed Conflict: An empirical study* (International Law and Policy Institute (ILPI), 2014) p.29.

7 Filofteia Repez and Mirela Atanasiu, The Environment - a "Silent Victim" of Armed Conflicts' (2019) 12(2) *AUDRI*, 125; See *Resolution adopted by the United Nations General Assembly, A/RES56/4,* 13 November 2001; See Butsic et al., Conservation and conflict in the Democratic Republic of Congo: the impacts of warfare, mining, and protected areas on deforestation (2015) 191 *Biological Conservation*, 266-273; See Julian Wyatt, Law-Making at the Intersection of International Environmental, Humanitarian and Criminal Law (2010) 92(879) *International Review of the Red Cross*, 596-7; Cordula Droege and Marie-Louise Tougas, The Protection of the Natural Environment in Armed Conflict–Existing Rules and Need for Further

and remains a source of risks and threats to the environment[8] as they lead to environmental damage and ecological disruption.[9] When armed conflict breaks out, the environment is equally present in war as it is in peace.[10] ACs causes significant harm to the environment, lives and livelihoods of affected communities and the natural resources they depend on.[11]

ACs can cause direct as well as indirect harm to the environment in different ways.[12] ACs tends to inflict direct damage on animals, vegetation, soil and water systems, with ensuing effects on local or regional ecosystems. In some situations, the environmental impacts of the ACs extend over large areas and continue for years or even decades after ACs come to an end.[13] Environmental damage may further be an incidental effect of ACs. Destruction of power stations, chemical plants and other industrial sites, drains and sewers, or even the creation of rubble, may result in the contamination of water sources, arable land and air, in turn affecting the health and survival of entire populations. Derived

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Legal Protection (2013) 82 *Nordic Journal of International Law*, 21-22; See Human Rights Council, Analytical Study on the Relationship between Human Rights and the Environment, UN Doc A/HRC/19/34 (16 December 2011) 14.

8 Repez and Atanasiu *ibid*, p.123.

9 Stoekholol International Peace Research Institute (SIPRI), *Warfare in a Fragile World: Military Impact on the Human Environment* (London, Taylor & Francis Ltd., 1980) 1.

10 Kirsten Stefanik, 'The Environment and Armed Conflict: Employing General Principles to Protect the Environment' in Carsten Stahn, Jens Iverson and Jennifer S. Easterday (Eds), *Environmental Protection and Transitions from Conflict to Peace* (Oxford, Oxford University Press, 2017) 93; See Viola Vincze, The Role of Customary Principles of International Humanitarian Law in Environmental Protection' (2017) II *Pécs Journal of International and European Law*, 19-20.

11 ILPI (n 6) p.8; Wim Zwijnenburg and Brittany Roser, Signs of Progress: Environment and Conflict in the UN Security Council, Planetary Security Initiative Briefing Note, March 2020, p.1; Ola Ghazi Abbasi, International Responsibility for Environmental Pollution Crimes Resulting from Armed Conflicts in the Light of the Provisions of the Statute of the International Criminal Court (2019) 151(3) *European Journal of Scientific Research*, 335; See Dong Weir and Stavros Pantazopoulos, Feasibility study: An implementation vehicle for the International Law Commission's draft principles on the Protection of the environment in relation to armed conflicts (United Kingdom, Conflict and Environment Observatory, 2020) 3; See Onita Das, *Environmental Protection, Environmental Security and Armed conflict, A Sustainable Development Perspective* (Cheltenham: Edward Elgar Publishing, 2013) 122-3; Michael Bothe *et al.*, International Law Protecting the Environment During Armed Conflict: Gaps and Opportunities (2010) *International Review of the Red Cross*, 570-1.

12 Britta Sjöstedt, The Ability of Environmental Treaties to Address Environmental Problems in Post-Conflict, in Carsten Stahn, Jens Iverson and Jennifer S. Easterday (Eds), *Environmental Protection and Transitions from Conflict to Peace* (Oxford, Oxford University Press, 2017) p.74; Kenneth Wyne Mutuma, The Protection of the Environment during Armed Conflict (2021) 7(1) *Journalofcmsd*, p.54.

13 ILPI (n 6) p.8; Zwijnenburg and Roser (n 11); Abbasi (n 11); See Weir and Pantazopoulos (n 11); See Das (n 11); Michael Bothe *et al.* (n 11).

effects such as the humanitarian consequences of displacement may further exacerbate the toll on the natural environment. It may also threaten the well-being, health and survival of entire populations for extended periods of time.[14] Weapons used during ACs pollute water bodies, contaminate the atmosphere with smoke and fumes, damage buildings and infrastructure, and destroy trees and forests, which serve as homes for biological diversity.[15] More so, ACs disrupts and often disables the regulatory authorities that typically enforce environmental protections, such as national and local governments, forestry rangers, and factory inspectors.[16]

2. Effects of Armed Conflicts on the Natural Environment

2.1 Air, Land and Water Contamination

ACs leads to air, land and water contamination. The world's military forces are responsible for the release of more than two thirds of chlorofluorocarbon into the ozone layer.[17] Attacks against, or incidental damage to extractive mines, oil installations, and chemical facilities can lead to water and land contamination, or release pollutants into the air. Explosive remnants of war can also severely affect the environment by contaminating the soil and water sources, and harming wildlife.[18] The dust and particles transported by the air

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[14] ILPI *ibid*; See Sjöstedt (n 12) p.74; See Aaron Schwabach, 'Environmental Damage Resulting from the NATO Military Action Against Yugoslavia' (2000) 25 *Columbia Journal of Environmental Law*, 121; John Alan Cohan, 'Modes of Warfare and Evolving Standards of Environmental Protection under the International Law of War' (2003) 15 *Florida Journal of International Law*, 532; See Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: Synthesis* (Washington, DC., Island Press, 2005).

[15] Olaitan O. Olusegun, The Effect of Environmental Damage on Children in Armed Conflicts (2021) 36 *J. Env't Law and Litigation*, 157.

[16] Matthew Gillett, 'Eco-Struggles Using International Criminal Law to Protect the Environment During and After Non-International Armed Conflict' in Carsten Stahn, Jens Iverson and Jennifer S. Easterday (Eds), *Environmental Protection and Transitions from Conflict to Peace* (Oxford, Oxford University Press, 2017) 220.

[17] IPB, The Military's Impact on the Environment: A Neglected Aspect of the Sustainable Development Debate, A Briefing Paper for States and Non-Governmental Organisations (International Peace Bureau, Geneva, August 2002) 3. Note, Chlorofluorocarbons are gases that were widely used in the past in things such as aerosols and refrigerators and can cause damage to the ozone layer. See Collins COBUILD Advanced Learners Dictionary, *Definition of Chlorofluorocarbon* (HarerCollins Publishers, 2023).

[18] ICRC, International Humanitarian Law and the Challenges of Contemporary Armed Conflicts: Recommitting to Protection in Armed Conflict on the 70th Anniversary of the Geneva Conventions (International Committee of the Red Cross, October 2019) p.66; See Conca, K. and Wallace, J., Environment and peacebuilding in war-torn societies: Lessons from the UN Environment Programme's experience with post-conflict assessment (2009) 15(4) *Global Governance*, 485-504; See T*he Toll of War: The Economic and Social Consequences of the Conflict in Syria* (World Bank Group, 2017) p. 27

currents following the bombing of Serbia (since 1999) affected the cross-border environment with neighbouring countries (Romania, Bulgaria, Greece, Hungary, Macedonia, Bosnia and Herzegovina and Slovenia).[19]

Damage to sewage networks, pumping stations and wastewater treatment plants during ACs causes leakages prior to treatment. With limitations on the operation and capacity of treatment facilities, untreated or insufficiently treated wastewater is discharged directly into the environment.[20] For instance, in *Afghanistan*, there is widespread and diverse environmental damage: it is estimated that ten thousand villages and their surroundings have been destroyed; drinking water has fallen due to the destruction of water infrastructure and resulted leakage, bacterial contamination and water theft; rivers and underground waters have been contaminated by waste dumps built in the vicinity of drinking water sources; pollution caused by the use of explosives has degraded air, soil and water, etc.[21]

In other cases, there are attacks whose intentional target may not be the environment but ends up causing a collateral environmental damage. In 1999, air strikes by NATO were targeted within the Former Yugoslavian Republics of Serbia and Montenegro. One of the places bombed was the industrial complex of Pancevo, releasing 80,000 tonnes of burning oil. Besides the black rain reported, toxic blend was leaked into the environment. Air, soil and water were contaminated by thousands of tonnes of ethylene dichloride, metallic mercury, vinyl chloride monomer and liquid ammonia, bringing severe risks to human health and natural

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<http://www.worldbank.org/en/country/syria/publication /thetoll-of-war-the-economic-and-social-consequen ces-of-the-conflict-in-syria> accessed on 17 August 2022.

19 Repez and Atanasiu (n 7) p.128; See "The impact of war on the environment and human health", *Lenntech*, September 2006 <https://www.lenntech.com/environmental-effects-war.htm> accessed on 18 August 2023.

20 Juliane Schillinger, Gül Ozerol and Michiel Heldeweg, A social-ecological systems perspective on the impacts of armed conflict on water resources management: Case studies from the Middle East (2022) 133 *Geoforum*, 101-102,104; See UNEP, Environmental Issues in Areas Retaken from ISIL: Mosul, Iraq. Rapid Scoping Mission July-August 2017. United Nations Environment Programme, 2017<https ://wedocs.unep.org/bitstream /handle/20.500.11822/22434/environmental_issues_Isil_Iraq.pdf> accessed 17 May 2022.

21 Repez and Atanasiu (n 7) p.129.

environment.[22] More so, Military movement and military usage results in land degradation, the destruction of military and industrial machinery releases heavy metals and other harmful substances causing air pollution.[23]

2.2. Biodiversity Loss

The relationship between ACs and biodiversity loss is now well established. Over 80% of all major ACs between 1950 and 2000 took place directly in biodiversity hotspots that sustain around half the world's plants and many rare species of animals.[24] ACs has been found to lead to both species and habitat loss, and accelerate the depletion of forest cover.[25]

Further, ACs is linked to the illegal exploitation of natural resources, and help to facilitate poaching and illegal wildlife trade due to the presence of so many weapons.[26] Other negative impacts on wildlife stemming from human encroachment include death from landmines; disturbance to migration, feeding and reproduction; and loss of habitat from logging and conversion of forest. In addition, belligerents, like civilians, also hunt for both subsistence and commercial purposes and the proliferation of weapons in and near

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22 Luisa Gomez, From Conflict to Peacebuilding: The Role of Natural Resources and the Environment (United Nations Environment Programme, 2009).

23 Le Billon P., The political ecology of war: natural resources and armed conflicts (2001) 20(5) *Political Geography*, 561-584.

24 ICRC, International Humanitarian Law and the Challenges of Contemporary Armed Conflicts (n 17); Thor Hanson et al, Warfare in Biodiversity Hotspots (2009) 23(3) *Conservation Biology*, 578-587.

25 Stavros-Evdokimos Pantazopoulos, The promise and perils of protected zones' (2020) 29(2) *Environmental Scientist: The journal of the Institution of Environmental Sciences*, 45; Nelson G. and Singh J.S., How the end of armed conflicts influence forest cover and subsequently ecosystem services provision? An analysis of four case studies in biodiversity hotspots (2019) 81 *Land Use Policy*, 267-275; Michael J. Lawrence et al., The Effects of Modern War and Military Activities on Biodiversity and the Environment (2015) 23(4) *Environmental Reviews,* 443.

26 Pantazopoulos *ibid*; See Luisa Gomez, Environmental protection of the Amazon in post-conflict setting: an opportunity for peace in the era of climate change, p.1 <https://law.ucla.edu/sites/default/files/PDFs/Academics/GomezEnvironmental%20protection%20of%20the%20Amazon.pdf> accessed 28 September 2023; See Alexandra Prus, Protection of the Environment through the Lens of Syria: Scrutinizing the Loopholes in the Prevailing Legislative Framework (2020) 8(1) *GroJIL*, 48; Tara Smith, The Prohibition of Environmental Damage during the Conduct of Hostilities in Non-International Armed Conflict (Irish Centre for Human Rights, School of Law College of Business, Public Policy and Law, National University of Ireland Galway, 2013) 50; See Macartan Humphreys, Natural Resources, Conflict and Conflict Resolution (2005) 49 *Journal of Conflict Resolution*, 508.

the forest makes combatants' hunting very efficient.[27] For example in Tanzania, TRAFFIC has documented how numerous protected areas rich in wildlife were heavily impacted by the influx of some 800,000 refugees in the mid-1990s. In a spill-over effect from the war in Sudan and later Democratic Republic of Congo (DRC), wildlife in the DRC's Garamba National Park, just across the border, was heavily exploited by combatants, traders, and impoverished local people. Patrol monitoring and maps showed extensive poaching through the park, killing large mammals-initially buffalo and later elephants. However, the poaching became especially acute when, due to the onset of DRC's own war in 1996-97, park guards were disarmed and enforcement came to virtual standstill. In that brief period, the elephant population was reduced by half, the buffalo by two-thirds, and the hippo by three-quarters.[28]

In Mozambique, Gorongosa National Park and Morromeu Reserve reportedly suffered massive declines in large mammal populations from hunting by combatants stationed in the area for long periods of time. Surveys in 1994 (two years after the end of the war) showed that in Gorogosa, the elephant population declined to some 100 individuals from some 3000 prior to the conflict. Populations of buffalo (some 14,000), hippo (some 4800), and wildebeest (some 5500) were virtually wiped out. Only 129 waterbuck remained of a previous count of 3500. The Central African Republic also saw massive declines in elephant populations (a reduction in some 90%) and rhino (virtually extirpated from a population of 10,000).[29] The UN Secretary General has called attention to the 50–90 per cent decrease in elephant populations in the Central African Republic and the Democratic Republic of the Congo, emphasising that ivory is an important funding stream for the

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[27] Harwell Emily, *Forests in fragile and conflict-affected states* (Program on Forests, Washington DC., 2010) 30.

[28] *Ibid*, pp.30-31.

[29] *Ibid*, p.31; Blom, A., and J. Yamindou, *The History of Armed Conflict and its Impact on Biodiversity in the Central African Republic* (Washington, DC: Biodiversity Support Program, 2001); See generally, INTERPOL-UN Environment, *Strategic Report: Environment, Peace and Security – A Convergence of Threats* (International Criminal Police Organization (ICPO) – INTERPOL and UN Environment, 2016) 35.

Lord's Resistance Army.[30] The destruction of Vietnamese forests has also proved irreversible and the natural habitat of rare species (such as tigers, elephants, bears and leopards) has been jeopardized.[31]

In the DRC, ACs has severely affected five natural World Heritage Sites and threatened, among other species, the endangered mountain gorillas. Armed groups have used the inaccessibility of the Sites for their military operations, as hiding places, and to set up base camps for planning and launching attacks.[32] The armed groups have also entered World Heritage Sites for the purpose of exploiting natural resources by engaging in artisanal mining, charcoal production, and wildlife poaching. The revenues sustain their military operations and provide personal profit. To deny rebel groups their cover, the Congolese Army has entered the World Heritage Sites where it has jeopardized the integrity of the Sites by, for example, cutting down trees and placing army camps inside the Sites.[33] Also, the settlement of hundreds of thousands of displaced persons in and around Virunga National Park, one of the Congolese World Heritage Sites after the Rwandan genocide in 1994 deforested an extensive area that imperilled the unique ecosystem and threatened the mountain gorillas.[34] Increased availability of guns has been shown to have been a major driver of large mammal decline during the Angolan Civil War, which took place in the last quarter of the 20th century. In Cambodia, there were marked declines in the

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30 IUCN, *Conflict and conservation* (Nature in a Globalised World Report No.1. Gland, Switzerland: IUCN International Union for Conservation of Nature and Natural Resources, 2021) 19; See *Report of the Secretary-General on the activities of the United Nations Regional Office for Central Africa and on the Lord's Resistance Army-affected areas* (UN Security Council 2013).

31 Repez and Atanasiu (n 7) p.127; 'Agent Orange, exposed: How U.S. chemical warfare in Vietnam unleashed a slow-moving disaster' *The Conversation*, 4 October 2017 <https://theconversation.com/agent-orangeexposed- how-u-s-chemical-warfare-in-vietnam-unleashed-a-slow-moving-disaster-84572> accessed on 20 May 2023.

32 Sjöstedt (n 12) p.74.

33 *Ibid*, pp.74-75; See Alec Crawford and Johannah Bernstein, *MEAs, Conservation and Conflict-A Case Study of Virunga National Park, DRC* (Winnipeg: International Institute for Sustainable Development, 2008) 17-18; See Joseph Kalpers, *Overview of the Armed Conflict and Biodiversity in Sub- Saharan Africa: Impact, Mechanisms and Responses* (Washington DC Biodiversity Support Program, 2001) 13.

34 Sjöstedt (n 12), pp.75-76; Judy Oglete, James Shambaugh and Rebecca Kormos, Parks in the Crossfire: Strategies for Effective Conservation in Areas of Armed Conflict (2004) 14 *War and Protected Areas, International Journal for Protected Areas Managers*, 3; See Crawford and Bernstein *ibid*, pp.15-16; UNEP, *The Democratic Republic of the Congo Post-Conflict Environmental Assess Synthesis for Policy Makers* (Nairobi: United Nations Environment Programme, 2011) 26.

relative abundance of animals during the country's periods of conflict from the 1950s to the 1990s.[35]

Afghanistan's populations of lion, leopard, wolf and fox have been reportedly wiped out. The Marco Polo sheep are also in severe decline, and in 2005 one of two remaining populations of Siberian crane was thought to be down to just one pair and a single chick after A US bombing campaign in 2001 disrupted their migration. Falcons, once common in Afghanistan's mountains, are now rare due to demand from Arab countries, where they are highly prized for their hunting ability.[36] According to the United Nations Office on Drugs and Crime, Afghanistan and Pakistan Talibans, benefits from the trade in highly prized falcons. And, Sudanese militia were responsible for the deaths of 2,000 elephants in 2007 alone.[37] As McNeely states "the conclusion is unsurprising: war is bad for biodiversity".[38]

2.3. Deforestation

ACs leads to massive deforestation. The U.S. campaign of environmental destruction through the use of toxic chemical herbicides called Agent Orange during the Vietnam War deforested large areas and adversely affected the South Asian population dependent on the ecosystems in these areas.[39] In fact, it is estimated that 14% of that country's forest cover and over 50% of its coastal

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35 IUCN (n 30) p.11.

36 Emily (n 26) p.32; Samander, Rahimullah, Wildlife Exploitation Rampant: Rare species are being decimated as a result of ignorance and greed (Institute for War and Peace Reporting. ARR Issue 48, February 21, 2005).

37 IUCN (n 30) p.19.

38 Gomez (n 25); Thor Hanson et al., Warfare in Biodiversity Hotspots (2009) 23 *Conservation Biology*, 584; See Jacobs, M.J. and Schloeder, C.A.. *Impact of conflict on biodiversity and protected areas in Ethiopia* (Washington, D.C.: Biodiversity support program, 200).

39 Patrick Foster, Climate Torts and Ecocide in the Context of Proposals for an International Environmental Court (Masters' Thesis, City College of New York, 2011); Richard A. Falk, *Environmental Warfare and Ecocide – Facts, Appraisals, and Proposals* (1973) 4 *Bul. Peace Proposals*, 80; See Olugbemi Akinbobola Olukayode, The Legal Protection of the Environment in Armed Conflicts' (Masters' Thesis, Faculty of Law, Obafemi Awolowo University, Ile-Ife, Nigeria, 2016) p.69; See Zierler David, The Invention of Ecocide: Agent Orange, Vietnam, and the Scientists Who Changed the Way We Think about the Environment (Athens: University of Georgia Press, 2011) 15; See *Onisime Tskhomelidze,* Environmental Crimes through the Prism of the Case-Law of the International Criminal Court' (2019) *Constitutional Law Review*, 27; Eliana Teresa Cusato, Beyond Symbolism: Problems and Prospects with Prosecuting Environmental Destruction before the ICC (2017) 15 *Juornal of International Criminal Justice*, 494.

mangroves" were defoliated.[40] As consequence of chemical contamination by herbicides, high-diversity forests were replaced with extensive low-diversity grasslands, highly productive mangroves disappeared and mudflats gained control over ecosystem.[41] During the Russo–Georgian War of 2008, 'hundreds of hectares of unique forests in various regions of Georgia have been purposefully destroyed by the Russian military forces'.[42]

Deforestation to improve mobility or ease identification of the enemy is a well-known practise during ACs. Insurgency and counter-insurgency guerrilla civil wars have a particularly devastating effect on local environments. Insurgents often use tropical forests as home bases and hiding grounds; counter-insurgency forces often respond by slashing and burning forests, viewing both as legitimate theaters of operations".[43] In Rwanda in 1991, the Rwandan army cut a swath 50 to 100 meters wide through the bamboo forest connecting the Virunga Volcanoes in order to reduce the possibility of ambush along a key trail. This is not peculiar to Rwanda, but even in the northeast of Nigeria such tactics are employed by the national army which is also environmentally unfriendly.[44] Syria's main forested areas have been severely deforested throughout the period of the country's ACs. This is mainly caused by cutting down trees for firewood and charcoal production, forest fires, and the deliberate destruction by targeting armed groups hiding in the forest. Forest loss and degradation has already led to the extinction of species and the damage of livelihoods of millions of people-who rely on forests for subsistence. Tree cover loss can also create soil erosion and landslide risks.[45] In Afghanistan, the total forest area decreased by 38% between 1990 and 2007, deforestation being speeded up by

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40 Gomez (n 25); Hanson et al. (n 25).

41 Gomez *ibid*; Jeffrey A. McNeely, Conserving forest biodiversity in times of violent conflict (2003) 37 *ORYX,* 145; Kenneth Wyne Mutuma, The Protection of the Environment during Armed Conflict' (2021) 7(1) *Journalofcmsd*, 56.

42 ILPI (n 6) p.29.

43 Drumbl (n 1).

44 Abdulkarim Umar, Environmental Consequences of Armed Conflict: A Case of the Northeastern Nigeria (2020) 19(6) *International Journal of Humanities & Social Sciences*, 285; See Zeyad Mohammad Jaffal and Waleed Fouad Mahameed, Prevent Environmental Damage During Armed Conflict (2018) 5(2) *BRICS Law Journal*, 77.

45 Wim Zwijnenburg and Yifang Shi, 'Conflict-driven Deforestation and Pollution in Syria' in Susi Snyder (Ed), *Witnessing the Environmental Impacts of War: Environmental Case Studies from Conflict Zones around the World* (November, 2020) pp.8-9.

illegal logging by the parties involved in the ACs. As a result, animals have lost their habitats, plant species have disappeared, and desertification has become a growing problem.[46]

In addition, ACs-induced humanitarian crisis of displacement can facilitate deforestation. It is not reasonable to expect from refugee and displaced communities measures in order to mitigate environmental impacts while they are trying to survive. During the civil war in Rwanda in the mid-1990s, almost 1 million refugees occupied lands in Virunga National Park and during the time they were living there, deforested some 300 km2 of the park in a desperate search for building encampments, feeding and gathering firewood.[47]

3. International Legal Instruments on the Protection of the Natural Environment During Armed Conflicts

The environment has been qualified as a 'silent casualty' of ACs. Thus, the environmental devastation caused by armed conflict has prompted an expansion in the international legal framework governing environmental protection during ACs.[48] This section seeks to establish the various provisions of international law relating to the protection of the natural environment during international ACs.

3.1 The Rome Statute of the International Criminal Court 1998 (Rome Statute of the ICC 1998)

The Rome Statute which was adopted in 1998 established the International Criminal Court (ICC) and gives the court subject matter jurisdiction over four core crimes of genocide, crimes against humanity, war crimes and the crime of aggression.[49] While the Rome Statute is not an environmental criminal law document per se, it does provide some explicit protection for the environment in armed conflict by making environmental destruction a war crime.[50] Article

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46 Repez and Atanasiu (n 7) p.129.

47 Gomez (n 25); Hanson et al (n 37) p.584; See Jacobs and Schloeder (n 37).

48 Sinani B and Stojchevska S, Legal Analysis regarding the potentiality of Considering Environmental Damage a war crime (2021) 16(3-4) *Jurnalul de Studii Juridice*, 3.

49 Article 5 of the Rome Statute of the ICC.

50 Damian Etone, 'Addressing Environmental Harm in Conflicts within Africa: Scope for International Criminal Law?' in Regina M Paulose (Ed), *Green Crimes and International Criminal Law (*Vernon Press, 2021) 5-6.

8(2)(b)(iv) of the Rome Statute explicitly protects the natural environment in armed conflict by prohibiting the:

> *Intentionally [launching of] an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated.*[51]

From the above provisions, it is obvious that Article 8 of the Rome Statute of the ICC explicitly protects the natural environment during armed conflict by prohibiting armed conflict (war) strategies or operations that will cause destruction of the environment. Thus, individual criminal responsibility under Article 8(2)(b)(iv) for damage to the natural environment is not conditioned to injury to human beings. The use of the language 'or' rather than 'and' in the above provision implies damage to the environment can be prosecuted in its own rights provided it is widespread, long-term and severe, and equally disproportionate in relation to the anticipated military advantage.[52]

3.2 Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts (Additional Protocol I to the Geneva Convention), 8 June 1977

The Additional Protocol I contain provisions that protects the environment during international armed conflicts.[53] Under this

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51 Article 8(2)(b)(iv) of the Rome Statute of the ICC; Christina Voigt, 'An International Crime of Ecocide' *The Guardian* (30 November 2020); See Mark A. Drumbl, International Human Rights, International Humanitarian Law, and Environmental Security: Can The International Criminal Court Bridge The Gaps? (2000) 6 *ILSA Journal of International & Comparative Law*, 312; Mark A. Drumbl, Waging War Against the World: The Need to Move from War Crimes to Environmental Crimes' (1998) 22(1) *Fordham International Law Journal*, 128.

52 Etone (n 49) p.6; Jessica Durney, Crafting a Standard: Environmental Crimes as Crimes Against Humanity Under the International Criminal Court (2018) 24(2) *Hastings Environmental Law Journal*, 416; Rome Statute of the ICC, *ibid*, article 8(2)(b)(iv); Payal Patel, Expanding Past Genocide, Crimes Against Humanity, and War Crimes: Can an ICC Policy Paper Expand the Court's Mandate to Prosecuting Environmental Crimes? (2016) 14(2) *Loy. U. Chi. Int'l L. Rev.*, 178; See *Utsa Sarkar*, Ecocide-Protection of Environment: An International Crime (2021) 8(1) *International Journal of Legal Developments And Allied Issues*, 46; See report of the expert workshop on international criminal law & the protection of the environment (The Promise Institute for Human Rights, UCLA School of Law, April 2020) 8.

53 See for instance Article 51(2) of the 1977 Additional Protocol I to the Geneva Convention 1977.

Protocol the use of explosive weapons which leaves a long term environmental impact are strictly prohibited.[54] The two provisions in the Additional Protocol I that explicitly protects the environment against damage are Article 35(3) and Article 55. Article 35(3) expressly states that: "It is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment".[55] While Article 55(1) & (2) provides that: "Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such damage to the natural environment and thereby to prejudice the health or survival of the population. Attacks against the natural environment by way of reprisals are prohibited".[56]

Reyhani rightly points out that Article 35(3) applies to situations in which the natural environment is damaged through the *intentional* use of methods or means of warfare and where such consequences are *foreseeable*.[57] Article 55, in turn, provides specific protection for the environment within the context of the general protection granted to civilian objects, and thus any attacks against the natural environment by way of reprisals are prohibited.[58] The common principles enshrined in Article 35(3) and Article 55 thus relate to the prohibition of warfare that may cause widespread, long-term and severe damage to the natural environment.[59]

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54 See for instance, Article 35(3) of the Additional Protocol I to the Geneva Convention 1977.

55 *Ibid*.

56 Article 55(1) & (2) of the Additional Protocol I to the Geneva Convention 1977; Desy Churul Aini and Desia Rakhma Banjarani, Environmental Protection in Armed Conflict According to International Humanitarian Law (2018) 3(1) *Tadulako Law Review*, 18.

57 Letetia van der Poll and Ashraf Booley, In our common interest: Liability and redress for damage caused to the natural environment during armed conflict (2011) 15 *Law, Democracy and Development,* 11; See, in particular, Mrema EM, Bruch C and Diamond J, *Protecting the Environment during Armed Conflict: An Inventory and Analysis of International Law* (Nairobi: UNEP, Nov. 2009) 11; Reyhani R, The protection of the environment during armed conflict (2007) 14 (2) *Missouri Environmental Law and Policy Review*, 329.

58 Poll and Booley *ibid*.

59 *Ibid*.

3.3 UN Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD Convention) 1976

The ENMOD Convention prohibits the modification of the environment in ways that can cause 'widespread, long-term or severe damage' to the environment.[60] Thus, the main purpose of the EDMOD Convention is to prohibit the manipulation of the environment as a weapon of warfare.[61] Article I(1) of the Convention prohibits military or any other "hostile use of environmental modification techniques with widespread, long-lasting or severe effects as the means of destruction, damage or injury" to the adversary.[62] Article 1(2) then defines environmental modification techniques as "any technique for changing through the deliberate manipulation of natural processes-the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space."[63] Article 1(2) also requires State Parties not to assist, encourage or induce any state, group of states or international organisations to engage in such activities.[64] By virtue of Article 4, states are instructed to take measures to "prohibit and prevent" any violations.[65] The content of the Convention does not distinguish between the types of armed conflicts. Therefore, the provisions of the Convention apply to both international and non-international armed conflicts. Moreover, Article I refers to military or any other hostile use.[66]

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60 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (ENMOD), 10 December 1976, 1108 UNTS 151, Article 1 (hereinafter, ENMOD Convention).

61 Steven Robert Freeland, *Addressing the intentional destruction of the environment during warfare under the Rome statute of the international criminal court* (PhD Thesis, Maastricht University, 2015) p.77; ENMOD Convention, Article I(1).

62 Adam Roberts, 'Environmental Issues in International Armed Conflict: The Experience of the 1991 Gulf War' in Richard J. Grunawalt, John E. King and Richard S. McClain (Eds), *Protection of the Environment During Armed Conflict* (Vol. 69, International Law Studies, Naval War College, Newport, Rhode Island) 231-232 <https ://digital-commons.usnwc.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1530&context=ils> accessed 23 August 2023; See Ryan Gilman, Expanding Environmental Justice after War: The Need for Universal Jurisdiction over Environmental War Crimes (2011) 22(3) *Colo. J. Int'l Envtl. L. & Pol'y*, 454; Drumbl, *Waging War Against the World* (n 51) p.123.

63 Roberts *ibid*.

64 Poll and Booley (n 57) pp.15-16; See Reyhani, pp.326-327.

65 Poll and Booley *ibid*, pp.15-16;

66 Maria Magdalena Kenig-Witkowska, Protection of the Environment in Times of Non-International Armed Conflicts-A Gap to be Filled in (2019) LXXVIII *Studia Iuridica*, 192.

The EDMOD Convention was created in direct response to the "military tactics employed by the United States during the Viet Nam War" wherein the USA army had employed the use of Agent Orange to eliminate the forest cover used by the Vietnamese. Therefore such modification of the environment that resulted to long-term environmental contamination, as well as very significant destruction of forests and wildlife, and extensive human suffering from health hazards (death, cancer and other illnesses, mutations, and birth defects) on the people had to be prohibited.[67] Article I of the ENMOD Convention is the first treaty obligation that directly addresses the issue of deliberate manipulation of the environment during hostilities.[68]

3.4 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (CCW), and its Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons 1980[69]

The CCW and its three annexed Protocols were adopted on 10 October 1980. The fourth paragraph of its Preamble reiterates the "triple cumulative standard" contained in Article 35(3) of Additional Protocol I and expressly states that "it is prohibited to employ methods or means of warfare which are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment".[70] An amendment to Article 1 of the Convention introduced in 2001 extends its application to situations referred to in common Article 3 to the 1949 Geneva Conventions – that is, to non-international armed conflict (NIAC).[71] In addition,

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67 See UNEP, Protecting the environment during armed conflict: An inventory and analysis of international law (United Nations Environment Programme, November 2009) pp.10-11; Westing Arthur H., *Warfare in a fragile world: Military impact on the human environment* (Stockholm International Peace Research Institute, Taylor and Francis, London, 1980) 79; Hulme Karen, *War torn environment: Interpreting the legal threshold* (Leiden, Martinus Nijhoff Publishers, 2004).

68 Freeland (n 61).

69 UN Document A/CONF 95/15.

70 Md. Jahidul Islam, The Protection of Environment during Armed Conflict: A Review of IHL (2017) XI(3) *Society & Change*, 54; Poll and Booley (n 57) p.19.

71 See particularly Article 1(3) of the CCW which states "In case of armed conflicts not of an international character occurring in the territory of one of the High Contracting Parties, each party to the conflict shall be bound to apply the prohibitions and restrictions of this

Article 2(4) of the CCW Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons also directly addresses environmental protection, as it prohibits "making forests or other kinds of plant cover the subject of an attack by incendiary weapons except when such natural elements are used to cover, conceal, or camouflage combatants or other military objectives, or are themselves military objectives."[72]

3.5 The Bacteriological Weapons Convention of 1972 (BWC)[73]

The BWC, formally known as "The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction", prohibits the degradation of natural environment. The BWC supplements the 1925 Geneva Protocol, which had prohibited only the use of biological weapons.[74] States Parties to the BWC undertook "never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

1. microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes;[75]
2. weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."[76]
3. to destroy, or to divert to peaceful purposes (not later than nine months after the entry into force of

Convention and its annexed Protocols", See Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects: Text With Amendments And Protocols Adopted through 28 November 2003 (International Committee of the Red Cross) <https://www.icrc.org/en/doc/assets/fil es/other/icrc_002_0811.pdf> accessed 23 August 2022.

72 UNEP, Protecting the environment during armed conflict (n 67) p.12; Islam (n 70) pp.54-55; Poll and Booley (n 57) p.19.

73 The Convention was negotiated by the Conference of the Committee on Disarmament in Geneva, Switzerland. It opened for signature on 10 April 1972 and entered into force on 26 March 1975.

74 The Biological Weapons Convention (Office for Disarmament Affairs, United Nations) <https://disarmament. unoda.org/biological-weapons/> accessed 16 August 2023.

75 Biological Weapons Convention, Article 1(1).

76 *Ibid*, Article 1(2).

> the convention) all agents, toxins, weapons, equipment, and means of delivery, which are in its possession or under its jurisdiction or control. In implementing the provisions of this Article all necessary safety precautions shall be observed to protect populations and the environment.[77]

By banning the use of these weapons, the BWC and the Protocol protect the environment in armed conflict from weapons that are likely to cause significant environmental degradation, particularly to the natural environment and to fauna and flora.[78]

In implementing their obligations, States Parties are to observe 'all necessary safety precautions to protect populations and the environment'. In their more contemporary form, the use of such weapons during armed conflict has the potential not only to kill large numbers of people, but also to destroy various elements of the environment. The BWC therefore contributes to the body of treaty law that indirectly regulates the protection of the environment during hostilities.[79] Both forms of weapons have the capability to contaminate soil, water and plants, and thus to devastate ecosystems and the natural environment, for periods far exceeding the damage caused by explosive munitions.[80]

4. Other International Legal Instruments with Provisions Relating to Environmental Protection during Armed Conflicts

4.1 Non-Binding Environmental Soft Law Instruments that specifically refer to Environmental Protection during Armed Conflicts

A further category of protection for the natural environment can be found in some non-binding environmental soft law instruments. Principle 24 of the Rio Declaration on Environment and

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77 *Ibid*, Article 2.

78 UNEP, Protecting the environment during armed conflict (n 67) p.74.

79 Freeland (n 61), p.74.

80 *Ibid*, p.75; Barry Kellman, 'The Chemical Weapons Convention: A Verification and Enforcement Model for Determining Legal Responsibility for Environmental Harm Caused by War' in Jay E. Austin and Carl E. Bruch (Eds), *The Environmental Consequences of War: Legal, Economic, and Scientific Perspectives* (Cambridge University Press, 2000) 579.

Development declares that "warfare is inherently destructive of sustainable development. States shall therefore respect international law providing protection for the environment in times of armed conflict and co-operate in its further development, as necessary".[81] Further, the World Charter for Nature (WCN),[82] developed by the International Union for the Conservation of Nature, contains provisions that directly address the need to prohibit environmental harm resulting from armed conflict. Principle 5 of the WCN mandates that "nature shall be secured against degradation caused by warfare or other hostile activities",[83] while Principle 20 declares that "military activities damaging to nature shall be avoided."[84] These provisions are clearly intended to prohibit environmental harm during armed conflict.[85]

4.2 The ICRC's Customary Rules Study

Environmental protection is also captured in the ICRC's Customary Rules Study. Part II of the ICRC's Customary Rules Study deals with specifically protected persons and objects and three rules - (Rules 43, 44 and 45) within Chapter 14 concern environmental protection during armed conflicts.[86] "Rule 43. The general principles on the conduct of hostilities apply to the natural environment and states as follows: (A) No part of the natural environment may be attacked, unless it is a military objective. (B) Destruction of any part of the natural environment is prohibited, unless required by imperative military necessity. (C) Launching an attack against a military objective which may be expected to cause incidental damage to the environment which would be excessive in

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81 United Nations Conference on Environment and Development, Rio Declaration on Environment and Development, U.N. Doc. A/CONF.151/26 (vol. I); 31 I.L.M. 874 (1992); Zeyad Mohammad Jaffal & Waleed Fouad Mahameed; Letetia van der Poll & Ashraf Booley, PP.35-36.

82 World Charter for Nature, UNGA Resolution 37/7, UN Document A/RES/37/7, 28 October 1982 (World Charter for Nature).

83 World Charter for Nature, principle 5.

84 *Ibid*, principle 20.

85 UNEP, Protecting the environment during armed conflict (n 67) p.41; See generally, Paul C. Szasz, 'Comment: The Existing Legal Framework, Protecting the Environment During International Armed Conflict' in Richard J. Grunawalt, John E King and Ronald S. McClain (Eds), *Protection of the Environment During Armed Conflict* (U.S. Naval War College, The Department of the Navy) p.279 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1529&context=ils> accessed 15 September 2023.

86 Jean-Marie Henckaerts and Louise Doswald-Beck, Customary International Humanitarian Law (Vol. 1: Rules, Cambridge, Cambridge University Press, 2009).

relation to the concrete and direct military advantage anticipated is prohibited."

"Rule 44. Methods and means of warfare must be employed with due regard to the protection and preservation of the natural environment. In the conduct of military operations, all feasible precautions must be taken to avoid, and in any event to minimise, incidental damage to the environment. Lack of scientific certainty as to the effects on the environment of certain military operations does not absolve a party to the conflict from taking such precautions."[87] "Rule 45. The use of methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment is prohibited. Destruction of the natural environment may not be used as a weapon." Rule 45 is the reiteration of Article 35 (3) and 55 (1) of Additional Protocol I.[88]

4.3 The United Nations International Law Commission's Draft Principles on the Protection of the Environment in Relation to Armed Conflicts[89]

In 2011 the *International Law Commission* placed the topic of Protection of the Environment in Relation to Armed Conflicts on its current programme of work at the instigation of a 2009 report prepared by the Assembly of UN Environment and the Environmental Law Institute (ELI) on environmental protection during armed conflict and appointed two special rapporteurs in 2013 and 2017, respectively, to address the protection of the environment in relation to armed conflicts.[90] Informed by the reports of these

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87 Karen Hulme, Taking care to protect the environment against damage: a meaningless obligation? (2010) 92(879) *International Review of the Red Cross*, p.684; Vincze (n 10) pp.33-34

88 Vincze *ibid*, p.34; Hulme *ibid*.

89 All Draft Principles cited in this contribution can be found in the following official document: *Text and Titles of the Draft Principles Provisionally Adopted by the Drafting Committee of the International Law Commission on First Reading to the Seventy-First Session, Protection of the Environment in Relation to Armed Conflicts*, UN Doc. A/CN.4/L.937, 6 June 2019.

90 Daniëlla Dam-de Jong and Britta Sjöstedt, Enhancing Environmental Protection in Relation to Armed Conflict: An Assessment of the ILC Draft Principles (2021) 44(2) *Loyola of Los Angeles International & Comparative Law Review*, 131; UNEP, Protecting the Environment During Armed Conflict (n 67), See generally, Vincze (n 10) pp.30-31; Marie Jacobsson and Marja Lehto, Protection of the Environment in Relation to Armed Conflicts – An Overview of the International Law Commission's Ongoing Work' (2020) 10 *Goettingen Journal of International Law*, 30-31; See Summaries of the Work of the International Law Commission, 25 August 2017 <http://legal.un.org/ilc/summaries/8_7.shtml.> accessed 20 August 2023; *Official*

special rapporteurs[91]16 and by debates in the Commission and in the Sixth Committee of the UN General Assembly, the ILC produced the Draft Principles on the Protection of the Environment in Relation to Armed Conflicts which, along with their commentaries, were adopted on first reading at the ILC's seventy-first session in 2019.[92]

Following the adoption of the draft principles on first reading in 2019, the ILC invited States, international organizations, and others to submit their written observations. It is quite remarkable that more than twenty States, as well as several international and non-governmental organizations heeded this call. After almost a decade working on the topic "Protection of the environment in relation to armed conflicts" (PERAC), the UN International Law Commission (ILC) adopted on second reading 27 draft principles and a preamble during the first part of its 73rd session. This process was skillfully led throughout by the two Special Rapporteurs on the topic, the former one, Ambassador Marie Jacobsson, and the current, Ambassador Marja Lehto.[93] The Draft Principles address the protection of the environment before a potential armed conflict, during a conflict and after a conflict.[94]

Records of the General Assembly, Sixty-sixth Session Supplement No. 10. UN Doc. A/66/10 and Add.1. ILC Report 2011, para. 365; See also Decision of the 3171st meeting of the Commission, on 28 May 2013. Reported to the UN at *Official Records of the General Assembly, Sixty-eighth Session, Supplement No. 10*. UN Doc. A/68/10. ILC Report 2013, para. 167.

91 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 the protection of the environment in relation to armed conflicts by Marja Lehto, Special Rapporteur*, UN Doc. A/CN.4/720, 30 April 2018; and ILC, *Second report on the protection of the environment in relation to armed conflicts by Marja Lehto, Special Rapporteur*, UN Doc. A/CN.4/728, 27 March 2019.

92 See ILC, 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.

93 Stavros Pantazopoulos, The ILC Draft Principles on Protection of the Environment in Armed Conflict, Aug 4, 2022 <https://lieber.westpoint.edu/ilc-protection-environment-armed-conflict/> accessed 26 September 2023.

94 ICRC, Guidelines on the Protection of the Natural Environment in Armed Conflict: Rules and Recommendations Relating to the Protection of the Natural Environment under International Humanitarian Law, With Commentary (International Committee of the Red Cross, 2020) 13.

The present draft principles apply to the protection of the environment before, during or after an armed conflict, including in situations of occupation.[95] The present draft principles are aimed at enhancing the protection of the environment in relation to armed conflicts, including through measures to prevent, mitigate and remediate harm to the environment.[96] States shall, pursuant to their obligations under international law, take effective legislative, administrative, judicial and other measures to enhance the protection of the environment in relation to armed conflicts.[97]

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

The ICRC 2020 *Guidelines on the Protection of the Natural Environment in Armed Conflict* (The 2020 Guidelines) are a concerted continuation of the ICRC's efforts to raise awareness of the need to protect the natural environment from the effects of armed conflict. The 2020 Guidelines which is divided into 4 parts are intended to facilitate the adoption of concrete measures to reduce the environmental impact of armed conflict.[98] Part 1 of the 2020 Guidelines which comprises Rules 1–4 deals with specific protection of the natural environment under international humanitarian law (IHL). Rule 1 provides for due regard for the natural environment in military operations and requires that methods and means of warfare must be employed with due regard to the protection and preservation of the natural environment.[99] Rule 2 provides for the prohibition of widespread, long-term and severe damage to the natural environment and implies that the use of methods or means of warfare that are intended, or may be expected, to cause widespread, long-term and severe damage to the natural environment is prohibited.[100]

Further, Rule 3 prohibits using the destruction of the natural environment as a weapon and among other things, implies that for

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95 Draft Principles on protection of the environment in relation to armed Conflicts (n 92), Princile 1.
96 *Ibid*, Principle 2.
97 *Ibid*, Principle 3(1).
98 ICRC, Guidelines on the Protection of the Natural Environment in Armed Conflict (n 94) 13, 14.
99 *Ibid*, p.27.
100 *Ibid*, p.29.

States party to the ENMOD Convention, military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party is prohibited.[101] Rule 4 provides for the prohibition of attacking the natural environment by way of reprisal and among other things implies that for States party to Protocol I Additional to the Geneva Convention: i. Attacks against the natural environment by way of reprisal are prohibited. ii. Reprisals against objects protected under the Protocol are prohibited, including when such objects are part of the natural environment.[102]

Additionally, Part 2 of the 2020 Guidelines which comprises Rules 5–16 and Recommendations 17 and 18 discusses general protection of the natural environment under IHL, Part 3 which includes Rules 19–25 focuses on protection of the natural environment afforded by rules on specific weapons, while Part 4 Rules 26–32 deals with respect for, implementation and dissemination of IHL rules protecting the natural environment.

5. Conclusion

This article has attempted to review the international legal frameworks for the protection of the natural environment in armed conflict on the basis that the natural environment has over the years remained a silent victim of war. Given that ACs often extend beyond the borders of the national territories of the states that led to the ACs and causes substantial damage to the environment, lives and livelihoods of impacted communities and the natural resources they depend on for survival, the paper discussed the effects of armed conflicts on the environment noting air, land and water contamination, biodiversity loss, and deforestation as some of the severe environmental consequences of ACs.

The article discussed the international legal instruments designed to protect the natural environment during armed conflicts such as the Rome Statute of the International Criminal Court 1998, the Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International

[101] *Ibid*, p.40.
[102] *Ibid*, p.44.

Armed Conflicts, the UN Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques 1976, the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects (CCW), and its Protocol III on Prohibitions or Restrictions on the Use of Incendiary Weapons 1980, the Bacteriological Weapons Convention of 1972.

The article further examined other international legal instruments with provisions relating to environmental protection during armed conflicts which includes but not limited to non-binding environmental soft law instruments like the Rio Declaration on Environment and Development and the World Charter for Nature, the ICRC's Customary Rules Study, the United Nations International Law Commission's Draft Principles on the Protection of the Environment in Relation to Armed Conflicts and the ICRC 2020 Guidelines on the Protection of the Natural Environment in Armed Conflict.

It is therefore, safe to conclude that a substantial number of legal instruments designed to protect the natural environment during armed conflicts exist under international law. However, it is equally noteworthy that ACs has over the years caused substantial damage to the natural environment despite the existence of legal provisions aimed at achieving environmental protection during ACs. In fact, armed conflicts have led to severe environmental destruction in several regions of the world, thus, contributing greatly to global environmental degradation.

In the light of the above, it is pertinent to suggest some ways through which the natural environment should be protected in ACs situations, thus the following are recommended:

1. The International Court of Justice should deal with any country or group that adopted strategy of environmental destruction intentionally or unintentionally within the provisions of the international law.
2. Any country or groups supporting those involved in destruction of the natural environment during ACs should be

sanctioned internationally in addition to being reported to the international court of justice for necessary measures.

3. The establishment of a permanent United Nations body to monitor environmental violations and address compensation for environmental damage during ACs should be considered.
4. An effective and workable programme for the reforestation of affected forest areas should be put in place to promote environmental recovery.